

A Diagnosis Model for Job Motivation of Public Health Workers in Rural Odisha, India

Mrs. Tapaswini Dash¹, Prof. Haribandhu Panda²

¹School of Management, ²Vice Chancellor, School of Management,
Centurion University of Technology and Management, Bhubaneswar, Ramachandrapur,
PO: Jatni, Khordha - 752050

Corresponding Author: Mrs. Tapaswini Dash

ABSTRACT

The problem of lack of professional health service providers in rural areas of India has been an area of discussion since the 1960s. Despite the implementation of National Rural Health Mission over a decade since 2005, the public health system in India continues to face formidable challenges. In the context of plans for rolling out “Universal Health Care” this study reviews a wide range of literature (published and grey material) including policy and program documents, evaluations and studies, and undertook secondary analysis of state level household surveys. It analyzes the major challenges that public hospitals in rural Odisha are facing in retaining the health care professionals, and highlights the key factors for job motivation. This study also suggests a model for the policy makers and planners that may be implemented during the transformational planning process for the effectiveness of the health system management in rural Odisha.

Key Words: Public health worker, motivation, retention, health care, rural sector.

INTRODUCTION

Motivation in the work context, can be defined as an individual's degree of willingness to exert and maintain an effort towards organizational goals. Work motivation is an internal process in which an individual receives certain stimulus from the environment (rewards, feedback, directives and consequences of previous efforts) which combine with certain internal features (self-concept and needs).^[1] According to,^[2] “Motivation refers to the forces coming from within the person that account, in part, for the willful direction, intensity and persistence of the person's efforts towards achieving specific goals that are not due to ability or to environmental demands”. Research indicates that individuals work for different reasons and have different motivations to work.^[3] Work

motivation has been described as “psychological processes that direct, energize, and maintain action toward a job, task, role, or project”.^[4] For example - some individuals are motivated by benefits such as an adequate salary, job security, good working conditions and organizational policies(external motivational needs), whereas others are motivated by factors such as achievement, growth, advancement, respect and recognition, independence, and responsibility (internal motivational needs).

Health Management System

Healthcare system requires service delivery at right quality, efficiency and equity, which are dependent on health workers' motivation to exert their effort on their tasks. Though availability of resources and skills of health workers are important, often these factors are not enough by

themselves to make health workers work to the expected level of performance that is influenced by their willingness to come to work regularly, work diligently and be flexible and willing to carry out the necessary tasks. [5] Furthermore, lack of equipment, supplies and poor management structures, lead to poor productivity, limited competences and responsiveness in a health system. The root causes that result in suboptimal performance in these areas consist of a complex set of interrelated factors which can contribute to job dissatisfaction and low motivation among health care professionals. [6]

Human resource management tools comprise the policies, practices and activities at the disposal of managers to obtain, develop, use, evaluate, maintain and retain the appropriate number, skills mix and motivation of employees to accomplish the organization's objectives. [7] These tools form the basis for improving management, together with monitoring and evaluation systems that link health worker performance to supportive supervision and appraisal.

Effective health service delivery requires efficient use of the skills of a well-motivated health workforce. Improving staff motivation and performance through effective use of pay and non-pay incentives, career development opportunities, flexibility in working schedules, safe working environments and other factors is an important issue in health services provision. [8] In developing countries, low staff motivation and shortage of human resources for health (HRH) are factors that are crippling health systems and health care. Despite this, the development of human resources has been given little attention at global and national levels until recently.

Improved retention of health workers contributes to the provision of quality health care because it builds up competencies, optimizes team relations, and strengthens the relationship of health workers with local communities. [9] In contrast, poor retention or high staff turnover negatively affects health care by

increasing workload, undermining team morale, creating disruptions and inefficiencies in work processes causing a loss of institutional knowledge. [10] Improving the retention of the health workforce in rural and remote areas is of a serious concern in India. [11]

An inadequate number of health-care workers is associated with poor quality of health services, especially in rural areas. The density of doctors is four times and that of nurses is three times higher in urban areas as compared to the rural areas. [12] India faces a shortage of qualified health workers with large geographic variations in the health workforce, across states and rural and urban areas. To cater to the health care needs of a growing population and other escalating health care demands, a nation's health care workforce is the vital component. But India was ranked 52nd of the 57 countries facing a human resource crisis in 2010. [13] According to a 2011 world health statistics report, the density of health care workers in India (doctors, nurses, and midwives) is 19 for a population of 10,000 [14] compared to the World Health Organization's recommendation of 25 per every 10,000 individuals. [15]

