Human resource issues and its implications for health sector reforms

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Abstract

Given the growing complexities and challenges the health sector faces, reforms in this sector are inevitable. Often health sector reforms aimed to address many of these deficiencies and ensuring effectiveness and efficiency of resource use, they focus on making the health systems responsive through strengthening financial systems, ensuring local participation and public private partnerships, and autonomy of health facilities. The reform process, among other things, intrinsically makes some fundamental assumptions some of which are as follows: high organisational commitment of health care providers, high professional commitment of health care providers, and adequate skills of health care providers. This paper examines the commitment of district level health officials in the newly carved out state of Chhattisgarh in India. Since development oriented HR practices (HRD) are powerful tools to commit people working in health sector to enhance the quality of care, we believe that health sector reforms will have to concentrate on human resource issues and practices more than ever before in near future. The papers attempts to examine the following questions: (i) what is status of professional commitment, organisational commitment and technical competencies of health officials? (ii) what are the characteristics of human resource management practices in the health sector in the state? and (iii) how these management practices are linked with professional and organisational commitment? Finally the paper discusses the implications of these to health sector reform process.

Human resource issues and its implications for health sector reforms[1]

1. Introduction

The importance of human resources cannot be overemphasised for effective implementation of any health sector reform agenda. The availability of adequate number of people to man and manage the programmes alone may not necessarily lead to successful implementation of programmes and reforms. The health systems need to ensure their competencies and commitment to make health reform process a success. Way back in 1946 the Bhore Committee suggested focusing on primary health care approach and ensuring that health facilities have autonomy and local governance of health institutions are given due importance. *Inter alia*, the committee had also suggested developing strategies to control infectious diseases, and enactment of public health legislation. The Government of India had accepted the committee report. The Alma Ata declaration in 1978 also echoed many of these suggestions and emphasised the primary health care approach to achieve health for all goal by the year 2000. India created an impressive network of primary health care facilities and implemented this strategy.

Despite the success in creating impressive network of health facilities, the overall achievement of health goals remained less impressive. While the communicable diseases continue to be problem, the extent of chronic non-communicable diseases such as heart disease, diabetes, cancer, HIV/AIDS became new emerging threats. Most of the health systems faced dual challenge; that of starting to address non-communicable diseases while still attempting to control communicable diseases (e.g., incidence of diabetes and heart disease in India is double that of China). Indian PHC system remained less equipped to diagnose and treat chronic degenerative diseases. The health service facilities particularly in rural areas continue to experience the challenge of manning them with adequate personnel and staff to ensure access to health care services.

It shows that the nature of the problem has remained the same as the two underlying weaknesses of health system i.e., lack of availability of trained health personnel in rural areas and inadequate quality of care continue to remain major challenges. Often the behaviour of the personnel is cited (Lee, 2001) as one of the major reasons and cause of poor perception of the health care services. Particularly in rural areas such perception drives the population to seek the treatment from traditional healers or delay in seeking the treatment. Often health sector reforms aimed to address many of these deficiencies and focus on making the health systems responsive through local participation and autonomy. The reform process, among other things, intrinsically makes some fundamental assumptions some of which are as follows:

- High organisational commitment of health care providers
- High professional commitment of health care providers
- Adequate skills of health care providers

These are important assumptions as health care being a highly people dependent process, direct monitoring of quality of care and supervision of key organisational processes are extremely difficult. Hence, intrinsic commitment and competencies of care providers are critical. This paper examines the human resources challenge in health sector particularly focusing on commitment and competencies of medical doctors working in public health facilities and its implications for health sector reform. The

[1] Authors are thankful to the district and state officials of Chhattisgarh and Madhya Pradesh for sharing the information and allowing us this study.

present study was carried out to examine this issue in one of the newly constituted state of Chhattisgarh in India. This state was chosen for two reasons. First, the health policies of the state are evolving. Hence a study of this kind provides adequate direction for this newly formed state. Second, the State comprises more that 70 percent of its population in tribal areas. Hence, the findings of this state could be applicable to many other poor states. A brief of the state and health services are provided in Annexure 1.

2. Literature Review

Commitment is a multi dimensional contextual construct. The organisational commitment refers to an employee's loyalty to the organisation, willingness to exert effort on behalf of the organisation, degree of goal and value congruency with the organisation and desires to maintain membership (Porter, Crampon, and Smith 1976; Porter, Steers, Mowday and Boulian 1974). The professional commitment refers to a professional's loyalty to the profession and willingness to exert effort to uphold the values and goals of the profession. A professional like doctor may do well to provide health care out of their concern for the profession alone.

The effective implementation of health services requires adequate cooperation from health professionals. Such behaviour instigates the concern towards patients, their relatives, peers and other health service providers. It facilitates team working and strengthens team functioning in organisations. The cooperative behaviour is an outcome of professional and organisational commitment (Lee, 2001). Hence, the quality of care in health sector is dependent on both professional commitment and organisational commitment.

Allen and Meyer (1990) proposed a three-component model of organisational commitment. The affective component of organisational commitment refers to employees' emotional attachment to, identification with, and involvement in the organisation. The continuance component refers to commitment based on the costs that employees associate with leaving the organisation. Finally, the normative component refers to employees' feeling of obligation to remain with the organisation. Affective, continuance and normative commitment are viewed as distinguishable components, rather than types of commitment; that is, employees can experience each of these psychological states to varying degrees. Meyer and Allen (1991) argued that common to these approaches is the view that commitment is a psychological state that (a) characterizes the employee's relationship with the organisation, and (b) has implications for decisions to continue or discontinue membership in the organisation.

Organisational commitment and related variables

Organisational commitment consistently has been found to be related to following factors:

- employee behaviours, such as job search activities, turn over, absenteeism and, to a lesser extent, performance effectiveness (Angle and Perry 1981; Bluedorn 1982; Arzu Wasti 2003; Eby, Lillian; Freeman, and Deena 1999; Farrell and Rusbult 1981; Marsh and Mannari 1977; Morris and Sherman 1981; Porter et al. 1976; Porter et al. 1974; Steers 1977).
- attitudinal, affective, and cognitive constructs such as job satisfaction, job involvement, and job tension (Hall and Schneider 1972; Hrebiniak and Alutto 1972; Porter et al. 1974; Stevens, Beyer, and Trice 1978; Stone and Porter 1976); and
- characteristics of the employee's job and role, including autonomy and responsibility (Koch and Steers 1978), job variety and task identity (Steers 1977), and role conflict and ambiguity (Morris and Koch 1979; Morris and Sherman 1981).

Employees with high levels of organisational commitment provide a secure and stable work force (Steers 1977). Due to their high identification with the organisation, highly committed employees willingly accept the organisation's demand for better outputs (Etzionl 1975), thus assuring high levels of performance and task completion (Mowday, Porter, and Dubin 1974; Van Maanen 1975). There are

also evidences that employees' organisational commitment relates to other desirable outcomes such as the perception of a warm, supportive organisational climate (Fred Luthans et al. 1992). Hence, commitment leads intrinsic desire among employees to contribute better outputs to improved services in service sectors; it reduces the need for external monitoring mechanisms. Committed employees need less supervision to control their behaviour. In health sector employees are expected to strengthen organisation's image among the customers through cooperative behaviour. The literature on organisational commitment portrays employees with high organisational commitment not only as highly productive (Mowday, Porter and Dubin 1974) and satisfied but also highly responsible with high civic virtue (Nico, Agnes and Martin 1999). All these are important prerequisites to ensure provision of adequate quality of health care services. Hence, the importance of commitment of employees cannot be overemphasized in health sector.

Role of human resource practices in organisation commitment

Human Resource Management (HRM) practices like socialisation, hiring practices, career-oriented performance management, open job posting and job transfer practices play critical roles in building employee commitment. Through socialisation processes managers can attempt to foster better employee understanding of organisational values, norms and objectives (Pascale 1985; Van Maanen and Schein 1979), leading to organisational commitment of employees. It has also been observed that the extent of socialisation is also related to commitment (Jones 1986).

