Directions for Reforms in the Health Sector:

Reflections from a State in a Developing Country

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Abstract

Meeting the health care needs of population goes beyond mere budget allocations. The organisation of programmes and commitment of people working in the health sector has significant bearing on sector performance and its reform process. The reform process, among other things, intrinsically makes some fundamental assumptions: high organisational commitment of health care providers, high professional commitment of health care providers and adequate skills of health care providers. The current paper attempts to analyse the HR practices in Madhya Pradesh and its implications on commitment of the health officials. The findings of the study indicate that district health officials do not share strong emotional bond with the department which is likely to affect their willingness to take initiative. The findings suggest the need to consult senior doctors in staffing decisions in order to develop a sense of belongingness in the mind of the health officials. The study suggests investing in development of multiple strategies for the growth and career development of health professionals. The study also advocates the need for intense socialisation among health professionals to facilitate the effective implementation of reforms. Finally the study advocates the need to develop informal channels of communications and networking among various health providers.

Keywords: Commitment, Health Reform, HR Practices

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1. Introduction

Human resources are a very important component for effective implementation of health sector programmes and therefore are an important component of sector reform agenda of any state in India. Availability of adequate funds, equipments and people to man and manage the programmes alone may not necessarily lead to successful implementation of programmes and reforms. While state governments have been successful in creating impressive networks of health facilities; however, the overall achievement of health goals has not been very impressive. Particularly in rural areas, healthcare facilities continue to experience various challenges in managing the programmes.

An examination of the development of health care facilities since Bhore committee indicates that the nature of the problem has not changed in any significant manner. There are two weaknesses in the healthcare system: lack of availability of trained health personnel in rural areas and inadequate quality of care. Often the behaviour of personnel is cited as one of the major reasons for the poor perception of health care services (Lee, 2001). Particularly in rural areas such perception drives the population to seek treatment from traditional healers or postpone treatment. Health sector reforms aimed at addressing these deficiencies have focused on making health systems responsive through local participation and autonomy. Yet one of the critical reform challenges is to ensure availability of people with adequate competencies and their commitment towards making health reform process successful.

Some fundamental assumptions of the reform process are as follows:

- high organisational commitment of healthcare providers
- high professional commitment of healthcare providers
- adequate skills of healthcare providers

These are important assumptions, as the success of health care reforms will critically depend on their validity. This paper examines the commitment and competencies of doctors working in public health facilities and its implications for health sector reform. The study was carried out in Madhya Pradesh, one of the largest states in India.

According to most recent interstate comparisons, Madhya Pradesh is one of the most backward states in India. The variations in terrain and agro climatic zones of the state have hindered development of effective state-wide service delivery systems. The delivery of effective public health services is the most daunting challenge facing Madhya Pradesh. Given the geographical vastness and sharp social, cultural and economic diversity, it is clear that substantial inputs are needed for the development of the health sector. An overview of the health services in the state is provided in Annexure 1.

2. Literature Review

Commitment is a multidimensional contextual construct. 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 desire to maintain membership (Bhat and Maheshwari 2004; Porter, Crampon, and Smith 1976; Porter, Steers, Mowday and Boulian 1974). 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. Professionals like doctors may do well to provide healthcare out of their concern for the profession alone (Bhat and Maheshwari, 2004).

Allen and Meyer (1990) have 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 in varying degrees. Meyer and Allen (1991) argue 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.