The problem of lack of professional health service providers in rural areas of India has been an area of discussion since the 1960s. Almost 60 percent of health workers of India reside in urban areas. [16] The vacancy rate of Medical Officers (MO) in India is nearly 21% at primary health centers (PHCs) and 42% for specialists at community health centers (CHCs). [17] A PHC covers a population of 20,000 in hilly, tribal or difficult areas and 30,000 in plain areas with four to six indoor observation beds. It acts as a referral unit for six sub-centers and refers cases to CHCs (30-bed hospitals) and higher-order public hospitals located at the sub district and district levels. This unequal distribution is substantially exacerbated when adjusted for the larger share (around 74 percent) of the population in rural areas. The density of health workers in urban is nearly four times that of rural

areas (42 versus 11.8 per 10,000 population).

In Odisha (one of the poorest states in the country), despite the government's efforts to increase resources for the health-care sector, the quality of public health-care services is poor. While there is acute shortage of doctors in rural areas, the problem is compounded due to high rates of absenteeism (about 43%) of health-care workers. According to a leading newspaper by end of 2015, over 3,500 doctors' posts were found lying vacant in three medical colleges and other hospitals in the state itself. Also there is a huge vacancy found in rural areas. Out of 4,864 sanctioned posts for rural area in Odisha, only 2,293 doctors were working in government hospitals. [18]

It seems that the various interventions by the Ministry of Health Service in the form of Additional Duty Hour Allowance (ADHA) and compulsory rural service have not received the desired result. In order to meet the shortage of doctors, the state government has enhanced the retirement age of government doctors from 58 to 60 years, and 62 in the case of the medical college faculty. These moves however have failed to attract doctors. Additionally, absence of a robust monitoring mechanism in rural health sector of Odisha is a concern. Since models of care in rural and remote areas are different from those in metropolitan communities, the strategies for addressing the problems of rural areas cannot be copied directly from the experiences of urban context. [19]

The present paper is divided into three sections: the first section provides the present scenario of the health sector challenges of India and Odisha with special reference to the motivation and retention aspect of health care professionals, and the second section brings an extensive and comprehensive literature review that highlights different policy program and reforms taken by government to bring change and improve the health sector challenges in Odisha followed by a third section that suggest a model to apply for a

successful health system management organization in rural sector of Odisha.

Challenges in Health Care Sector in India ***Human Resource for Health (HRH) Crisis in India***

The current estimated physician to population ratio in India is 1:1700, against the targeted ratio of 1:1000, showing a continued shortage. [20] India also has a physician distribution challenge, with close to 70% of physicians concentrated in urban areas. This leaves the density of physicians in rural India at 3 per 10,000 populations versus 13 per 10,000 in urban areas. [21] Governments, both at the Centre and states, have made no significant effort to prevent doctors from migrating or making the atmosphere more conducive to practice in the country. Between April 2013 and March 2016, 4,701 doctors who graduated from India choose to go abroad. [22]

Health Sector and Indian Staffing Norms

The National Rural Health Mission (NRHM) launched Indian Public Health Standard (IPHS) laying down national level staffing norms for each level of public health facilities. According to the norms laid down originally by the Planning Commission, the nation is committed to providing a health sub-center for every 5,000 population, a primary health center for every 30,000 population, a community health center for every 1,20,000 population and 100 to 200 bedded district hospital for every 1 million population. In tribal areas the density is increased to a sub-center for every 3,000 population, a Primary Health Centre (PHC) for every 20,000 population and a Community Health Centre (CHC) for every 80,000 population. The health sub-center by the newly created IPHS norms is to be staffed by two auxiliary nurse midwives (ANM) with 18 months training and a male health worker. The primary health center is to be manned by three doctors plus fourth doctor trained in indigenous medical systems as well as by five staff nurses and one ANM.

State of Public health system in Odisha

Odisha State in eastern India (formerly known as Orissa) has a population of 42.0 million that includes a large proportion of Scheduled Tribe (23%) and Scheduled Caste (17%) populations (Census of India, 2011) [23]. Interest in health sector reform in Odisha began in the mid-1990s. Earlier phase of health sector in Odisha through a planned process since 1947, there has been an expansion in infrastructure and systems for providing health care services throughout Odisha. Odisha has adopted Central Government norms, guidelines, policies and programs for this development. Since the year 1947, there has been a gradual improvement in the health status of the population but not much has been achieved yet.