Factors such as confirmation of pre-entry expectations (Arnold and Feldman 1982; Premack and Wanous 1985) and role clarity (Morris and Koch 1979) are important at the time of hiring employees to enhance organisational commitment.

Reward systems and forms of pay structures have their own implications on commitment. Long-term benefits and retained benefits like provident fund and pension scheme (also including employee stock options) and tenure-linked bonus are useful in eliciting continuance commitment (Klein 1987; Klein and Hall 1988; Tucker, Nock and Toscano 1989; Wetzel and Gallagher 1990). Similarly benefits like medical facilities, educational loans for children etc., elicit affective and normative commitment of employees.

Performance appraisal that enhance job clarity (Jackson, Schlacter, and Wolfe 1995) and involve people in the process (Behrman, Bigoness, and Perreault 1981; Brown and Peterson 1994; Mowen et al. 1985; Thomas and Bretz 1994) enhance organisational commitment. Additionally, the purpose of the appraisal process also influences organisational commitment. Appraisal, aimed at developing people, is more likely to induce organisational commitment.

According to the social exchange theory the perceived investment in employees' development is positively associated with affective commitment of the employees. Similarly researches (Lee and Brouvold 2003) have also shown that affective commitment mediates the relationship between the investment in employees' development and intent to leave. When the employees' perceive that the training program is highly useful in improving his or her skills it may increase the employee's normative commitment, since he or she may feel it is his or her duty to return back to the organisation. On the other hand training improves the employability of the employees and thus when proper career advancement or opportunities to use the learned skills are not provided; there are high chances that the employee may quit.

Promotion and internal recruitment policies help employees to grow from within. This elicits a sense of belongingness among the employees, thus commitment, both emotionally and morally.

This paper examines the commitment of district level health officials in the newly carved out state of Chhattisgarh in India. Since development oriented HR practices (HRD) are powerful tools to commit doctors to enhance the quality of care, we believe that health sector reforms will have to concentrate on HRD practices more than ever before in near future.

Accordingly, the problem statements were:

- What is status of professional commitment, organisational commitment and technical competencies of health officials in the State?
- What are the characteristics of human resource management practices in the health sector in the state?
- How these management practices are linked with professional and organisational commitment?

The answers to these questions are critical in designing and implementing the health sector reforms.

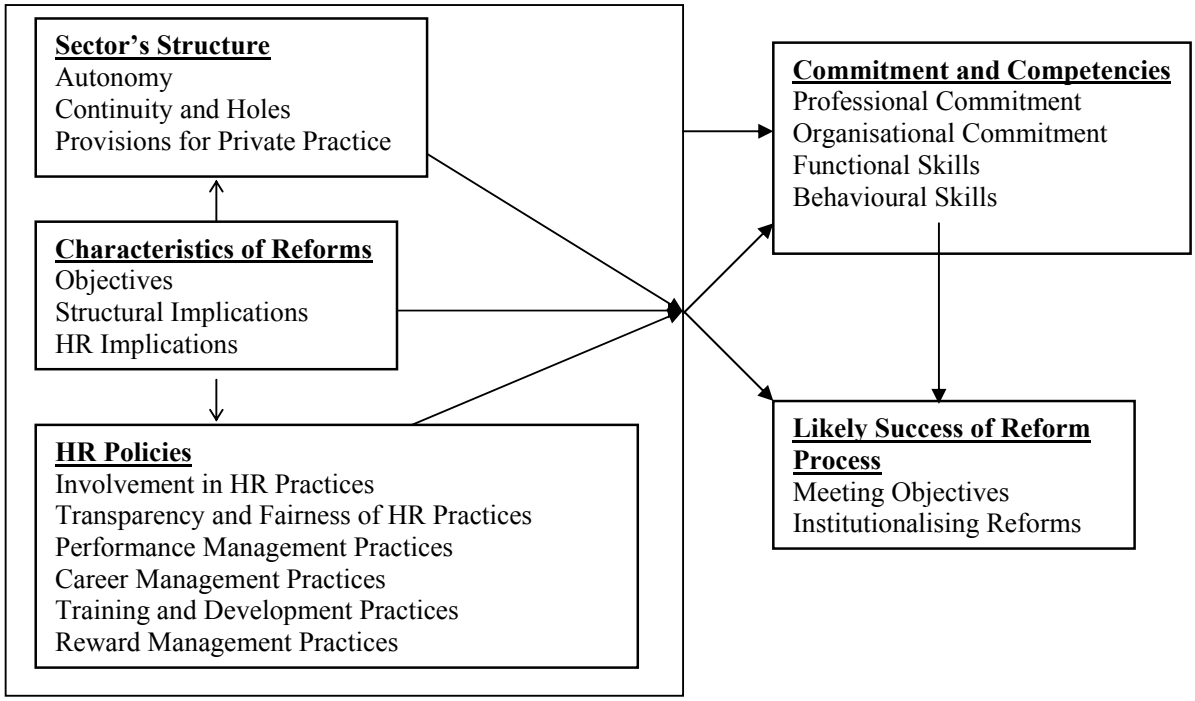
3. Methodology

The paper used a mix of qualitative and quantitative methodologies to study the human resource practices in the health sector. As this state is new, there was no documented evidence of health issues. An exploratory study was conducted by having focused group discussions in which 6 district health officials and 4 officers in the state directorate participated. This was followed by individual interviews with four doctors at a CHC.

Based on focus group discussions and interviews, a questionnaire was prepared. The objective of questionnaire was to assess the issues when all seventy-five district level and state level health officials attended management training programmes at the Indian Institute of Management, Ahmedabad in three batches. Out of them 70 responded to the questionnaire. Hence the study represents the collective view of all the senior officials at the district level. The survey shows that health officials at the district and state level carry rich experience. Their average experience in the department and age are 19.4 and 48 years respectively. The average experience in medical care of the group is 22.55 years.

The questionnaire included 62 variables with multiple items. The items were measured on 5-point Likert type scale. While the scales for the questionnaire were developed to measure professional and organisational commitment, technical competencies were measured through professional qualification of doctors in the state. Commitment scales were developed based on three dimensions: affective, normative and continuance (Meyers and Allen 1991). These three dimensions have been widely accepted to constitute commitment. Figure 1 shows the model for the study.

Figure 1: Model for the Study



The study was limited to district and state officials. It provided the strength of allowing us to study at the strategic level at the top and most crucial operational level-district. It also carries a limitation of having not studied the field units in villages and blocks.

The characteristics of the sample and mean of different dimensions are provided in Annexure 2. Using factor analysis, these variables were reduced to eight orthogonal factors (see Annexure 3). These actors relate to professional growth and developmental climate, autonomy at work units, capability based staffing practices, willingness for higher responsibility, role in staffing of subordinates, willingness to stay in clinical settings, willingness for competence based assured pay and satisfaction with recognition and reward practices in the state. The factored scores were used as independent variables for regression analysis to estimate the relationship with commitment dimensions. We used forward regression equation with the F probability of 0.05 for entry in the equation.

The findings of the study were presented to one of the batches that came for training. Intense discussion followed the presentation to examine the causes behind linkages.

The initial focus group discussions and interviews revealed the following SWOT.

Strengths	**Weaknesses**
· Professionally committed doctors · Team spirit among the officials · Liking for job-security among doctors · Appreciation for community based health system	· Lack of autonomy and experimentation in the field · Lack of transparency and fairness · Lack of performance orientation · Lack of skilled manpower and infrastructure · Interferences of political leaders
Opportunities	**Threats**
· High concern among doctors to improve health services · To develop fresh policies and strategies · Financial help owing to being a new state	· Political instability

4. Findings: Commitment

The district health officials like their profession. Most of them took pride in their contribution to the society. Some doctors stated:

> *We want to provide best health services to the society. This is the responsibility in our profession, which we like so much.*

Having concern for the profession, they are extremely keen to improve the administrative systems in the department to facilitate better services.