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

Organisational commitment consistently has been found to be related to employee behaviours, such as:

- job search activities, turnover, absenteeism and, to a lesser extent, performance effectiveness (Angle and Perry 1981; Bluedorn 1982; Farrell and Rusbult 1981; Freeman, and Deena 1999; Lillian, Marsh and Mannari 1977; Morris and Sherman 1981; Porter et al. 1976; Porter et al. 1974; Steers 1977; Wasti 2003);
- attitudinal, affective, and cognitive constructs such as job satisfaction, job involvement, and job tension (Beyer and Trice 1978; Hall and Schneider 1972; Hrebiniak and Alutto 1972; Porter et al. 1974; Stevens, Stone and Porter 1976);
- 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 workforce (Steers 1977). Owing to their high identification with the organisation, highly committed employees willingly accept the organisation's demand for better outputs (Etzioni 1975), thus assuring high levels of performance and task completion (Mowday, Porter and Dubin 1974; Van Maanen 1975). There is also evidence 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 output to improved services in service sectors; it also reduces the need for external monitoring mechanisms. Committed employees need less supervision to control their behaviour. In the health sector employees are expected to

strengthen organisation's image among 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.

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 identification of employees with the organisation (Jones 1986). Similarly, 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.

Performance appraisals 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 social exchange theory, perceived investment in employees' development is positively associated with affective commitment of employees. On the other hand training improves the employability of employees and thus when proper career advancement or opportunities to use the learned skills are not provided; there are higher chances that employees may quit.

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

Research Questions: Consistent with the literature review and criticality of commitment, competencies and HR practices for reforming the health care sector, this paper examines the commitment of district level health officials in the state of Madhya Pradesh in India and its relationship with other HR practices. Accordingly, the problem statements were:

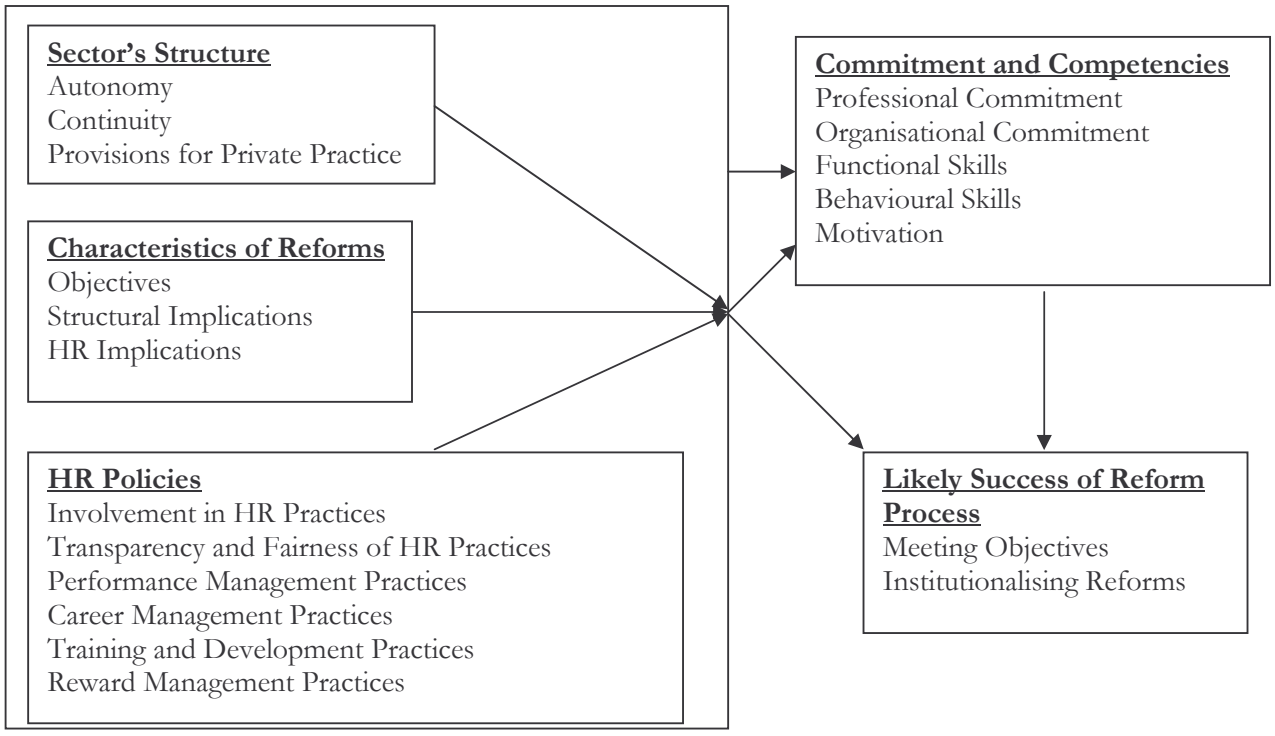
- What is status of professional commitment, organisational commitment and technical competencies of health officials in the state?
- What are the characteristics of human resource management practices in the health sector in the state?