Table 1: Comparative Demographic, Socio-economic and Health Infrastructure of Odisha

Item	Odisha	India
Total Population (Census 2011) (In Crore)	4.19	121.01
Decadal Growth (%) (Census 2011)	13.97	17.64
Crude Birth Rate (SRS 2013)	19.6	21.4
Crude Death Rate (SRS 2013)	8.4	7
Natural Growth Rate (SRS 2013)	11.3	14.4
Infant Mortality Rate (SRS 2013)	51	40
Maternal Mortality Rate (SRS 2010-12)	235	178
Total Fertility Rate (SRS 2012)	2.1	2.4
Sex Ratio (Census 2011)	978	940
Child Sex Ratio (Census 2011)	934	914
Schedule Caste population (in crore) (Census 2001)	0.61	16.67
Schedule Tribe population (in crore) (Census 2001)	0.81	8.43
Total Literacy Rate (%) (Census 2011)	73.45	74.04
Male Literacy Rate (%) (Census 2011)	82.40	82.14
Female Literacy Rate (%) (Census 2011)	64.36	65.46

Source: RHS Bulletin, March 2014, M/O Health & F.W., Government of India

Table 2 Health Infrastructure of Odisha

Particulars	Required	In position	shortfall
Sub-center	8136	6688	1448
Primary Health Centre	1308	1226	82
Community Health Centre	327	377	*
Health worker (Female)/ANM at Sub Centers & PHCs	7914	8211	*
Health Worker (Male) at Sub Centers	6688	3827	2861
Health Assistant (Female)/LHV at PHCs	1226	629	597
Health Assistant (Male) at PHCs	1226	0	1226
Doctor at PHCs	1226	1069	157
Obstetricians & Gynecologists at CHCs	377	152	225
Pediatricians at CHCs	377	76	301
Total specialists at CHCs	1508	317	1191
Radiographers at CHCs	377	55	322
Pharmacist at PHCs & CHCs	1603	1515	88
Laboratory Technicians at PHCs & CHCs	1603	371	1232
Nursing Staff at PHCs & CHCs	3865	867	2998

Source: RHS Bulletin, March 2014, M/O Health & F.W., Government of India

Indicators of nutritional status among women and children and burden of diseases indicate a substantial higher proportion of morbidity and mortality. The people of Odisha experience a large number of disasters – about 40 major disasters in 50 years – that adversely affect health and development and health care services.

Odisha government strategies to attract and retain doctors and other health care staff (Public Health Foundation of India Assessment of factors contribution and affecting availability and retention of health workforce in rural and remote areas of Odisha, Final Report March 2012)

1. The entry level of Assistant Surgeon has been upgraded from class-II rank to the rank of junior class-I with scale of pay of Rs.

15600 to Rs. 39100 with grade pay of Rs. 5400.

2. Specialist allowance of Rs. 3000 to each specialist doctor has been sanctioned.

3. KBK allowance of regular M.O. has been increased from Rs. 4000 PM to Rs. 8000 in periphery health institutions and from Rs. 2000 PM to Rs. 4000 in SDH and DHH.

4. Restructuring of the cadre of medical officers has been done to create more promotional avenues.

5. Legislation has been made to prevent violence against medical personnel and medical institutions.

6. Retirement age of regular doctors has been enhanced from 58 to 60 years.

7. CCR rules have been relaxed to enhance promotion.

8. It has been decided to add 10% of marks in PG entrance examination per year of service in tribal sub-plan and backward areas by in-service doctors with maximum marks of 30%.

9. NRHM provides monetary incentives to health staff working in hard to reach areas identified based on a vulnerability scale across the state.

Output and outcome of strategies implemented in Odisha

Financial incentives scheme

From a study to assess the financial incentives scheme for the recruitment and retention of health professionals in Odisha, it is observed that incentives have not been very effective in improving availability of doctors in public health facilities, specifically in the rural area. [24]

Limited promotional avenues

Kadam and Pati, [25] identified the factors influencing health worker's retention in rural and remote areas of Odisha. The major reasons for dissatisfaction that were attributed by study participants to work in rural areas included existing promotional avenues following the terms of rural service, lack of physical infrastructure and schooling facility for the children of the health staff. Career stagnation affects their morale. A medical officer (MO) often gets the first promotion after 15-20 years of service. There are many doctors who continue to remain MOs without promotion while their counterparts in civil services might have been promoted from the post of an SDM to Special Secretary or even Secretary and from Accounts Officer to Financial Advisor.