The officials carried team feeling among themselves. The job-security and seniority based pay system in government jobs adds to cooperative than to competitive behaviour among the doctors which promotes team feeling. However, this cooperative behaviour was partially diluted by competitive private practices by government doctors. Some officials stated, “Those who have attractive private practices often try unfair means not to get transferred from such locations. It creates problems for others.”

Most of the health officials felt that management systems are highly centralised which constrain them to experiment with ideas to improve the services. They also express their concerns for the lack of transparency and fairness in staffing matters. Some doctors stated:

The transfers are completely banned in their state. However, people can be transferred with the approval of the Chief Minister. Employees frequently seek such approval with the help of local political leaders. This contributes to political interferences in the administrative processes. These interferences have caused significant dissatisfaction among many doctors.

Most of the respondents have expressed desire to assume higher levels of responsibilities, and expect more transparency and their involvement in manpower planning and deployment of people particularly in their districts. Among other things they suggest having sound HRD policies and practices, continued medical education and training, and respect and recognition for their work. Under this context, the questionnaire survey indicated varied levels of commitment among the doctors (see Table 1).

Table 1
Commitment of Doctors at District and State Level to the department and the profession and the differences between them (Scale: 5.00)

	Mean (Scale: 5.0)	N	Std. Deviation	Mean Differences	t	Significance
Affective Commitment to the department	3.61	69	.58	- 0.32	4.34	0.000
Affective Commitment to profession	3.93	69	.41			
Normative Commitment to the department	3.57	69	.49	- 0.39	5.21	0.000
Normative Commitment to profession	3.96	69	.45			
Continuance Commitment to the department	3.17	69	.63	- 0.35	5.14	0.000
Continuance Commitment to profession	3.52	69	.54			

Table 1 shows that the commitment of doctors at district and state level is significantly higher towards their profession than towards their departments (organisation). The high commitment to the profession drives doctors to execute their professional responsibilities more effectively even if their commitment to their departments is low.

The affective organisational commitment is found to range from 1.43 to 4.71 (mean: 3.61). This and normative commitment of 3.57 indicate that district health officials do not share strong emotional bond with the department. Hence, the success of any reform process in health sector would remain doubtful unless the issues relating to affective and normative commitment are taken care. To understand the actions that could lead to improved organizational commitment, regression analysis was done. The regression equation of affective commitment with factors provides the following results.

Table 2
Dependent Variable: Affective Organisational Commitment (Adjusted R square = 0.58)

	Unstandardised coefficients	Standardised coefficients	t	Sig.
Constant	2.80		7.76	0.00
Factor 1: Professional growth and developmental climate	0.31	0.51	6.19	0.00
Factor 8: Satisfaction with recognition and reward	0.25	0.43	5.24	0.00
Factor 6: Willingness to stay in Clinical Settings	-0.19	-0.34	-4.07	0.00
Age	0.02	0.19	2.24	0.03

The result presented in Table 2 indicates that reform initiatives which ensure adequate advantage to developmental climate of the department are more likely to succeed. A detailed examination of factors shows that the climate can be improved through following initiatives and helping doctors in their growth and development by

- providing opportunities for CME and professional growth by increasing training intensity,
- supporting local training initiatives,
- providing opportunities for promotions and career growth, and showing concern for development for higher roles and responsibilities,
- measures to improve the perception of fairness in training opportunities, selections, appraisal, and promotions;
- empowering the lower level managers,
- linking rewards and recognition with performance,
- facilitating doctors stay longer in clinical settings, and
- providing autonomy at the workplace.

These are likely to strengthen the affective commitment of doctors with the department. These variables indicate that the doctors in the state prefer professional growth to financial gains. This relationship is to be understood in the context of the state where doctors are allowed private practice. A score of 3.61/5.00 of affective organisational commitment clearly suggest that the organisation must take effort on improving the above variables. Such committed doctors are likely to contribute to the success of reform process. Conversely, the reform processes that enhance these factors are likely to be better accepted by doctors and thus are likely to succeed better. Further, affective organisational commitment is also an important antecedent of pro-social organisational behaviour. People with high affective organisational commitment are likely to increase their efforts on the job through mechanism of social reciprocity.

The result shows that doctors who serve longer tenure in clinical setting are positively related with affective organisational commitment. However, senior doctors have career incentives to move to administrative settings owing to the prevailing structure. Administrative positions are hierarchically superior to clinical positions. It adversely influences the affective commitment of doctors. This indicates a need for structural interventions in health sector to provide adequate recognition in the hierarchy for clinical roles.

The regression results of normative organisational commitment indicate that they are not greatly influenced by the HR practices in the state (Table 3). However, the same set of variables as discussed above is likely to marginally improve normative commitment as well. The result also indicates that HR practices in the state are not developing a sense of obligation among the doctors. Continuance organisational commitment was not found to be significantly influenced by any of the HR practices.

Table 3
Dependent Variable: Normative organisational commitment (Adjusted R square = 0.14)

	Unstandardised coefficients	Standardised coefficients	t	Sig.
Constant	3.57		61.19	0.00
Factor 6: Willingness to stay in Clinical Settings	-0.16	-0.33	-2.84	0.01
Factor 8: Satisfaction with recognition and reward	0.12	0.24	2.09	0.04

Professional Commitment

The professional commitment of doctors is found to be higher than organisational commitment indicating their higher identification with the profession. Health sector reforms can leverage on this important strength of the state. The results indicate that professional commitment is not greatly influenced by HR practices (Table 4). Professional commitment seems to be primarily emerging from pre-service training and clinical practices of the doctors.

Table 4
Regression results of affective commitment, normative commitment and continuance commitment

Regressions	Unstandardised Coefficients Beta	Standardised Coefficients Beta	t	Sig.
Dependent Variable: Affective commitment to profession (Adjusted R square = 0.24)				
Constant	4.42		18.78	0.00
Factor 5: Role in staffing of subordinates	0.14	0.33	3.00	0.00
Factor 4: Willingness for higher responsibility	0.12	0.27	2.48	0.02
Gender	-0.48	-0.24	-2.18	0.03
Factor 6: Willingness to stay in Clinical Settings	-0.09	-0.22	-2.03	0.05
Dependent Variable: Normative commitment to profession (Adjusted R square = 0.32)				
Constant	3.97		84.83	0.00
Factor 4: Willingness for higher responsibility	0.22	0.48	4.61	0.00
Factor 7: Willingness for competence based assured pay	0.14	0.31	2.97	0.00
Dependent Variable: Continuance commitment to profession (Adjusted R square = 0.14)				
Constant	3.51		55.61	0.00
Factor 3: Capability based staffing	-0.18	-0.34	-2.88	0.01
Factor 6: Willingness to stay in Clinical Settings	0.13	0.24	2.07	0.04

While high professional commitment can be effectively leveraged to undertake reform processes, it also puts some demands on the administrators of the health sector in the state. The factors that found place in the forward regression equation indicate that the following activities are critical to foster professional commitment and to make professionally committed doctors perform better.

- Providing higher responsibilities to doctors. They are keen to get involved in the development plans and staffing decisions for their workplaces. Affective professional commitment also leads to desire for autonomy at the workplace. Hence, the states will have to review the current centralised administrative practices.
- Currently the doctors in the field are spending exceptionally long hours in the clinics owing to lack of staff and high population burden on each health setting. It leaves little opportunity to spend time on developmental and social concerns. Higher professional commitment is found to be linked with higher concerns on hours of work. Long hours of work also adversely affect the emergency service provisions.
- Professionally committed doctors expect high fairness in HR practices, especially in staffing decisions. Currently, the perception of fairness of staffing is extremely low (3.07/5.00). The reform processes will have to address these issues to enthuse doctors to implement reform agenda.
- Professionally committed doctors also expect that their competencies are valued in the department. Reform processes that could address reward practices including the non-monetary rewards and fringe benefits are more likely to succeed.

- Structural interventions that could facilitate longer stay of doctors in clinical settings without loss of hierarchical positions are likely to provide impetus to reform processes.

