Applying the Job Analysis Based Technique to Estimate Managerial Resources Needed at State Level for Universal Immunisation Programme in India

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Abstract: Weak planning, poor managerial skills, low motivation, and lack of proper training provided to managerial staff are among the key constraints faced by the health sector in developing countries. Managerial HRH planning and staffing processes in developing countries suffer because of lack of systematic information database on employees and jobs as well as lack of availability of simple models that can be used in the context of developing nations. We are trying to address both these problems through job analysis based technique. The focus is not merely on numbers and time requirements, qualitatively issues regarding employees including skill requirements, task allocation, etc. are included. Since job analysis forms the basis for many analytical tools used for making decisions related to employees, the process of job analysis needs to be rational, unbiased and comprehensive. Data needs to be collected from multiple sources (incumbents, superiors, colleagues, subordinates, experts, etc.) to minimise biases and errors. Multiple analyses using quantitative and qualitative data makes the proposed technique robust.

Key words: Managerial HRH planning and staffing; job analysis; developing countries.

Introduction

In India, full immunisation has reached only 43.5 % by 2005-06 (NFHS-III) and 61% by 2009 (CES). Lack of proper HR management is often cited as a major cause for under-achievement of the objectives (Streefland, 1995). Weak planning, poor managerial skills, low motivation, and lack of proper training provided to managerial staff are among the key constraints faced by the health sector in developing countries (Mills, Rasheed, & Tollman, 2006; WHO India, 2004). Many studies have shown that lack of focus on developing human resources is one of the key reasons for the under-achievement of the health-related objectives (Adams & Hirschfeld, 1998; Buchan, 2004; Buchan, 2000; Dussault & Dubois, 2003; Zairi, 1998). This problem is not limited to field-level positions. Vacant positions at managerial levels; the lack of relevant qualification, experience, and training; frequent transfers; lack of incentives to senior officials; and other issues in human resource practices also lead to a lack of proper implementation of health programmes including immunisation programme. Government of India's Immunisation Multi Year Plan 2005-10 clearly mentions: "A review of roles and staff capacity at national and state levels is required to improve the implementation capacity." (Department of Family Welfare, 2005: 19)

Management excellence through proper coordination, clear accountability, high service quality and optimum use of resources is one of the key guiding principles for achieving UIP's mission. The specific objectives of our study are three-fold:

- To assess the current HR situation at state level in terms of the existing organisational structure; focusing on personnel qualifications, tenure, training, expertise, contribution, work load, priorities, etc;
- To assess the functions of the immunisation programme and provide estimates of HR needs to improve the managerial functions at state level; and
- To develop recommendations and a road map to improve the managerial HR capacity for immunisation at state level.

Techniques for Managerial HRH Planning & Staffing

Managerial HRH planning and staffing for the state level includes decisions regarding number of people required for different activities in the immunisation cell; their levels in

hierarchy; reporting structure; task distribution and accountability, skill-mix (combinations of skills needed for each job), etc.

Managerial HRH planning and staffing can be done by demand side analysis and supply side analysis. The demand side analysis looks at human resource planning from organisational objectives and performance perspectives. Human resource forecasts depend on organisation structure and organisational goals and objectives (Mills 1985). Job analysis is done to identify competencies needed to achieve results (Jackson and Schuler, 1990).

The three generic demand side analysis methods applicable in case of managers, policy-makers and facilitators in the health-care system are Managerial Estimation Method, Delphi Technique and Task-Inventory Method. Managerial Estimation Method and Delphi Technique are judgemental forecasting methods having inferential bases. The former requires inputs from managers (Walker, 1990) and the latter is based on inputs given by experts till a consensus is reached (Milkovich, Annoni, & Mahoney, 1972). Both methods focus more on estimating the number of employees and little on skill requirements and so job analysis method is needed to incorporate employees' competencies to perform current tasks (Jackson and Schuler, 1990).

Task-Inventory Method is a job analysis method in which inputs are collected from job incumbents and their supervisors regarding the variety and importance of tasks performed (Arvey, Salas, & Gialluca, 1992). This method is more evidential based and the challenge here is to do job analysis and identify competencies that are future-oriented and strategic (Schneider & Konz, 1989). This method provides lot more useful details compared to other two methods and is useful where number of jobs is limited or jobs are similar. In this method, competencies needed in the incumbent are indirectly estimated making some assumptions during analysis of task. In order to avoid inaccuracies introduced by these assumptions, methods using direct estimation of competencies by job incumbents have been introduced (Morgeson & Campion, 2000). According to Dreesch et al.'s (2005) approach, HRH planning incorporating skill and time requirements through job analysis has potential for more efficient utilisation of staff.

The supply side analysis looks at talent available in internal and external labour markets and focuses on employee flow through the organisation (Dreesch et al., 2005; Jackson and Schuler, 1990). The best sources of talent are identified and appropriate recruitment strategies are formulated. In addition, it is also important to develop the talent through training and motivate individuals through rewards and recognition. Proper succession and career planning are also critical. Data about employees' promotions, transfers, and attrition is also required (Jackson and Schuler, 1990).