- How are these management practices linked with professional and organisational commitment?

Answers to these questions are critical in designing and implementing health sector reforms.

The model shown in Figure 1 was used for the study. Commitment scales were developed based on three dimensions: affective, normative and continuance (Meyers and Allen 1991).

Figure 1: Model for the Study



3. Methodology

The study aimed at exploring HR practices in the state and their implications for commitment of health officials. Owing to the exploratory nature of the study, part of the data was collected through the qualitative route. Two rounds of focused group discussions and brainstorming were carried out with the state and district health officials to understand the factors affecting the work environment of doctors and multipurpose workers.

To measure commitment and its relationship with HR variables, a self-administered questionnaire was used. Based on one developed by Bhat and Maheshwari (2004), the questionnaire had open-ended questions to understand the issues further and Likert type questions to measure commitment and HR practices. The questionnaire included 38 variables with multiple items. The items were measured on a five-point Likert type scale. While the scales for the questionnaire were developed to measure professional and organisational commitment, technical competencies were measured through professional qualifications of doctors in the state.

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.

55 district and state health officials agreed to participate in the study. However, they returned only 31 usable questionnaires. It reflects a participation of nearly one-third population of district level and higher officials in the health department of the state government. Hence, it is likely to be a true representation of the state of HR practices in the state of Madhya Pradesh.

The survey shows that health officials at the district and state level carry rich experience. Their experience in the department and age averaged 26.07 years and 54 years respectively. Experience in medical care averaged 28.67 years.

The characteristics of the sample and mean of different dimensions are provided in Annexure 2. Using factor analysis, these variables were reduced to ten orthogonal factors (see Annexure 3). These actors relate to professional growth and developmental climate, expectation from department, willingness for higher responsibility, autonomy, clarity in work environment, freedom in interaction, career growth opportunity, job security, promotional policies in department and expectation and concern about working conditions. Only 10 variables with eigen value more than 1 extracted from 38 variables were taken for the study, which shows that the variables are by and large independent. These independent variables were used 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.

4. Findings

Commitment of doctors and state officials is found to be low (Table 1). In a similar study in five different organizations, the commitment score of senior level officials was found to be more than 4.2.

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
Affective commitment to the department	3.65	31	0.43	-0.34	3.28*
Affective commitment to profession	3.99	31	0.44		
Normative commitment to the department	3.69	30	0.37	-0.20	2.63*
Normative commitment to profession	3.89	31	0.42		
Continuance commitment to the department	3.17	31	0.47	-0.37	3.87*
Continuance commitment to profession	3.54	31	0.53		

* statistically significant at 5 per cent level.

Table 1 shows that commitment of doctors at district and state level is significantly higher towards their profession than towards their department (organisation). Higher commitment to their profession drives doctors to execute their professional responsibilities even if their commitment to their departments is lower.

Affective organisational commitment is found to range from 3.22 to 4.08 (mean: 3.65). This and normative commitment of 3.69 indicate that district health officials do not share strong emotional bond with the department. Their identity with the department is weak. Consequently, doctors and state officials are unlikely to take many proactive actions and suggest useful ideas. Their willingness to take initiatives is also likely to be restricted. This also indicates possible lack of cooperative behaviour to encourage and sensitize interdependencies in the department.

As any reform process in the health sector that seeks high involvement of doctors is unlikely to succeed unless the issues relating to affective and normative commitment are taken care of. To understand the actions that could lead to improved organisational commitment, regression analysis was done. The regression equation of affective commitment with HR practice variables provided the results given in Table 2.