Professional skills

The professional skills of the senior doctors in the state are high. Nearly three-fourth of the doctors are postgraduates with specialisations in different fields. This is also likely to have contributed to their high professional commitment. The future growth of professional competencies has relationship with help for growth and development, opportunities for continuous medical education, fairness in training, and intrinsic desire among the doctors for assuming higher responsibilities and work-role. The results strongly suggest that skill development strongly and positively contribute to engagement in pro-social organisational behaviour. Policy makers should, therefore, provide reasonable training opportunities for employees and help in their growth and development along with other developmental HR practices to effectively implement reforms in health sector.

5. Findings: Sector Design and Work Environment Implications

The structural arrangements of the sector and developmental HR practices are the major intervention tools that need to be undertaken to achieve required service capability in the health sector. Based on the findings from this study, the following elements of structural design need immediate attention of policy makers.

Technical support from colleagues and superiors

The cooperation of colleagues and superiors enhances the affective organisational commitment of professionals. There are mixed evidences of cooperation among colleagues and superiors. The study indicated a freedom to interact with superiors is low (the score is 3.02). It reflects prevailing high concern for status and hierarchy in the department which prevents even professionals like doctors from sharing health care related issues openly and supporting each other.

In the state, the government supported health and private health service providers co-exist. The doctors in government health service are also allowed private practice. It instigates a sense of competition among doctors to enhance their professional interests. This suggests that additional efforts would be required to develop strong cooperative culture among the doctors. It is suggested that extensive socialisation to indoctrinate professional values and intended departmental culture should be taken up by the department to help doctors cooperate with each other. Such value based socialisation mechanisms have proved to be strengthening strong coordination and control mechanisms in many large organisations (Maheshwari, 1997). These socialisation mechanisms also significantly enhance the commitment of people. It is suggested that district level forums could be created where all service providers interact at least once in a month to facilitate the effective implementation of reforms.

Referral system

The referral system is critical for effective healthcare system. The key to strong referral system lies in two factors: a) the hardware of the referral system, referring to the physical infrastructure and b) the software of the referral system, referring to the ability of personnel to diagnose a need for referral; their willingness to refer the patient to specialised services; ; and their pro-social behaviour. In the referral systems, doctors often try to shield their interests by capturing key structural holes (Burt, 1997) and protecting it from others to duplicate the linkages. Hence, they tend to spend significant efforts in information seeking, information screening and its careful dissemination. Hence, the willingness to refer depends on the confidence and trust in the relationship between service providers in the referral network than on formal linkages. Most of the public health facilities do not qualify on this condition primarily owing to prevailing roles and responsibilities and management structure of the health system as discussed below.

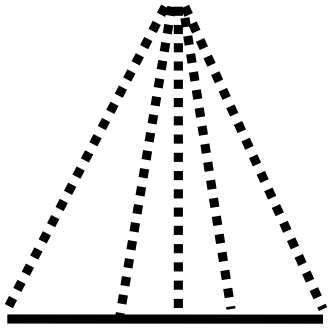
Roles, responsibilities and structural rigidities

Health professionals at the district level perform three distinct activities. These are regulating and monitoring, provision of health care services and facilitating and coordinating the provision of services. These three roles require different behavioural pattern. These are summarised in Table 5.

Table 5
Roles and Responsibilities in Health Sector

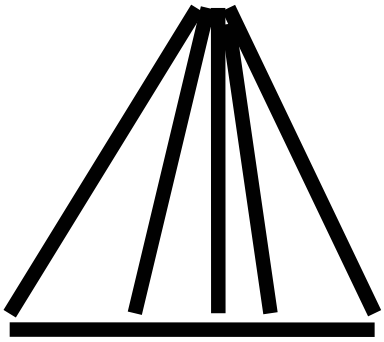
Activities	Regulating the society	Serving the society	Facilitating the services
Goals and objectives	Implementing the laws and standards to protect the health of people like laws related to adulteration of food articles.	Caring the patient	Coordinating between personnel responsible for different health schemes
Expected behaviour	· Authority driven · Top-down communication · Paternalistic · Bureaucratic behaviour	· Influence driven · Bottom-up communication · Benevolent leadership · Pro-social behaviour	· Coordinating abilities · Both-way communication · Customer sensitive
Supportive structure	· Centralised decision-making · High power distance between different levels · Long hierarchy	· Empowerment at lower levels · Low power distance between different levels · Short hierarchy	· Democratic decision-making · Equitable power distribution · Medium hierarchy
Assumptions behind the structural design	· Do not trust people unless proved worthy of that · Do not leave things to chance	· Trust people unless proved unworthy of that	· Neither trust them not mistrust them, be open to examination every time.

The three different roles require three different patterns of behaviour. In order to perform these roles effectively, the health systems lack enabling structures and communication process. The existing structure with serious inherent rigidities is used to manage these roles. These structural rigidities are characterised by operating islands, fragmented sector, and broken hierarchy. Various characteristics of these structural rigidities are described in the following diagrams.



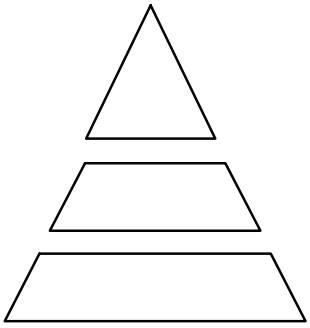
Operating Islands

- centre, state, district, sub-division, blocks, sectors, villages
- very little coordination and communication at different levels
- highly unpredictable resource flows (cash and kind) high variability in performance and inconsistent practices
- inadequate systems to handle complexities



Fragmented sector

- structural divide: Health, Family Welfare, ISM
- further divided into schemes, projects, components
- very little coordination across different components
- result of various policy instruments used
- external agency policies and practices contribute to this benefits of economies of scale lost, inefficiencies



Broken Hierarchy

- little influence to steer the programme and its outcome
- lack of clarity on linkages and resource flows
- strategic policy and planning role inadequate
- considerable gaps in capacities
- inadequate decentralisation to address needs of population

Consequently, because of these structural rigidities and discontinuities as described above, mechanistic system of decision-making prevails over other options in the health sector. Over the years many of these rigidities have been reinforced and have to a large extent been institutionalised by centralising decision-making powers at the state and centre level. This is reflected in low empowerment in this sector (Annexure 2).

Consistent with the mechanistic decision-making, systems tries to overcome some of the concerns relating to hierarchy, and justice (both procedural and substantive) and HR issues by moving away from performance based system and liking to seniority based HR systems. Consequently the performance focus in the state was found to me meeting the documented targets relating to different national programmes (like immunisation, malaria eradication, family planning etc.) than to quality of care to patients visiting the health facilities. Any reform process need to address these issues. For example, reforms in UK did address some of these issues and have created two different cadres of professionals one managing the health sector and other focusing on delivery of care.

Referral system requires a network of sustained relationships focused on to work out problems as they arise and linked by informal channels of communication and networking. At the micro level health care providers need to connect, communicate, and collaborate through a web of interrelated informal networks. Tight structural arrangements and various rigidities described above fail to facilitate such communication, required to provide adequate care.

The other central issue of structure relates to control and quality of supervision. Officials at different levels collect information achieve desired control and influence below them. Collecting relevant information for this purpose is vital. However, officials collect the important information through informal networks, not through formal hierarchy. Hence, effective provision of care would require investment in the socialisation of officials and facilitating the development of their mutual informal relationships.

Staffing in health sector

The most striking feature of staffing is the high desire (score 4.13) among the health officials for consultation in staffing decisions (Table 6). This desire increases with the increase in professional commitment. They want to be consulted whenever an employee is posted in their district or district hospital. Similarly, they want to be consulted when an employee is transferred out. However, the intensity of consultation is extremely low (2.7 in staff posting and 3.2 in manpower planning). The denial of this consultation is found to be adversely affecting the morale of the doctors in the state. Further, the influence of the district level officials is extremely limited as they can not significantly reward, punish or transfer subordinates in their districts.