Lack of policies for human resource development

The recruitment policy is a contributory factor for the lack of motivation among doctors to provide services in rural areas. Quite often, postgraduate students are recruited by the governments and placed at PHCs where the skills acquired by them during post-graduation are of little relevance. This is made worse by the lack of equipment, drugs and adequate caseload. Similarly, there is

almost always a mismatch of skills a gynecologist is posted at a CHC where there is no anesthetist resulting in the underutilization of skills. Likewise, transfers are often arbitrary and without adherence to any norms, resulting in the low morale of doctors.

Absenteeism from place of work

A study conducted by the World Bank, [26] and other studies [27] show absenteeism ranging from 40%-45% among doctors working in primary health centers. The World Bank Study based on a simple regression analysis showed the relationship between income and absenteeism, which suggested that higher income states have lower rate of absenteeism with point value at 0.001, meaning that every increase of Rs 1000 State per capita income is associated with a reduction in absence of 1% point, with p values on the co-efficient on income at 0.13.

Poor payment systems and dual practice

To compensate for the relatively low salaries, doctors are permitted private practice outside office hours or are given a non-practicing allowance, often 25% of the basic pay. Lacks of monitoring, effective supervision and, at times, collusive relationships are causes for the abuse of this facility affecting patient care in public facilities. Due to financial constraints, most states have now stopped recruiting MOs in the regular pay scales and instead are now offering contractual services for as small a remuneration as Rupees 8000 per month, a strategy which has a high turnover with doctors joining services only for getting rural service experience for admission to Postgraduate Entrance Examination, or as a makeshift service for preparing for the PG entrance exams, or joining service and just lingering on to it in the hope that someday their services might get regularized.

Poor Facilities at work

Inadequate and unreliable supply of inputs, absence of supervision and technical guidance, limited opportunities for career advancement, absence of accommodation with over 60% of the sub centers

functioning in rented places hired for about Rs 100-300 per month, and often doubling up as a part of her residential accommodation are other factors that contribute to sub-optimal outcomes. Initially, sub centers were envisaged to consist of a multipurpose worker (male) (MPWM) and one multipurpose worker (female) (MPW-F). In the community setting, female health functionaries face many problems with regard to transportation, accommodation, gender-based harassment and lack of security, in addition to lack of incentives, stagnation of career due to inadequate development opportunities and inadequate provision for living with the family and education of their children.

Community Intolerance and High Handedness of Community Leaders

There are instances when doctors and medical staff are manhandled because of loss of life or deteriorating condition of a patient from the local community. Limitations of facility and available services in the local hospital are not taken note of.

Findings and suggested Model

Shortage of manpower is only made worse by the absence of a comprehensive and integrated health manpower policy dealing with health manpower requirement projection, manpower education, training, recruitment, career development, supportive supervision, postings in underserved areas, retention and transfers, etc. [28]

Integrated health systems are widely considered to provide superior performance in terms of quality and safety as a result of effective communication and standardized protocols, although these outcomes have not been fully demonstrated. [29]

Despite the growing enthusiasm for integration, information related to implementing and evaluating integration related initiatives is dispersed and not easily accessible in the context of health sector program of rural Odisha. Neither the Ministry at the center nor at the state level has adequate in-house capability to design research studies, collate data and analyze

research findings of the various health interventions to enable evidence-based policy-making.

According to Harvey, [30] any strategy implementation within the organization is more likely to succeed when the organization's elements are in alignment. He is of the opinion that successful managers are to attain a fit between organizational strategy and the internal factors available to achieve strategic goals. Moreover, an organization that is not in alignment cannot be effective and would also not be able to "drive" straight, as different parts in the organization would be pulling in different directions, thus also making it impossible for the organization to adapt to the demands of expected change to ensure effectiveness and survival. The closer the alignment or fit amongst these variables the more likely that the strategy will be effective. [31]

Therefore, this review suggests to apply a diagnostic model to find out the inconsistencies that may exist between the elements of healthcare system particularly in a rural setup in Odisha, to assess the organization's effectiveness and its ability to adapt to change. It is thus essential to diagnose whether all the parts in the health care system is in alignment in order to ascertain which areas require additional work to ensure effectiveness. It is deemed that an effective organization will be more geared and able to adapt to and meet the demands and challenges that may be required in the future.