The results presented in Table 2 indicate that reform initiatives which ensure adequate advantage to the development climate of the department are more likely to succeed. Reforms to develop healthy relationship between superiors and subordinates and greater consultation of senior doctors in staffing practices would enhance their commitment to the organization and thus organisational performance and success of the reform process.

Doctors who have served longer tenure in clinical setting show lower affective organisational commitment. This is a strong indicator that the current HR practices in the department are causing frustration among doctors who are getting lesser committed with time. The concerns of development, involvement in decision making and interpersonal relations should be addressed on a priority basis.

Table 2
Dependent Variable: Affective Organisational Commitment (Adjusted R square = 0.48)

	Standardised coefficient	Significance
Constant		0.00
Professional competency development	0.43	0.00
Relationship with superiors	0.37	0.00
Experience in profession	-0.16	0.04
Reward performance relationship	-0.38	0.00
Support for growth and development	0.26	0.00
Job clarity	0.14	0.02
Fairness in transfer	-0.41	0.00
Consultation in planning	0.21	0.01
Consultation in posting	0.22	0.02

The results also indicate a negative relationship of organisational commitment with fairness in transfer. Fairness is associated with rule and procedure oriented decision making. Hence, bureaucratic organizations show highest concern for fairness. The doctors do not want a bureaucratic pattern of staffing decisions. They do not expect postings and transfer to be strictly according to rules. They prefer decisions that are situation-specific, considering skills and other such subjective factors. The department has to examine its decision making to make it more organic than bureaucratic.

On a similar pattern the regression results (Table 3) of normative organisational commitment indicate influence of support for growth and development. Promotion policy in the department and career growth opportunities highly improve normative and continuance commitment. The state will have to develop multiple strategies for the growth and development of health professionals.

Table 3

Dependent Variable: Normative Organisational Commitment (Adjusted R square = 0.41)	Standardised coefficients	Significance
Constant		0.00
Job Clarity	-0.29	0.00
Consultation in posting	-0.52	0.00
Support for growth and development	0.35	0.00
Experience in profession	-0.22	0.00
Reward performance relationship	0.18	0.01
Dependent Variable: Continuance Commitment to Department (Adjusted R square = 0.42)		
Constant		0.00
Support for growth and development	0.48	0.00
Reward performance relationship	-0.54	0.00
Fairness in promotion	0.34	0.00
Consultation in planning	0.38	0.00
Fairness in transfer	-0.28	0.00

Professional skills

Professional qualifications of senior doctors in the state are high. More than three-fourth of doctors are postgraduates with specialisation in different fields. This is also likely to have contributed to their professional commitment. However, visits to different health care facilities indicated that professionally qualified doctors frequently are not able to utilise their technical capabilities owing to lack of infrastructure. We found instances when an orthopaedic surgeon placed at a primary health centre that had little chance of getting accident cases and the facility having no provision for emergency services and surgery. Such staffing practices lead to erosion of professional competencies.

Growth of professional competencies is found to be positively related to intrinsic desire among doctors for assuming higher responsibilities and work-role. It strongly suggests that professional development positively contributes 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.

5. Findings: Sector Design and Work Environment Implications

Structural arrangements of the sector and developmental HR practices can lead to required service capability in the health sector. Based on the findings, the following elements of structural design need immediate attention of policy makers.

Technical support from colleagues and superiors

Cooperation from superiors and colleagues enhances the affective organisational commitment of professionals. There is mixed evidence of cooperation among colleagues and superiors. Freedom to interact with superiors is low (the score is 3.02). Prevailing high concern for status and hierarchy in the department prevents even professionals like doctors from sharing healthcare-related issues openly and supporting each other.

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

Roles, responsibilities and structural rigidities

Role clarity provides mixed evidence for its implications for commitment of doctors. It primarily owes to three different roles that are performed by doctors. These are regulating and monitoring, provision of healthcare services and facilitating and coordinating provision of services (Bhat and Maheshwari, 2004). The three roles require different behavioural patterns. These are summarised in Table 4.