Table 6
Staffing Practices: Key Characteristics (Scale: 5.0)

Staffing Practices	Mean (Scale: 5.0)	Standard Deviation
Consultation on manpower planning	3.20	1.22
Desire for consultation in manpower planning	4.13	0.73
Consultation in staff postings	2.70	1.04
Job clarity	3.57	0.88
Fairness in staffing decisions	3.07	1.10
Testing skills in selections	2.48	1.00

As participation in manpower planning as well as staff posting develops a sense of understanding and belongingness in the mind of the line managers. The department can secure commitment of their staffs by involving them in the human resource planning.

As the decision-making in the state is highly centralised, staffing decisions are influenced more by political and administrative concerns than to the field requirement. It is reflects in extremely low perception of fairness in staffing decision (3.07). Doctors also perceive that most of the selection processes of hiring people are inadequate to test the skills of people. Consequently people with inappropriate skills enter the health sector. Moderate job clarity primarily emanates from the primary focus on implementation of national health programmes that are well spelt out in documents.

Professional growth and career development

As discussed earlier, professional growth and career development opportunities are the most important issues, affecting the commitment of doctors in the state. However the status of most of the career and professional growth related activity is poor. Opportunities for career growth are extremely low in the state (2.5), signifying that doctors perceive virtual stagnant career in the state. Simultaneously the promotions in the state are not perceived fair (2.7). Currently, there is no promotion policy in this newly formed state. Consequently many doctors are made to officiate at the district level without having been regularly promoted by the department. In deciding officiating arrangements seniority of doctors is also often ignored.

The career advancement through role advancement is also moderate (3.25). This coupled with high concern for competency development (3.91) leads to lowering of commitment and frustration among the doctors. Similarly, the expectations on professional competency development are not being met through CME. It is a reflection of low developmental environment in the department while it is the critical variable to enhance the affective organisational commitment of doctors.

Table 7
Career management and Professional Growth Practices

Career Management Practices	Mean (Scale: 5.0)	Standard Deviation
Opportunities for promotions and career growth	2.50	1.06
Opportunities for CME	3.21	0.93
Concern for professional competency development	3.91	0.77
Development for higher roles	3.25	0.92
Help for growth and development	3.14	0.74
Fairness and equity in promotion	2.70	0.92
Liking for seniority based promotion	3.35	0.93
Adequacy of selection process	2.88	0.70

Reward Policies

Doctors perceive that there is no relationship between performance and rewards in the state. Simultaneously, the perception of fairness and openness is very low in appraisal. This is a critical variable to enhance the commitment of doctors. Rewards in the department do not motivate doctors owing to low perception of fairness and equity.

The appraisal process does not help in the development of people either, as it is not shared in the department.

Table 8
Reward Policies and Practices

Reward Policies and Practices	Mean (Scale: 5.0)	Standard Deviation
Linkage with rewards to motivate high performance	2.91	0.61
Fairness in appraisal	2.68	0.66
Openness in Appraisal	2.66	0.65
Role Adjustment based on Capability	2.40	0.91
Rewards and Performance Relationship	2.53	0.72

6. Implications for Reform Processes

The commitment of people working in the health sector would have significant implications for any sector reform process. The study of health officials at the district level suggests that the sector faces number of human resource challenges to ensure the professional and organisational commitment of officials. We propose that effective management of issues, discussed in section 4 and 5 of the paper, would lead to better implementation of reform processes. In this section we examine and illustrate selected health sector reforms initiated in number of states in India and based on literature review attempt to examine which components of human resources initiatives facilitated or hindered the implementation of each reform. Based on the availability of information and our past studies, we select the following reforms:

- Rogi Kalyan Samiti i.e. Patient Welfare Society (referred as RKS) and Medicare Relief Societies in Rajasthan (referred as MRS)
- User fee policy in West Bengal and Gujarat (referred as UFP)
- Autonomy to super-speciality departments in hospitals in Gujarat (referred as Autonomy)
- Public private partnerships in Delhi, Punjab and Rajasthan (referred as PPP)
- Strengthening regional management of health facilities by creating regional directorates in Gujarat (referred as RD)

RKS in Madhya Pradesh and Medicare Relief Societies in Rajasthan

The Madhya Pradesh government attempted to address the task of strengthening public hospitals and improving their performance through a people's based model of functional autonomy and decentralised management. This model is based on the establishment of Rogi Kalyan Samiti (RKS) in the public hospitals and empowering them to take management decisions. The span of control of RKS is over the non-budgetary resources generated through user charges, voluntary contributions, grant-in-aids from government, commercial utilisation of surplus land and donations except the regular budgetary allocations made by the government. The RKS has been empowered to collect resources and utilise these resources for the development of the hospital. Similarly the RKS is also entrusted with the task of promoting popular involvement in the management and administration of the hospital thereby giving a welfare orientation to hospital management. And last but not the least, the objective of promoting the RKS is to do away with the concept of free of charge hospital services for the people taking into account affordability to pay.

The Institution of RKS consists of two bodies - the General Body which is policymaking and decision-making body and the Executive Body focusing on implementation of decisions. At the state directorate level, a senior officer has been made responsible for monitoring RKS in addition to a host of other responsibilities. This officer collects information on the income and expenditure of the RKS in a routine manner.

Although, no comprehensive review of the performance of RKS has yet been done, but available evidences indicate the model has been successful in generating sufficient resources to meet the routine needs of the patients attending the hospital, upkeep of hospital infrastructure and working environment. In many places we find that hospitals have been able to develop and implement comprehensive hospital management information system. This has also strengthened the capacity of hospitals to prepare and implement a long-term development plans. Overall the effort has led to a number of managerial innovations in running of the Public Hospitals.

The structure of RKS is less bureaucratic and more professional. This enables the facility managers to come up with a well-designed, needs-based programme for the development of the facility and for improving its infrastructure and facilities. Participation of hospital staffs in the constitution of RKS plays critical role. The power and authority to encourage proper representation and control over resource generation and utilisation of the facility is vested at the facility level. RKS generally gets full responsibility for the management of the hospital including all clinical services. However, the control over government budgetary allocations is not within the purview of RKS.

The implementation of RKS provided a sense of empowerment among the doctors. Some of the doctors in MP stated, "RKS is a boon to us. We have independently been able to upgrade the facilities here. We have improved the physical environment which was in extremely poor conditions earlier. We can buy medicines and hire pathological services. We get the satisfaction of providing healthcare in a way of our professional liking. As better services result in enhanced preference for our facilities, we tend to earn more through RKS by improving the quality of our services."

Involvement of local community in the executive committee of RKS has brought it closer to beneficiary group. One of the doctors stated: "We need not go to state headquarter for the approval of our plans. We get them approved locally in the executive committee. We find this process extremely fast and transparent."

The effective implementation of RKS in some of the hospitals has provided visibility to doctors in those settings. In one of the district hospital the doctor stated, "We have been extremely successful in improving the hospital through KRS. People have visited us to write cases. I have been invited at national and international workshops and seminars to share our experiences."

It signifies that RKS provided empowerment, a sense of professional contribution, recognition, professional development through seminars and conferences in some cases, and a better place to work. The process was perceived to be fair and equitable.

In 1995, the state government decided to grant autonomy to public hospitals with more than 100 bed capacity by setting-up autonomous Medicare Relief Societies. The societies are autonomous bodies registered under the Rajasthan Societies Act. The objective of the societies are: provide diagnostic services at cost price; free medical services to families living below the poverty line, widows, destitute, freedom fighters, orphans, prisoners, senior citizens above 70 years and emergency patients; obtain donations; provide measures to conserve resources by adoption of wards, opening lifeline fluid stores (low cost drug stores). At present, 72 societies are functioning in the state. Hospital societies in Rajasthan were able to generate Rs. 123 million through various schemes, which also included user fees (Lubhaya 2000). All the families living below the poverty line have been issued Medicine Relief Cards by the government which entitle them for free treatment. Freedom fighters also carry identity cards. For other categories, means testing is informal and discretionary. On an average 15 to 20 per cent of users get free care. Funds collected by the societies are deployed mainly for purchase of new equipment, repair and maintenance, consumables, contractual services for maintenance and cleanliness, and drugs and medicine (25% funds are to be kept for medicines for the poor). The use of funds is decided by the societies which have evolved their own purchase and expenditure procedures which are transparent and flexible. Cost recovery in Rajasthan has varied from 4 to 25 per cent across various facilities.