With an organization this is however not that easy, one would need a diagnostic model with some indicators to measure alignment. [32] For this study a detailed diagnostic model (Figure 1) is created, (Based on Herzberg's motivation theory and McKinsey 7S framework) to be used to uncover what provides a specific organization, in this case health system, with its inherent specialties or competitive advantages.

In the late 1970's, two consultants from McKinsey & Company, Tom Peters

and Robert Waterman, created the 7-S framework, which uses an internal alignment perspective to increase organizational effectiveness via seven interdependent categories that focus on the critical role of harmonic coordination. [33] Applying McKinsey 7S's within the organizational context, the seven factors are: Strategy, Structure and Systems, which is considered to be the "hardware" of success, whilst Style, Staff, Skills and Shared values are deemed to be the "software". [34] This Framework, the McKinsey 7S model, has repeatedly demonstrated its usefulness both in diagnosing organizational malaise and in formulating programs for improvement.

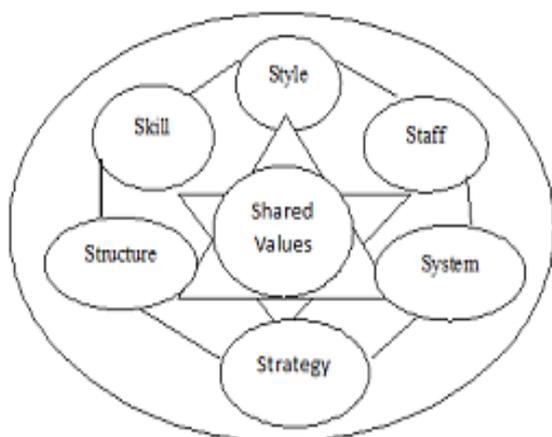


Figure 1.1 The McKinsey 7S Model

Figure 1

McKinsey 7S model and its use:

Shared Values: Shared is what the organization stands for, its overarching purpose and higher order. It further means that the employees share the same guiding values. Values are aspirations to which the organization and its members commit themselves to, things that they would strive for even if they were demonstrably not profitable. They often act as the organization's conscience, providing guidance in times of crisis.

Strategy: Strategy is the integrated vision and direction, which the organization takes. It is the way in which the organization derives, articulates, implements and communicates that vision and direction.

Strategy is also the "how", for allocating the organization's resources to achieve its goals.

Structure: is the way the organization's different departments or units relate to each other, as illustrated through the organization chart and group and ownership structure. It is furthermore the policies and procedures, which govern the way in which the organization will act within it and within its environment. [31]

Systems: are the procedures and routines that characterize important work that is to be performed. According to Crew and Fox, [31] it would include some of the following systems: operational systems computer systems, human resource systems and financial systems.

Style: refers to the employees' common and shared way of behaving and thinking. It is often referred to as the unwritten norms of thought and behavior. Style is often symbolic; it would include the organization's culture, the distinctive styles of its managers and executives.

Skills: are the distinctive capabilities of the organization and its key staff that are required to carry out the organization's strategy. Training and development would be essential in ensuring that personnel know how to do their jobs and at the same time keep up to date with the latest techniques and technology. [31]

Staff: refers to the type of people the organization will need in terms of their different backgrounds, orientation towards clients, values and technology, which will make the organization successful.

To assess each of these elements, possible questions will include:

Strategy –
What is the organization's strategy seeking to accomplish?

How does the organization plan to use its resources and capabilities to deliver that?

What is distinct about this organization?

How does the organization compete?

How does the organization adapt to changing market conditions?

Structure –
How is the organization organized?

What are the reporting and working relationships (hierarchical, flat, silos, etc.)?

How do the employees align themselves to the strategy?

How are decisions made? Is it based off of centralization, empowerment, decentralization or other approaches?

How is information shared (formal and informal channels) across the organization?

Systems –

What are the primary business and technical systems that drive the organization?

What and where are the system controls?

What internal rules and processes does the team utilize to maintain course?

Shared Values –

What is the mission of the organization?

What is the vision to get there? If so, what is it?

How do the values play out in daily life?