Table 4
Roles and responsibilities in Health Sector

Activities	Regulation	Service Delivery	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 not mistrust, be open to examination every time.

Source: Bhat and Maheshwari, 2004

The three different roles of district health officials require three different patterns of behaviour. In order to perform these roles effectively, health administrators would need significant flexibility in decision making, autonomy and empowerment. Empowerment would also enable higher commitment. However, currently the health care system is organised to serve the regulatory functions alone. It is characterised by operating islands without smooth communication between them and very rigid hierarchy (Bhat and Maheshwari 2004). Coordination and communication between centre, state, district, sub-division, blocks, sectors and villages is low. There is highly unpredictable resource flows, high variability in performance and inconsistent practices in the operating units. Further the health system is fragmented owing to lack of integrating mechanisms between health, family welfare and other programmes.

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 healthcare providers need to connect, communicate, and collaborate through a web of interrelated informal networks. Tight structural arrangements and various rigidities fail to facilitate such communication required to provide adequate care.

Structural rigidities and discontinuities have led to mechanistic systems of decision-making in the health sector. Inflexible decision-making makes the system less responsive to the needs of the health care sector. Further, over the years decision making to a large extent has become

highly centralised. Centralised decision-making has seriously affected the creativity and commitment among health care providers in the system. This is reflected in low empowerment (see Annexure 2).

Staffing in health sector

The most striking feature of staffing is the high desire (score: 4.00) among health officials for consultation in staffing decisions (Table 5). They want to be consulted whenever an employee is posted in their department. However, the intensity of consultation is substantially low (2.92 in human resource planning). Similarly health officials view unfair practices and lack of transparency in selection process and staffing decisions (score: 2.5). Similar findings were noted in a study of Human Resource Issues for Health sector in the state of Chattisgarh (Bhat and Maheshwari 2004).

Table 5
Staffing Practices

Staffing Practices	Mean (Scale: 5.00)	Std. Deviation
Consultation in planning	2.92	1.28
Importance of consultation in planning	4.00	0.74
Fairness in transfer	2.56	1.10
Transparency in selection	2.81	0.82
Fairness in staffing decision	2.52	0.65

Participation in human resource planning and staffing develops a sense of understanding and belongingness. The department can secure commitment of their staff by involving them in human resource planning.

Since decision-making in the state is highly centralised, staffing decisions are influenced more by political and administrative concerns than field requirements. This is reflected in extremely low perception of fairness in staffing decisions (score: 2.52).

Professional Growth and Career Development

Professional growth and career development opportunities have a great impact on the commitment of doctors. Opportunities for career growth are extremely low in the state (2.88), signifying that doctors perceive virtual stagnant careers. Simultaneously promotions in the state are also not perceived to be fair (2.40).

Health officials believe low to moderate concern for professional competency development (2.71) in the department leading to lowering of commitment and frustration. Similarly, expectations on professional competency development are not being met adequately through CME. This is a reflection of the need for efforts to upgrade skills and competency of health officials to enhance affective organisational commitment.

Table 6
Career Management and Professional Growth Practices

Career Management Practices	Mean (Scale: 5.00)	Std. Deviation
Opportunities for CME	2.85	0.76
Support for growth and development	2.88	0.86
Seniority based promotion	3.42	0.95
Fairness in promotion	2.40	0.73
Professional competency development	2.71	0.73
Linkage to seniority based promotion	3.23	0.96

Reward Policies

Doctors perceive that there is no relationship between performance and rewards. Hence, the motivation to perform is low. Rewards do not motivate doctors owing to low perception of fairness and equity. The low scores also adversely affect the accountability of doctors. This finally leads to sub-optimal performance.