User fees policy

A number of state governments in India have developed and implemented user fees policy for their public health facilities. For example, the state of Gujarat had implemented the user fees policy in 1974. The government of West Bengal introduced user fees policy in teaching and secondary hospitals during the late 80's. The government of Orissa has implemented the user fees policy at district level hospitals for diagnostic services, special rooms, and ambulance services. Many state governments are introducing the concept of pay clinics and introducing the options of private public collaborations having implications for user fees policy.

Among other things, the implementation of user fees policy in most places has been identified as an important instrument in raising revenue for future growth and development. Other goals include influencing health-seeking behaviour and improving the efficiency of resource use. The introduction of user fees, however, gives rise to a number of questions about the revenue generating potential of user fees in health facilities. The effective implementation of user fees policy also needs to ensure that there are effective mechanisms in place making the policies consistent with the patient's ability to pay; it does not become barrier to accessing the health care facilities; and ability to attract patients from economically better strata who could not only pay but may also donate additional funds to the hospital. The attraction could be achieved by better perception of quality among the beneficiary groups.

The management of user fees policy also critically hinges on the extent to which user fees reinforces desired patterns of referral, the flexibility and autonomy granted to the revenue generating institutions to use the revenue generated for improving the quality of care, and having an appropriate policy framework on incentives.

Finally the implementation of user fee did not provide any incentives to the doctors in terms of empowerment, professional achievements, working conditions, recognition and professional development. All these factors affect the commitment of people managing these facilities to

implementation of this reform. Hence, user fees policy failed to generate adequate revenue or improve efficiency of majority of hospitals.

Autonomy to super-speciality departments in public hospitals in Gujarat

The Government of Gujarat has granted autonomy to number of super-speciality services in teaching hospitals in the state. The study of these autonomous department authorities suggest that granting of autonomy has helped these departments to address many of the general management and HR issues affecting the performance of the health facilities (Bhat 2001). The autonomy has influenced the following practices in these hospitals.

- Concerns of employees
- Contracting out of services
- Focussing on consumers services and quality of care
- User fees
- Financial management and generation of resources

Through this autonomy, the departments have been able to improve the working conditions. Their positive influence on employees has improved their productivity. The employees are assured that they will not be transferred without adequate reasons and consultation. Regarding grievances of employees, one of the senior doctors stated, "It is easy to manage services since all the employees now report to the Director. It is easy to handle their grievances and other HR issues."

The promotion and other career prospects of employees are locally decided by the hospital. . A doctor stated, "The job descriptions are well specified. The staffing decisions are primarily local and transparent now." The personnel department play important role in designing appropriate policies.

The autonomous centres have developed mechanisms to contract out various services. The hospital has developed mechanisms and systems to address consumer concerns. The hospital has created Counselling and Liaison Office. Social workers have been appointed in that office that provides counselling services to the patients. The office also provides guidance and information on all financial benefits available to the users. The hospitals have developed standards of care which help the patients to know whether they would be admitted to the hospital. The institutions are able to ensure good quality of care by developing the treatment protocols. The hospital provides free treatment to all patients whose income is less than Rs. 1000 per month. One of the autonomous centres has experienced that 70 per cent of the patients get free treatment. Generally the patient required free treatment has to obtain certificate about her/his income from the public representative. The user fees charged are significantly lower than what is charged in private facilities. The autonomous institutions receive 100 per cent grant for all its recurring expenses. The grant is also adjusted for the revenues the hospital generates from user fees. The government provides budget support only to the extent of deficits and only for recurring expenditures. Some of these facilities have raised funds through donations. These funds are used to meet the research requirements and capital expenditure. The facilities prepare budget and it is discussed in the governing board. The governing board has government nominee on it and once the budget is approved it gets clearance for the government as well. Most of the purchase decision are discussed in purchase committee and later presented to the governing board for approvals. In all cases the institutions follow the cash basis of accounting. The cost accounting systems are however not adequate and hospital lack mechanisms to control the costs. These facilities have also started using the computers in major way to store the data and financial information. Given the autonomy these facilities have also explored the possibility of developing alternative financing mechanisms such as development of insurance mechanisms. In one case we find that one of the facilities has taken initiative to develop insurance scheme. However, they have not received good response. Also, the hospitals do not have capacities to handle these tasks, for example it would require considerable marketing effort to promote the new mechanisms.

The study of this reform shows that it provided empowerment, a sense of professional contribution, and a better place to work. The process was perceived to be fair and equitable. Employees' issues relating to growth and development, rotation between departments and grievances were dealt with

locally on merit. It enhanced the commitment of employees for the implementation of reform and thus the quality of care.

Public-private partnerships

With the shrinking budgetary support and growing fiscal problems, most of the state governments are finding difficulty in expanding their public facilities to cater to the growing health care needs of their population. In terms of resource allocation, the most affected areas are secondary and tertiary care. The difficulties experienced in providing medical services specifically in these areas have compelled many state governments to explore alternative options. Having experienced significant growth in private sector at curative primary and high-tech secondary care, some of the state governments are exploring the options of promoting the public-private partnerships in the health sector. Most of these options are being explored in the areas of curative and tertiary care, and also provision of medical services in remote places.

The public policy goals for having private initiatives have not been discussed and debated. There is always a great deal of trade-off in policy goals involving equity and protecting poor patients, efficiency (technical and allocational), and quality of services. For example, the focus of previous initiatives to protect poor has produced less significant results. Targeting the poor is difficult process. There has been less emphasis on strengthening the mechanisms to ensure this. Questions such as (a) does the public initiative of promoting private sector arrangement fit the local circumstances, (b) is the regulatory environment in the country suitable for promoting public-private partnerships in health, and (c) does the reform respond to the concerns of those affected, have not been addressed adequately.

How does one handle the ills and undesirable consequences of private sector growth in health? Most of these concerns relate to high cost and lack of standards and inadequate regulation to ensure quality. In order to strengthen the public-private partnerships and in general the role of private sector, it is important to identify areas of intervention to make it more responsive towards public goals and to minimise the unintended consequences of private sector growth. The lack of monitoring mechanisms and absence of appropriate regulatory instruments raise doubts on the effectiveness of public-private partnership approaches.

The process and institutional mechanisms to handle the public-private partnerships will play critical role in process of developing these initiatives. The private sector participants interested in participation do have to make number of decisions that would involve a complex process of information search and analysis. In the absence of appropriate mechanisms for information sharing, the private provider incurs high transaction cost. This makes these partnerships vulnerable to inefficiency and high cost. The policy initiatives did not provide sufficient information on various aspects of proposed partnerships and thereby generating high uncertainty and affecting the investment by private providers. Besides information sharing processes, other important issue in these partnerships has been the absence of appropriate mechanisms to involve all stakeholders (including community and user groups) and transparency in the process.

Implementing the private initiatives would involve considerable amount of co-ordination across different departments of the government. The experiences suggest that mechanisms to handle the complex interfaces across the departments such as making amendments in certain statutes and co-ordination with various implementing agencies were not considered before the start of the process. Proposals have not taken into account stakeholder views. The development of these approaches has been top-down. The involvement of various stakeholders was not considered important in this process. There has been less interaction and involvement of concerned departments in promoting such initiatives and, also the processes lack mechanisms to consider viewpoint of various stakeholders, largely consumers. The public litigation has been direct outcome of these factors. The inadequacy of appropriate mechanisms to monitor the performance of the proposed partnerships has been another concern. This is direct outcome of not having clarity on public goals of these initiatives.