What are the founding values that the organization was built upon?

Style –

What is the management/leadership style like? How do they behave?

How do employees respond to management/leadership?

Do employees function competitively, collaboratively, or cooperatively?

What behaviors, tasks and deliverables does management/leadership reward?

Staff –

What is the size of the organization?

What are the staffing needs?

Are there gaps in required capabilities or resources?

What is the plan to address those needs?

Skills –

What skills are used to deliver the core products and/or services? Are these skills sufficiently present and available?

Are there any skill gaps?

What is the organization known for doing well?

Do the employees have the right capabilities to do their jobs?

How are skills monitored, assessed, and improved?

Once the questions are answered, the data should be examined. The analysis should look for the following aspects:

Consistency, Alignment, Conflicts, Gaps, Support, Strengths, Weaknesses

The uses of the model can be used as a static picture to determine how effectively the health care organization is implementing its strategy. Also, it can be used two-fold with a current state and an intended future state. By comparing the current and future states, gaps can be assessed, which will lead to improvement and action plans.

CONCLUSION

The shortage of health workers in rural sector of Odisha is a critical issue that must be addressed as an integral part of strengthening health systems. Health workers migrate, leave the health sector, or use various coping strategies in response to difficult circumstances such as poor or intermittent remuneration, inadequate working conditions, limited training opportunities or weak Supervision. To minimize attrition from the health workforce and the negative effects of coping strategies, more efforts are required to address the causes of health worker dissatisfaction and to identify the factors that influence health worker choices. The challenges in maintaining an adequate health workforce require a sustained effort in workforce planning, development and financing.

In conclusion, incentive packages to attract retain and motivate health workers should be embedded in comprehensive workforce planning and development strategies in rural health planning. Research findings from the region indicate that improved salaries and benefits, together with improved working conditions, supervision and management, and education, recognition and training opportunities are important.

However, the health system is different from one area to another and requires different strategies to stem the loss of skilled health workers, especially in rural

and remote areas. Country-specific strategies require examination of the underlying factors for health worker shortages, analysis of the determinants of health worker motivation and retention, and testing of innovative initiatives for maintaining a competent and motivated health workforce. Consequently, there is no global model for improving the retention of

health workers and their performance. However based on the above analysis, a detailed diagnostic model (Figure 2) is created, (Based on Herzberg's motivation theory and McKinsey 7S framework) to be used to uncover what provides a specific organization, in this case health system, with its inherent specialties or competitive advantages.

