Formulating Suitable Strategies to Improve Public Health Services in India with Focus on Infrastructure and Administration

THESIS
Submitted in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY

By
Pallavi Singh

Under the Supervision of
Prof. Bhaskar Bose
&
Prof. Shrikant Y Charde

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI (RAJASTHAN)
2015
SYNOPSIS

Public health in India presents a grim picture. Indicators show that nearly 42 percent children under five years of age are underweight (“Malnourishment a national shame”, 2012); India accounts for the maximum number of maternal deaths in the world (Barnagarwala, 2014); approximately 2.1 million children born in India do not see their fifth birthday, and half out of these die within 28 days of birth (Sharma, 2008). The unhappy situation in health is primarily due to unclean drinking water, unsafe living and working conditions, unsanitary environment, unhygienic birth practices, poor working of public health centers, and a general lack of awareness among the beneficiaries about the services they are legitimately entitled to. The healthcare centers in the public sector are beset by shortage of hospital beds, understaffed public hospitals, coupled with unaffordable prices and indifferent attitudes of doctors (Ministry of Health and Family Welfare, 2005). However, today, in many rural areas and also in several urban settings, the public sector is the only source of any credible medical care (Kumar et al., 2011). The role of the public sector therefore cannot be entirely discounted. Given the huge demand-supply gap, the healthcare environment in the country requires a slew of major initiatives in the public as well as private sector.

According to the WHO document (De Savigny & Adam, 2009), any system is made up of many subsystems and these have a dynamic, non-linear relationship. The solutions devised for one area cannot remain unaffected by the changes in other related areas. In the past, there have been numerous studies but mostly these had focused on one or the other sub-component of the health system. As a result, these fragmented studies did not seem to present a comprehensive picture of the entire health system. Therefore, even if standalone studies of components are useful in some ways, they will have little utility or effectiveness in terms of the purpose they would serve, were they required to contribute towards a comprehensive strategy. The preferred way to resolve a large number of disparate issues therefore requires a ‘systems approach’ in developing an overall strategy and from it may follow specific or sub-strategies for individual components. The present research views the healthcare services as a comprehensive system and, only in that light it studies its various subsystems.

This research proposes to focus on improving the delivery of healthcare services in the public sector and aims at formulating suitable strategies to upgrade these services across the
country. With this purpose, an in-depth qualitative study was carried out. Comprehensive lists of problems, their causes and possible solutions were prepared after an extensive desk research, semi structured interviews and focus group discussions. Using content analysis and mapping, key areas of focus were identified. Environment and Demand were analyzed. This was followed by the formulation of a main strategy and thereafter, consistent with it, various sectional strategies and strategic initiatives were developed for each of the focus areas. This process used the focus area-wise problems, causes and solutions, and findings of the environment and demand analyses. The results were first internally verified and then externally validated using the Delphi technique.

Chapter 1: Introduction

The thesis begins with an introduction to the subject. After briefly explaining the constituents of the public health sector in the Indian economy, it explains the objectives, rationale and significance of the work.

Chapter 2: Review of Literature

The important observations culled out from a plethora of literature relating to public health in general, and issues of concern for this study in particular, were put together. The review concludes with a presentation of the issues in the form of an Ishikawa diagram.

Chapter 3: Methodology and Data Collection

To facilitate the conduct of research and taking a cue from what comprised a health system (WHO, 2007), the public health sector was comprehensively described by two major categories, viz. ‘infrastructure’ and ‘administration’, each with its own components. A well designed and effective infrastructure can ensure accessibility of healthcare services to consumers at all levels. Administration, on the other hand, is concerned with the delivery of quality service at affordable prices. How efficiently the inputs are managed so as to improve the quality of service delivery in terms of accessibility and affordability, is a real measure of performance of the public healthcare system. Under these, the following eight healthcare components were identified. Infrastructure components comprised buildings and constructed space, equipments and facilities, human resource, drugs, pharmaceuticals and consumables, environment, education and research, and finance and insurance. Items considered under Administration were,
governance, legal status, regulatory and controlling authorities, and demeanor of employees of
government/service providers engaged in healthcare services.

The present research required delving deep into the problems of the health system in the
current sector and therefore, it was necessary to adopt a qualitative approach. The methodology
for this research consisted of two parts. The first part related to collecting all required data,
analyzing and processing it. It involved preparing a comprehensive list of the problems afflicting
the public health sector along with their causes and solutions. The second part of the research
was concerned with the generating of all other inputs and formulating of the strategies.

Tentative lists of the problems, their probable causes, and likely solutions were prepared
after an extensive desk research. Also, semi-structured questionnaires for each of the eight
components were designed. These were pre- and pilot-tested.

The basic purpose of primary survey was to hold discussions with the identified
respondents and capture their views in regard to the host of observed problems, their probable
causes, and likely solutions. To achieve this, the respondents were personally visited and
interviewed. They were officials employed either in the health or related areas in the public
sector or were involved in doing business with them. The respondents were from multilateral,
government and non-governmental organizations representing different departments and
hierarchical levels, pharmaceutical companies, research and academic institutions, etc. Snowball
sampling was used to identify the respondents.

While conducting interviews the researcher was not only asking questions, but also
involved in understanding and systematically documenting the responses, coupled with intense
probing to seek out deeper meanings. Each interview lasted from about half an hour to two
hours, with the average time spent per respondent being almost 45 minutes. A total of 154
interviews were conducted across 12 states in India.