Table 7
Reward Policies and Practices

Reward Policies and Practices	Mean (Scale: 5.00)	Std. Deviation
Motivation to perform	2.65	0.67
Reward performance relationship	2.14	0.78

6. Findings: Human Resource Management Issues

To understand the various human resource issues at district and state officials in the department, we conducted focus group discussion and brainstorming sessions with the health officials. The discussions revealed several issues at the level of district and state medical officers.

Transfer and Postings: Transfer is one of the major concerns among the medical officers. Though there is a transfer policy, its implementation is affected by political and other interferences. There is a strong demand to make the system free from political and other undue interferences. A strong policy and laid down practices and above all a strong political commitment and enabling environment can make the system work better.

Career Issues: There is lack of incentives for medical officers to work in rural areas. The reasons for reluctance to work (and stay) in rural areas emanates not only from physical hardships but also from professional isolation. Basic amenities like water and electricity are not adequate in rural areas. Employment opportunities for spouses and educational opportunities for dependent family members are limited. The scope for professional growth through continued medical education, interaction with subject experts, etc. is limited. These push factors drive people away from rural settings.

Staff Motivation: The department should invest in enhancing motivation of staff posted in rural areas through monetary and non-monetary measures. Group residence could be provided so as to promote socialisation among the medical community as well as other

government officials working in the rural areas. Recreational facilities will augment motivation for working in rural areas. Wards of medical officers can have special quotas in public, private and autonomous institutions in difficult areas.

Medical officers give lot of importance to continuous medical education and they fear losing their professional competency in rural postings. This calls for special measures for professional competency development of medical officers. Sponsorships to attend conferences/workshops may be a good incentive. In addition to staffing in rural areas, there are concerns relating to career growth in the department. Practices for promotion are not often in cognition with experience in the department.

7. Implications for Reform Process

The commitment of people working in the health sector would have significant implications for any sector reform process. This study suggests that the sector faces a number of human resource challenges to ensure the professional and organisational commitment of officials. Meeting the health care needs of the population perhaps goes beyond mere budget allocations. Given the growing complexities and challenges the health sector faces, reforms in this sector are inevitable. Reforms generally focus on making the health system responsive through higher allocations and strengthening financial systems, ensuring local participation and public-private partnerships, and autonomy of health facilities. *Inter alia* it is through these reforms that deficiencies in the health sector can be addressed. The reform process is also likely to help in developing strategies that ensure effectiveness and efficiency of resource use. However, the reform process makes some fundamental assumptions about the intrinsic organisational and professional commitment and availability of skilled and competent health care professional. Since development-oriented human resource practices are powerful tools that commit health professionals to enhance the quality of care, we believe that health sector reforms should concentrate on human resource issues and practices more than ever before.

Annexure 1

Profile of Madhya Pradesh

Madhya Pradesh, in its present form, came into existence on November 1, 2000, following its bifurcation to create a new state of Chhattisgarh. The undivided Madhya Pradesh was founded on November 1, 1956. The state comprises 45 districts and 313 community development blocks and occupies 308,000 square kilometre area. The population of Madhya Pradesh as of March, 2001 was 60.4 million (2001 Census), the rural to urban ratio being approximately 73:27. Scheduled castes and scheduled tribes account for 15.4 and 19.9 per cent respectively of the population. In terms of population it holds the seventh position among states and union territories in the country and comprises 5.88 per cent of the population of India. The sex ratio (females per thousand males) is 920. Literacy in the State is 64.11 per cent (2001 census). There are 36 district hospitals, 57 urban civil hospitals, 229 community health centres, 1194 primary health centres and 8835 subhealth centres. Delivery of effective public health services is the most daunting challenge facing Madhya Pradesh, as it ranks at the bottom of the national average. The state ranks 30 in the human poverty Index (out of 32) and 25 in the gender disparity index (out of 32). Health services are primarily provided by the public sector; the private sector is small and is confined mostly to big towns and cities.