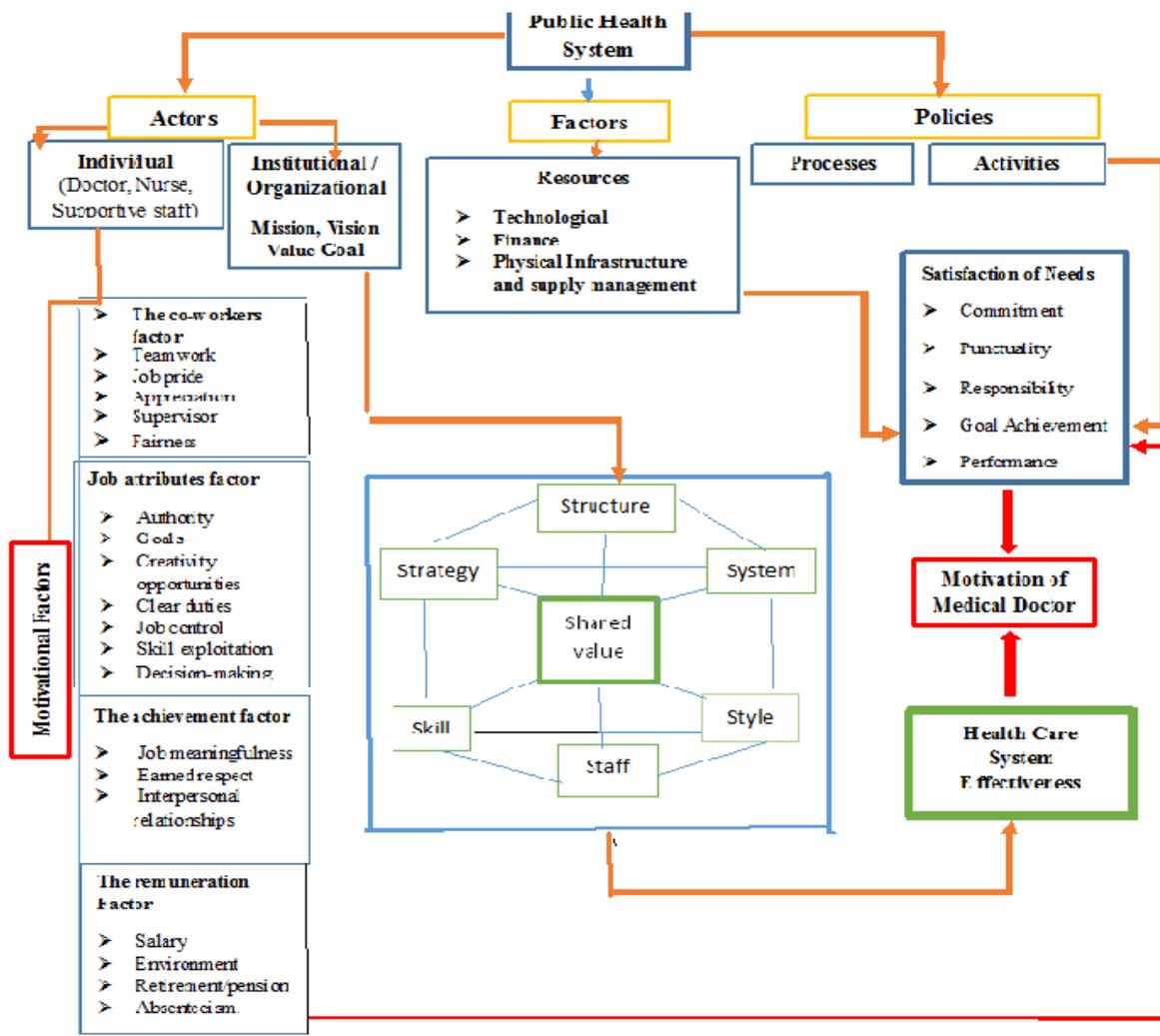


Figure 2 (Updated McKinney's 7S framework, as a diagnostic model for health care system)

REFERENCES

1. Bennett S, Franco LM. Major Applied Research 5, Technical Paper 1. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.; 1999. Jan, Public Sector Health Worker Motivation and Health Sector Reform: A Conceptual Framework.
2. Hitt MA, Colella A, Miller CC, et al. Organizational Behavior: A Strategic Approach. 2nd edition. Hoboken, NJ: John Wiley & Sons; 2006.
3. Baron RA, Kalsher MJ. Psychology: From Science to Practice. 2nd edition. Pearson Education; 2007.
4. Campbell, D J, Pritchard R. Motivation theory in industrial and organizational psychology. In M.D. Dunnette (Ed.), Handbook of industrial and organizational psychology; Chicago: Rand McNally; 1990.