The development of private initiatives in health will need significant institutional development work. Developing capacities to handle these initiatives require financial analysis capabilities, monitoring

and evaluations systems and capabilities to analyse various options. One of the major concerns about the private initiatives would be the policy perspective of the government. There is no view on what should be the private-public mix of health care. Policy frame on public policy towards private sector is yet to be developed. There is less clarity on the amount of subsidies and incentives being channelled to the private health sector. The appropriateness of existing mechanisms to channel these needs discussion. Other policy concerns relate to development of mechanisms to protect the funding to government facilities while promoting private initiatives. It should not displace other sources of funding as it has happened in some centrally sponsored programmes of the central government.

There is a potential problem of private initiatives leading to unequal standards of clinical care across public and private sectors. The private initiatives would create two different standards of health care delivery systems; providing different quality of care to different clientele. This problem would further aggravate as a result of less allocation of government resources to public facilities. In the process ultimately poor will suffer. The private sector would displace the resources with the public sector, attracting qualified personnel from pubic to private; further aggravating the problem in public sector. The implications of these on public goals of health policy are less understood.

Given the experiences in private initiatives, organisation mechanisms have assumed significant importance in implementation. The recent experiences suggest that governments are vulnerable in proposing and handling these initiatives themselves. Given that implementation requires considerable amount of expertise and time and monitoring of these initiatives is critical, creation of separate organisation (outside the ministry) could be considered to perform these functions effectively. It is important that other aspects as discussed above are adequately addressed in the process.

The study of this reform shows that structural discontinuities were not addressed and information flow between care providers in two sectors remained a challenge. The top-down approach did not provide a sense of empowerment. The reform process did not either contribute to professional contribution, betterment of workplace, and professional growth issues. Investigations reveal that the partnership carried high potential for professional growth by sharing cases and professional knowledge. However, the implementation process would need bridging the structural discontinuity and create opportunities for mutual learning and growth.

Strengthening regional management of health facilities by creating regional directorates in Gujarat (RD)

The government of Gujarat has developed the structures to implement the decentralisation strategy in the health sector. For the purpose of managing the health facilities, particularly the hospital sector, the Gujarat state has been divided into six regional zones. These regional offices were created in 1986 to facilitate the management of health facilities in the state. Each zone has regional office which among other things also looks after the hospitals in each region. Each regional office is headed by Regional Deputy Director (RDD) and is assisted by one assistant Director. The regional offices have an important role in monitoring the health of the region. For this purpose the DoHFW has developed MIS. Each hospital is required to submit this statement every month to the RDD. The RDD generally hold monthly meetings to review the progress of programmes. The meeting also discusses functioning of hospitals (various technical and administrative matters) and take decisions to implement programmes and sort out any problems. The general experience is that most of the problems related to functioning of the health facilities are discussed and sorted out at the level of regional offices.

While implementing this intervention, the resource allocation decisions and the transfer and promotions of staff have not been delegated to regional offices. Regional offices were given the authority to transfer and promote the personnel in their regions. This authority was withdrawn later. Most of the decisions of transfer and promotions are now handled at the level of the DoHFW. To maintain the discipline and effective functioning of the facilities, the RDD can issue a memo to an erring employee. However, since they cannot take any follow-up action, the RDDs feel that it is not very effective. Staff unions are prevalent in each region. The general experience of the regional offices has been that it has not posed any major problem in implementing programmes.

The regional offices have also the responsibility of ensuring the good performance from hospitals. For this purpose, the regional offices make surprise and scheduled inspections of hospitals. The officers from regional office spend one day in each facility. For this purpose they use a prescribed pro-forma. The regional office is supposed to inspect each hospital once in month. But because of staff problems there are sometimes delays in carrying out inspection. There are surprise visit for PHC's and CHC's once in every three months. Some of the disciplinary actions are initiated after these inspections. The inspection committee has asked the employee to go on leave without pay or has issued memo in past.

Under each regional office there are five to six district hospitals. In some places under each district hospital, some departments have been granted full autonomy (for example, cancer department in Civil Hospital of Ahmedabad). Similarly, Civil Hospital in Baroda has department such as urology which is now autonomous. These autonomous departments receive grant-in-aid from the DoHFW and also are allowed to raise resources through donations and other grant. The regional offices monitor these departments and make recommendations to the DoHFW for extending the grants. The autonomous departments have governing body in which the representative from the DoHFW are ex-officio members.

Each hospital is expected to constitute management committee. The members of this management committee are selected from community, public representative and health officials. The regional offices recommend the constitution of these committees. However, over the years the functioning of these committees has not been effective.

The implementation of this structural reform shows that managerial decisions, primarily relating to HR, continued to be centralised at state headquarter. The intervention has actually been implemented to tighten the monitoring and control of health units in the field. It has not contributed to empowerment, professional and career growth, recognition, and perception of fairness in HR decisions. Consequently, the reform has failed to add to the commitment of the people.

Comparing these reform initiatives

These initiatives were independently assessed by both the authors on different dimensions of HR issues that were found to be significantly related to commitment. The authors assessed them on a scale of five and based on evaluation arrived at similar ratings with marginal differences. The disagreements on some of the items were discussed (Table 9). The table indicates that the reforms that could integrate the HR issues in their implementation were effective in their outcome. It suggests that states will have to rethink and reorient their implementation of reform agenda to integrate structural HR issues. In the absence on such integration, it is unlikely to achieve the millennium developmental goal of health for all by 2015.

Table 9
Assessment on different HR factors in implementing reforms

Variable that affect commitment	RKS	UFP	Autonomy	PPP	RD
1. Helping doctors for growth and development	****	*	****	*	*
2. Providing opportunities for CME and professional growth	****	*	****	*	**
3. Increasing training intensity	***	*	****	*	*
4. Supporting local training initiatives	****	*	***	**	**
5. Providing opportunities for promotions and career growth	*	*	*****	*	***
6. Providing opportunities for development for higher roles and responsibilities	*****	***	*****	***	****
7. Adopting means to improve the perception of fairness in training opportunities	***	*	****	*	*
8. Adopting means to improve the perception of fairness in selection, appraisal and promotion	***	*	*****	*	*
9. Empowering the health facility managers	*****	*	***	*	**
10. Linking rewards and recognition with performance	*****	*	***	*	**
11. Helping them stay longer in clinical settings	****	*	***	*	**
12. Providing freedom to interact with superiors and patients	*****	*	****	*	****
Effective (E) or not-effective (NE) Policy	E	NE	E	NE	NE

Annexure 1

Profile of the State

Chhattisgarh is the 26th State of the Indian Union created on 1st November 2000 by carving out from Madhya Pradesh. The state comprises of 16 districts and 146 community development blocks. The State occupies 135,194 square kilometre area. Nearly half of the State's population, about 21 million, is classified as socially underprivileged. The state has low urbanization of 17.4 percent as compared to 28.5 percent for all-India. Out of 20308 villages in the State 18076 villages are electrified. There are one medical college, one Ayurvedic college and two homeopathic colleges in the State.

Economy of the State

According to quick estimates for the year 2002-03, total revenue of the state was Rs. 53844 million. Tax revenue is 67 percent of the total revenue.

State Finance (2002-03: Quick Estimates)	Amount (Rs. in Million)
Revenue Receipts	
Tax Revenue	36092.90
Non-Tax Revenue	8733.90
Grants From Central Government	9017.80
Total Revenue	53844.60
Revenue Expenditure	
Non-Plan	44679.80
Plan	14120.20
Total	58800.00
Net State Domestic Product at current prices	241420.00

Source: Revenue Department

The economy of the State is predominantly agriculture based. Nearly 85 percent of the population is engaged in agriculture. Nearly 43 percent of the total land area is cultivated. However, only 12 percent of the total cultivable land is irrigated, rest of the cultivation depends on rain fed canals. Forest accounts for 45 percent of the total land area.

Rich in mineral resources, Chhattisgarh has the world famous reserves of iron-ore in Bailadila. Coal, limestone, dolomite, bauxite, tin, gold and diamonds are the other valuable minerals found in the State. Chhattisgarh earns about Rs. 3950 million annually from the mining sector.

Major Health Indicators of the state

The following table provides broad health indicators of the State.