Job Analysis Based Technique for Managerial HRH Planning & Staffing

HRH planning and staffing processes in developing countries suffer because of lack of systematic information database (ICN, 2008) on employees and jobs as well as lack of availability of simple models that can be used in the context of developing nations (Dreesch et al., 2005). We are trying to address both these problems through job analysis based technique. This technique for managerial HRH planning and staffing is a mix of inferential and evidential bases. The focus is not merely on numbers and time requirements, qualitatively issues (Hornby et al., 1980) regarding employees including skill requirements, task allocation, etc. are included. Since job analysis forms the basis for many analytical tools used for making decisions related to employees (Page & Van De Vroot, 1989), the process of job analysis needs to be rational, unbiased and comprehensive. Data needs to be collected from multiple sources (incumbents, superiors, colleagues, subordinates, experts, etc.) to minimise biases and errors (Nunnally and Bernstein, 1994).

Job analysis based technique for managerial HRH planning and staffing is a systematic and rigorous technique to estimate optimal HR capacity & attain its optimum utilisation. Applying this technique, meaningful output can be obtained regarding:

(i) the optimum organisation structure including number of personnel (permanent/contractual) required and task distribution;
(ii) competencies (including skills, qualification and experience) and optimal skill-mix for each position;
(iii) criteria for selection, transfer and promotion, training requirements, career plans, and other job conditions;
(iv) job description for each position with detailed list of tasks and responsibilities; and
(v) a template for HR Audit for conducting regular audits.

HR Audit for the state & district levels means assessing staffing levels of sanctioned positions; skills, qualification, and prior experience of the incumbent against pre-specified standards; tenure, performance, salary, and training needs of the incumbent, career plans for the incumbent, etc. All data should be collected in a specified format at regular intervals (say annually).

This technique involves the following six analyses to provide output described above:

1. Process-Position Mapping
2. Competency Mapping
3. Time Analysis
4. Gap Analysis (HR gap analysis for staffing and job conditions and process gap analysis)
5. Economic Analysis
6. Future Needs & Environment Analysis

Multiple analyses using quantitative and qualitative data makes this technique robust. Figure 1 gives the detailed framework for job analysis based technique for managerial HRH planning and staffing. Data was collected for four states in India.

1. Process-Position Mapping

Process-position mapping (Ministry of Health and Long-Term Care, Ontario, 2002) was based on the workflow, processes, organisation structure, and job description. Data regarding the workflow of the immunisation related activities, processes related to the UIP, and organisation structure of the immunisation cells were taken from available document and then verified through interviews with officers in national and state immunisation cells. If job descriptions were not available then the list of tasks was taken from incumbents and verified by superiors/ colleagues/ subordinates and experts. The entire supply chain was broken into key processes or functions. Each process or function was then mapped to position(s) in the organisation that were responsible for it. Processes were identified on the basis of the roles and responsibilities at state level provided by the Department of Family Welfare (Department of Family Welfare, 2005: 57-58) and our interviews with officers in national and state immunisation cells and development partners. Related aspects like improvement in quality of the services, demand generation, logistics, and MIS, etc. were also covered. At the state level 23 processes for immunisation were identified which covered vaccine logistics, cold chain management, programme planning and implementation, demand generation, etc. Among these, four processes were directly related to human resources in terms of planning, capacity-building, and audit. Process-position mapping helped to identify the critical tasks and the offices (roles) required to perform them. This mapping provided clear understanding of the roles and responsibilities of each position and also helped in identifying the neglected processes. This mapping also provided the holistic picture regarding differences among the states.

2. Competency Mapping

Critical tasks or activities or roles for each position were identified on the basis of job description and then knowledge and skills required to effectively carry out these tasks or activities were identified. Data regarding skills/ knowledge/ qualification required for immunisation related activities was collected from incumbent as a part of semi-structured questionnaire filled during detailed interviews. The questionnaire also covered the past experience and career progression of these individuals. Task redistribution and skill requirements were verified through (a) managerial estimation of tasks/skills by supervisor and colleagues/ subordinates and (b) opinion of the experts. This analysis provided information to redistribute the roles and responsibilities into different offices for optimum utilisation of human resources and to identify optimal skill-mix. This also helped in identifying the criteria for hiring/transfer and conducting training needs analysis of the individuals.

3. Time Analysis

Time charts provided the information about the time taken by the officials to perform specific tasks in the current scenario. The list of specific tasks was taken from the job description. Time analysis helped to determine their optimum work-load as well as identify what tasks were been given priority and what tasks were getting neglected in case of time crunch. This also helped to assess time spent by them in non-immunisation related activities, identify key roles required for the programme, and also give a rough estimate of the number of individuals required in certain roles. Time taken for each task was self reported by the individual and was cross-validated by her/his superiors or colleagues or subordinates. Individual was again given the data to review the inputs. Data was revised on the basis of cross-validation by others and self-review by the officer. Time analysis was done for 21 officers at state and zonal levels. Realistically no respondent can provide the exact time taken for each activity, what they reported was their assessment of time they spent on each activity. So the interpretation of time charts should be done with caution. The data was collected in terms of days, hours and even minutes based on the activity involved, however for easy comparison different time units were converted to days.