5. Bennett S, Franco LM. Health Worker Motivation and Health Sector, author Partnership for health reform; 2000. Reform Primer for policy makers.
6. Dieleman M, Harnmeijer JW, et al. Improving health worker performance: in search of promising practices. The Netherlands: World Health Organization. KIT - Royal Tropical institute; 2006.
7. Global Health Workforce Alliance, author. Guidelines: Incentives for Health Professionals. 2008. Prepublication Copy.
8. Mathauer I, Imhoff I, et al. Health worker motivation in Africa: the role of nonfinancial incentives and human resource management tools. *Human Resources for Health*, 4(24), Published online; 2006.
9. World Health Organization. Workshop on global health workforce strategy Annecy, France. Geneva; 2001.
10. Buykx P, Humphreys J, Wakerman J, Pashen D, et al. Systematic review of effective retention incentives for health workers in rural and remote areas: towards evidence-based policy. *Aust J Rural Health*. 2010; 18:102–109. [PubMed]
11. World Health Organization. The World Health Report 2006: Working Together for Health. Geneva: World Health Organization; 2006. [PubMed]
12. Rao K, Bhatnagar A, Berman P, et al. India's health workforce: size, composition and distribution. In: La Forgia J, Rao K, eds. *India Health Beat*. New Delhi: World Bank, New Delhi and Public Health Foundation of India; 2009.
13. Medical Council of India. Annual Report 2009–2010. Available from: <http://www.mciindia.org/pdf/Annual%20Report.pdf>. [Accessed on 14 July, 2016]
14. Dalmia S. Migration and Indian doctors. *Indian J Surg*. 2006; 10; 68(5): 280-282.
15. Khadria B. Organization for Economic Cooperation and Development. Migration of Highly Skilled Indians: Case Studies of IT and the Health Professionals. OECD Science, Technology, and Industry Working Papers, 2004/2006. Paris, France: OECD Publishing Organization for Economic Cooperation and Development; 2004.
16. Rao, K. D, A. Bhatnagar, P. Berman et al. India's Health Workforce: Size, Composition and Distribution. In *India Health Beat*, ed. J. La Forgia and K. D. Rao. New Delhi: World Bank and Public Health Foundation of India. 2009; Vol 1, 3:1-4.
17. Government of India, Ministry of Health & Family Welfare, National Rural Health Mission (NRHM): Rural Health Statistics in India 2010. New Delhi: NHRM; 2010. Available from: <https://nrhm-mis.nic.in/UI/RHS/RHS%202010/Rural%20Health%20Statistics%202010.htm> (Accessed on 25 January 2014).
18. Odisha news insight, 2015. Available from: <http://www.odishanewsinsight.com/odisha/acute-shortage-of-doctors-plagues-health-sector-in-odisha> [Accessed on 2017 February 21].
19. Nissen L, Tett S, et al. Community pharmacists improving health outcomes in rural and remote Queensland. *Australian Pharmacist*. 2006; 21:874–6.
20. Dieleman M, Viet Cuong P, Vu Anh L, Martineau T et al. Identifying factors for job motivation of rural health workers in North Vietnam. *Human Resources for Health*. 2003; 1 (10).
21. Rao KD, Bhatnagar A, Berman P, et al. So many, yet few: Human resources for health in India. *Human Resource Health* 2012; 10:19.
22. Times of India. 2016. Available from : <http://timesofindia.indiatimes.com/life-style/health-fitness/health-news/India-has-just-1-doctor-for-every-1681-persons-MCI/articleshow/52102964.cms> [Accessed on 21 feb 2017]
23. National Sample Survey Organization, Employment and Unemployment Survey. NSS 66th Round. July 2009–June 2010. Eighth Quinquennial Survey Government of India, New Delhi, 2011.
24. Chakravarthi Indira. Effectiveness of financial incentives for recruitment and retention of skilled health professionals for the public health system in Orissa, From 2nd National Conference on

- bringing Evidence into Public Health Policy (EPHP 2012) Bangalore, India. 05-06 October 2012.
25. Kadam et al. BMC Proceedings 2012; 6(Suppl 5):O4. Available from: <http://www.biomedcentral.com/1753-6561/6/S5/O4>
 26. World Bank. Implementation completion report. State Health Systems Development Projects II. Washington, USA: World Bank; September 2004.
 27. Mohan P, Iyengar S, Mohan SB, Sen K. et al. Daily up-down. Why should an auxiliary nurse-midwife (ANM) of Rajasthan prefer to reside within her work-area? Udaipur: Action Research and Training for Health; 2003.
 28. D. Nandan, K. S. Nair, U. Datta. Rao et al. Human resources for public health in India: issues and challenges," Health and Population: Perspectives and Issues, vol. 30, no. 4, pp. 230–242, 2007. View at Google Scholar · View at Scopus
 29. Fleury MJ. Integrated Service Networks: The Quebec Case. Health Services Management Research. 2006; 19:153–65. [PubMed]
 30. Harvey, D. F. Strategic Management and Business Policy. Second Edition. Columbus: Merrill Publishing Company. 1998
 31. Manning T. Radical Strategy. Second edition. Halfway House: Zebra; 1998.
 32. Crew, Fox C, et al. Mackinseys 7c and Pascales adaptation theory; 2002. Available from: [Web. www.christfoxinc.com/7sandpascale.htm](http://www.christfoxinc.com/7sandpascale.htm)
 33. McKinsey & Company. Enduring ideas: The 7-S framework. McKinsey.com; 2008. Available from: http://www.mckinsey.com/insights/strategy/enduring_ideas_the_7-s_framework
 34. Srivastava, S. C. Managing core competence of the organization. Vikalpa, 30(4); 49-63, 2005.

How to cite this article: Dash T, Panda H. A diagnosis model for job motivation of public health workers in rural Odisha, India. Int J Health Sci Res. 2017; 7(4):442-452.