Indicators	
Total Fertility Rate (1997)	3.60
Couple Protection Rate (Sterilisation - %)	29.5
Birth, Death & Infant Mortality Rates 1999	
Birth Rate Total (Per 1000 Population)	26.9
Rural (Per 1000 Population)	29.3
Urban (Per 1000 Population)	23.6
Death Rate Total (Per 1000 Population)	9.6
Rural (Per 1000 Population)	11.3
Urban (Per 1000 Population)	7.0
Infant Mortality Rate (Per 1000 live birth)	78
IMR in Rural Areas (Per 1000 live birth)	95
IMR in Urban Areas (Per 1000 live birth)	47

Infrastructure	
District Hospitals (No.)	6
Urban Civil Hospitals (No.)	17
Community Health Centres (No.)	114
Urban Civil Dispensaries (No.)	23
Primary Health Centres (No.)	512
Sub-Primary Centres (No.)	3818
T. B. Hospitals (No.)	1
Leprosy Sanatorium & Hospital (No.)	3
Polyclinic (number.)	1
Beds (number)	6822

The Structure

Operationally, like in various state health system in Chhattisgarh is rule based and procedures are important in the administration of health services. Decision-making is highly centralised and most of HR decisions are taken at the level of the minister. The structure of the Department of Health and Family Welfare is shown in figure below.

Principal Secretary is responsible for formulating and implementing policies for all public health and family welfare programmes. The Secretary (Family Welfare) is in charge of the family welfare programmes and other related projects and Commissioner (Health) is in-charge of health programmes. At the operational level, there is a Directorate, consisting of five Directors, one each for Medical Services, Public Health and Family Welfare; IEC; and Communicable Diseases.

The state has been divided into ten health divisions with a Joint Director as in-charge to facilitate health administration. In the administrative hierarchy, the Joint Directorate (Division) is a link between the state head quarters (i.e., the Directorate) and the district medical and health administration. The Joint Director co-ordinates and monitors the programmes in the districts under his/her jurisdiction, and reports to the state.

Two officers, i.e., the Civil Surgeon-cum-Hospital Superintendent and the Chief Medical & Health Officer (CMHO), mainly look after the health administration at district level. The Civil Surgeon-cum-Hospital Superintendent is mainly responsible for management of district hospital (DH). The CMHO is mainly responsible for management of health care set up in rural areas of the district, which includes Community Health Centres (CHCs), Primary Health Centres (PHCs), and Sub-Centres (SCs), and also the Civil Hospitals (CHs). The CMHO heads the district management team and supported by District Health Officer, District Family Welfare Officer, District Immunisation Officer, District Leprosy Officer, District Tuberculosis Officer, District Prevention of Blindness Officer, District Public Health Nurse Officer, and District Education and Media Officer. For the functioning of health system, district is an important unit.

The districts are divided into a number of administrative blocks (conforming to the area of *Panchayat Samiti*). At the Block level, the Medical Officer in-charge of the Block PHC is responsible for implementing all national health programmes, family welfare and reproductive health and curative services in the block area through the network of PHCs and SCs.

From the administrative point of view the block PHC compiles all the performance reports sent by CHCs and PHCs. At the PHC level the Medical Officer in-charge is responsible for implementing all the programmes in his PHC area and is supported by a team of para-medical personnel. At the village level, an Auxiliary Nurse Midwife (ANM) manages the Sub-centre. She is responsible for implementing all the programmes in the SC area, which usually covers 4-6 villages.

Unlike most of other states in India, the government of Chattisgarh allows the doctors to have their own private practice. All the doctors in medium and large sized towns have some form of private practice.

Annexure 2

Item	Mean	Std. Deviation
AGE	48.13	6.74
EXP_P	22.55	7.72
EXP_D	19.42	9.52
Early Role Clarity	3.54	0.84
Training Adequacy	3.28	0.83
Adequacy of training intensity	2.20	0.57
Support for training	3.37	0.83
Fairness in training	3.01	0.83
Role in Training Process	2.95	0.91
Role Clarity	3.69	0.58
Empowerment	2.88	0.69
Satisfaction towards Clinical Settings	3.97	0.87
Satisfaction towards Administrative Settings	3.49	1.02
Willingness to Assume Higher Responsibilities	4.19	0.51
Importance of Financial Returns	2.79	0.69
Concern for Fringe Benefits	2.74	0.79
Pay for Ability	3.57	0.82
Value for Competence in the profession	3.51	1.06
Expectation for Compensation for Ability	2.95	1.09
Importance of opportunities for CME	4.07	0.49
Importance of Respect and Recognition	4.01	0.46
Expectation on Responsibility and Independence at Work	3.83	0.49
Expectations on Interesting Work	3.93	0.60
Expectations towards Comfortable Working Conditions	3.15	0.71
Concern on Hours of Work	3.64	0.80
Expectations on Sound Policies and Practices	4.11	0.49
Importance of Job Security	3.71	0.80
Nature of Supervision	3.93	0.67
Importance of respect for me	3.88	0.56
Satisfaction with income	3.43	0.71
Satisfaction with recognition	3.88	0.58
Time with family	3.23	1.02
Risk free environment	2.86	0.99
Professional growth provided	3.26	1.00
Independence provided	3.06	0.97
Freedom to deal with community	2.67	0.92
Freedom to seek resources	2.71	0.78
Freedom to plan work	2.68	0.90
Freedom to interact with superiors and patients	3.02	0.84
Freedom to interact with other departments	2.98	0.98
Freedom to reward subordinates	3.06	1.01

Annexure 3: Rotated Component Matrix (Cumulative variance: 53.3 %)

Factor 1: Professional growth and developmental climate
Factor 2: Autonomy
Factor 3: Capability based staffing
Factor 4: Willingness for higher responsibility
Factor 5: Role in staffing of subordinates
Factor 6: Willingness to stay in Clinical Settings
Factor 7: Willingness for competence based assured pay
Factor 8: Satisfaction with recognition and reward

Component	1	2	3	4	5	6	7	8
Help for growth and development	0.82							
Fairness in training	0.81							
Linkage with rewards to motivate high performance	0.76							
Training Adequacy	0.75							
Support for training	0.70							
Opportunities for CME	0.68							
Fairness in appraisal	0.66							
Empowerment	0.64							
Rewards and Performance Relationship	0.63							
Fairness and Equity in Promotion	0.57							
Testing skills in selections	0.51						0.43	
Concern for development for higher roles	0.48							
Opportunities for promotions and career growth	0.48							
Professional competency development	0.42			0.42				
Openness in Appraisal	0.42							
Freedom to seek resources		0.81						
Freedom to interact with other departments		0.78						
Freedom to plan work		0.75						
Freedom to reward subordinates		0.68						
Time with family			-0.68					
Role Adjustment based on Capability			0.62					
Adequacy of Selection Process	0.45		0.62					
Adequacy of training intensity			0.61					
Expectation on Responsibility and Independence at Work			-0.55					
Value for job vs. worthwhile work			-0.51					
Willingness to Assume Higher Responsibilities				0.71				
Concern on Hours of Work				0.56				
Importance of Financial Returns				-0.53				
Expectations on Sound Policies and Practices				0.52	0.47			
Expectations towards Comfortable Working Conditions				-0.48				
Role Clarity				0.40				
Consultation in staff postings					0.71			
Job Clarity					0.60			
Consultation on Manpower planning					0.54			
Fairness in staffing decisions		0.44			0.52			
Nature of Supervision			-0.43		0.47			
Willingness to stay in Clinical Settings						0.65		
Freedom to interact with superiors and patients						0.61		

Component	1	2	3	4	5	6	7	8
Importance of respect for me						-0.54		
Importance of worthwhile work						-0.48		
Importance of Respect and Recognition						-0.48		
Pay for Ability							0.67	
Importance of Job Security							0.61	
Value for Competence in the profession							0.52	
Concern for Fringe Benefits							-0.45	
Satisfaction with recognition								0.71
Expectation for Compensation for Ability								0.60
Professional growth provided								0.57

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