4. Gap Analysis

Current situation analysis (Walker, 1990) in terms of HR gap analysis for staffing and job conditions was done by looking at the following aspects:

a. positions filled and lying vacant in the state immunisation cells,
b. formal reporting structures and informal communication channels,
c. job descriptions for the positions in the immunisation cells,
d. additional charges handled by the persons in the immunisation cells,
e. tasks assigned to these individuals that are not related to immunisation,
f. contribution of development partners in terms of providing skilled personnel to fill the gap in terms of HR needed,
g. qualification, experience, and career progression of the persons in the immunisation cells,
h. performance reports
i. hiring policies and practices for the permanent/ contractual staff,
j. transfer and promotion policies of the persons in the immunisation cells, and
k. training needs analysis and frequency & nature of training provided.

The above HR related data was collected by reviewing available documents provided by government departments and development partners and through interviews (or responses to semi-structured questionnaires) of the officers at national, state, and zonal levels and development partners.

In addition, these sources also provided data to identify the strengths and weaknesses of the UIP, bottlenecks in its effective implementation, and key managerial issues faced by the senior officials who are planning, monitoring, and reviewing the UIP. The semi-structured questionnaire of government officials also sought data on the new

activities to be started, activities to be continued, and redundant activities to be stopped for effective implementation of the UIP. The questionnaire for the development partners also covered the problems faced by them while carrying out their activities and possible solutions to those problems. Information was sought on possible improvements in performance, quality, and service delivery from officials, development partners, and experts. All programme and process related data mentioned here was used to do process gap analysis. HR and process gap analyses provide are critical for all five outputs discussed earlier for managerial HRH planning and staffing. Besides, data on demography, geographical dispersion, focus on immunisation activities, non-performing areas, and other related factors would be useful for estimating number of officers. For example, thumb rule can be that one State Programme Officer (Immunisation) will serve a population of 20 million persons.

5. Economic Analysis

Economic analysis with emphasis on financial constraints (Dawson, Barrett, & Ross, 1990) needs to be incorporated, particularly in the context of developing countries. The cost implications (Akin, Birdsall, & Ferranti, 1986) of creation of new positions or hiring more skilled and qualified employees need to be analysed. Government policies regarding salary and other benefits for permanent and contractual employees should be taken into account.

6. Future Needs & Environment Analysis

Future needs are important to not only estimate numbers but also identify managerial competencies needed in future (DeLuca, 1988) and align hiring and staffing policies, training programmes and career plans to those competencies (Arvey, Salas, & Gialluca, 1992). Proper consideration has not been given to the impact of technological, economic, social, and political factors on HRH planning (ICN, 2008). Technological updation would affect HRH planning and staffing (Birch, 2007) through changes in UIP processes as well as tasks or activities to be done. Proper information system would help to reduce routine and clerical work. Fast growing economy would facilitate development of health services. Importance of social and political climate as well as role of political parties and government (Kolehmainen-Aitken, 1993) is significant in a democratic country. Analysis of future needs, technological changes and socio-political environment was done through a qualitative assessment of the data collected from the officials and development partners and also the review of documents. The latter included immunisation coverage data available from secondary sources, future proposals and related documents for UIP, and documents related to the HR policies and practices of other countries. Despite our efforts to incorporate future needs through review of proposals and interviews of officials, any estimation regarding future depends on current information and expectations, which may change with time.

Conclusion

In developing countries decisions regarding managerial HRH planning and staffing are often considered to be standalone, not related to other strategic and operational decisions. Our job analysis based technique clearly showed the inter-dependence. Also, managerial HRH planning and staffing should not be considered a linear process but a cyclical one (Kolehmainen-Aitken, 1993). This can be further strengthened by conducting regular HR Audits.

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Figure 1: Framework for Job Analysis Based Technique of Managerial HRH Planning and Staffing

Data Collection through:

- Review of literature
- Micro and macro-level numerical data
- Documentary evidences
- Semi-structured questionnaires
- Detailed interviews

Respondents:

- Officials in national/ state immunisation cells
- Development partners
- Experts

Primary data collected from incumbents cross-validated by superiors / colleagues / subordinates

Inputs needed for Analyses

- Workflow
- Processes
- Organisation structure
- Job description/ task distribution
- Skills/ qualification/ experience required for each position
- Time spent on each task
- HR related numerical data at individual and organisation level
- HRM policies and practices
- Possible improvements in process/ performance / quality/ service delivery
- Qualitative assessment of future needs, technological changes and economic and socio-political environment
- Macro-level numerical data on demography, immunisation coverage, etc.

Multi-Dimensional Analyses

1. Process-Position Mapping
2. Competency Mapping
3. Time Analysis
4. Gap Analysis (HR gap analysis for staffing and job conditions and process gap analysis)
5. Economic Analysis
6. Future Needs & Environment Analysis

Output for Managerial HRH Planning & Staffing

(i) The optimum organisation structure including number of personnel and task distribution
(ii) Competencies and optimal skill-mix for each position
(iii) Criteria for selection, transfer and promotion, training requirements, career plans, and other job conditions
(iv) Job description for each position
(v) Template for HR Audit