Key Indicators of the State	
Population	6,03,85,118 (Census 2001)
Males	3,14,56,873 (52.09 %)
Females	2,89,28,245 (47.91 %)
Scheduled Tribes	96,82,000 (19.94 %)
Scheduled Castes	74,78,000 (15.40 %)
Area (in sq. km.)	308,000
Revenue Divisions	9
Districts	45
Literacy	64.11 %
Male	76.80 %
Female	50.28 %
Male-Female Ratio	1000 : 933

Vital Health Indicators	
Birth Rate (2002)	30.3
Death Rate (2002)	9.7
IMR (2002)	85
MMR (1997)	498
TFR (1999)	3.9

Infrastructure	
District Hospitals	36
Urban Civil Hospitals	57
Community Health Centres	229
Primary Health Centres	1194
Sub Health Centres	8835

Annexure 2

Sample Characteristics

	Mean (Scale: 5.00)	Std. Deviation
AGE	53.89	3.47
EXP_P	28.67	4.75
EXP_D	26.07	6.53
Consultation in posting	2.66	1.04
Role Clarity	3.39	0.74
Training Adequacy	2.83	0.85
Support for Training	2.95	0.75
Role in training of subordinates	3.16	1.01
Willingness to assume higher responsibility	3.51	0.61
Freedom to interact with other department	3.27	0.78
Freedom in decision making	2.68	0.68
Empowerment	4.32	0.44
Relationship with superiors	3.98	0.63
Importance of financial return	2.85	0.59
Concern for fringe benefit	2.91	0.74
Pay for ability	3.43	0.64
Importance of CME	3.88	0.61
Importance of respect and recognition	3.90	0.5
Importance of respect for me	3.63	0.82
Expectation on responsibility and independence at work	3.53	0.6
Importance of worthwhile work	3.24	0.62
Importance of interesting work	3.98	0.57
Expectation towards comfortable work environment	3.68	0.84
Concern towards hours of work	3.55	0.64
Expectation towards policies and practices	4.19	0.49
Importance of job security	3.71	0.64
Nature of supervision	3.95	0.51
Opportunity for professional growth	3.18	0.74
Job Satisfaction	3.45	0.49
Delegation of authority	2.53	0.8

Annexure 3: Rotated Component Matrix (Cumulative variance: 89.4%)

Factor 1: Professional Growth and Development Climate
Factor 2: Expectation from department
Factor 3: Willingness to assume higher responsibility
Factor 4: Autonomy
Factor 5: Clarity in work environment
Factor 6: Freedom in interaction
Factor 7: Career growth opportunity
Factor 8: Job Security
Factor 9: Promotion policy in department
Factor 10: Expectation and concern about working condition

Component	1	2	3	4	5	6	7	8	9	10
Consultation in Planning		0.82								
Importance of consultation in planning		-0.75								
Consultation in posting		0.83								
Fairness in transfer		0.96								
Job Clarity					0.83					
Opportunities for CME		0.54								
Support for growth and development	0.71									
Seniority based promotion									0.53	
Fairness in promotion									0.55	
Transparency in selection	0.88									
Training Adequacy	0.79									
Professional Competency Development	0.88									
Support for Training	0.83									
Role in training of subordinates	0.67									
Motivation to perform	0.51									
Willingness to assume higher responsibility			-0.59							
Linkage to seniority based promotion							0.82			
Reward performance relationship	0.61									
Freedom to interact with other department						0.93				
Empowerment				0.60						
Relationship with superiors			0.48							
Importance of financial return					0.61					
Concern for fringe benefit				-0.65						
Importance of CME			0.63							
Importance of respect and recognition					0.43					
Importance of respect for me									0.88	
Expectation on responsibility and independence at work										0.64
Importance of worthwhile work					0.69					
Importance of interesting work			0.53							
Expectation towards comfortable work environment			0.88							
Concern towards hours of work										0.80
Expectation towards policies and practices			0.69							
Importance of job security								0.90		
Nature of supervision			0.71							
Opportunity for professional growth							-0.78			
Job Satisfaction				0.85						
Delegation of authority				0.82						

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