In order to ensure a fair representation of states, the entire country comprising all the
states and union territories was considered as the sampling frame. The government’s formal
classification of states as ‘high-focus’ and ‘non high-focus’ (guided by health indicators) was
used to identify the sample states (National Rural Health Mission [NRHM], n. d.). The high
focus states were those that exhibited poor health indicators while non-high focus states were
seen to fare better in terms of the same health parameters. Delhi being the national capital was
necessarily included as a sample state for the survey. Excluding Delhi, there were effectively
three categories, viz. high focus states, non-high focus states and non-high focus Union Territories. Applying ‘quota sampling’, 1/3\textsuperscript{rd} of the states in each category was considered for sampling. With due regard to these categories, ‘convenience sampling’ was used to identify the sample states. In deciding upon the methods of quota and convenience sampling, it was felt necessary to ensure that the population covered by the selected states represented a large enough share of the country’s total population.

The output of the primary survey, based on the respondents’ experience and opinions, was rich descriptions of the issues affecting the performance of the healthcare sector. The data so obtained was collated together with the information already abstracted from the secondary sources, so as to develop a comprehensive list of problems, possible causes and suggested solutions.

An interim analysis of the data threw up a few inconsistencies. To get these clarified a few focus group discussions were organized. The groups were heterogeneous, each comprising 6-10 participants drawn from the general public. These discussions not only helped in understanding of the issues from the users’ points of view but also proved useful in verifying the solutions obtained from the secondary and primary sources, or those broached by the researcher. The findings of FGDs gave an indicative idea about how the people or users viewed the healthcare services, particularly in the public sector.

Key recommendations for improvement were: use political influences, if any, in a positive manner, strengthen the Panchayati Raj Institutions, and introduce a fair, transparent and accountable system, together with providing requisite funds and other resources. Greater focus was needed on moral education in schools, generating awareness among masses, and providing a platform for the public to voice its opinion and offer feedback.

Eventually, a comprehensive list of all problems, their probable causes and suggested solutions was prepared. The data obtained was processed for further analysis.

**Chapter 4: Analysis and Data Processing**

The survey outputs were collated, compared, combined wherever necessary, and finally suitably rephrased to convey in a concise but candid form the essence of the identified issues that appeared to affect the performance of the public health sector. The objective of the present study was to either solve the problems or minimize their effects. Towards this end, each problem, its
cause and the suggested solution was looked upon as links in a chain. If a problem was reported to have more than one cause, then there were as many chains or strings as the number of causes. The same was the case if there were multiple solutions. A comprehensive list of such strings of individual problems, with their probable causes and possible solutions was developed after data review, reduction and refinement.

The survey outputs resulted in an exhaustive list of problems that seemed to affect the delivery of health services. The components ‘administration’ and ‘human resources,’ were identified as the source of a majority (55%) of problems, inviting immediate attention of policy makers and program implementers.

Beginning with the investigation into eight components of health system, the surveys finally yielded 230 problems and 623 solutions. These solutions, before being fed as inputs to strategy formulation, were studied with a view to determine which of these were largely independent of each other and which ones could be combined together. For this purpose they were processed through a ‘content analysis’. In this process keywords were first identified for all solutions. These were either the words that appeared in the solution or those that conveyed the same meaning as did the solution. Sometimes, several keywords were assigned to one solution and, at other times, more solution than one was represented by the same keyword. The list of keywords was condensed by grouping those which appeared related to each other. The solutions which numbered 623 were reduced to 50 key words, which together appeared 923 times.

The keywords were then used to identify the areas of focus for strategy. This was achieved through a process of ‘mapping’. It is a process by which elements of one set of information are logically related with the elements of a smaller set of information. The following were identified as the areas of focus.

- Governance – Planning
- Human Resource
- Corruption
- Attitude
- Governance - Execution
- Public Awareness & Community Participation
- Finance
- Coordination

An ABC analysis of the focus area wise solutions revealed that Governance-Planning and Governance-Execution were the A-items representing approximately 63% of all solutions. Human Resource was the B-item, and the rest of the focus areas belonged to the group of C-items.
Chapter 5: Analysis of Demand and Environment

Analysis of demand is crucial to planning. Again, as an input to formulation of strategy it was necessary to study the long term demand - supply situations for healthcare services. The projected demand was found to be so large as compared to the supplies that even with the most ambitious strategic initiatives it would take several decades for supplies to match demands. This implied that the demand for healthcare services would in no way have a restrictive impact on the formulation of strategy or limits its choice.

The environment in which the public health system functions was also analyzed. For this purpose a SWOT analysis was carried out. It helped to identify the favorable and unfavorable areas in the internal and external environments, and provided the basis for developing the strategy that would leverage on the strengths and opportunities and contain the effects of the weaknesses and threats in the environment.

Chapter 6: Strategy Formulation and Evaluation

This chapter dwells on the formulation and evaluation of strategy. It describes the process followed in formulating the strategies and elaborates on evaluating them, both for internal consistencies and external validation.

Once the main strategy was formulated, sectional strategies were derived from it for the focus areas. Strategic initiatives, which are an interface between strategies and their implementation, were then developed. Sectional strategies and strategic initiatives were internally verified and externally validated. Just as a hypothesis is tested against a null, the pertinent question to ask while evaluating a strategy is the grounds on which it may be refuted or rejected (Rumelt, 1979). Verifications were done first against the problem-cause-solution strings for each focus area, and then vis-à-vis the findings of the SWOT analysis.

For the purpose of external validation the Delphi technique was seen as appropriate and practical. A total of 15 panels, each consisting of 3 experts, were involved in the process of validation. All 45 experts were senior officials with substantial experience in the field of health.

The chapter concludes with the statements of main and sectional strategies for each focus areas along with the related strategic initiatives.
Chapter 7: Conclusions

The present study viewed the healthcare services as a holistic system, and dwelled on its various subsystems. The research focused on identification of the problems besetting the public health system and developing suitable strategies to address them.

A review of secondary sources yielded considerable data to get started with the research. It helped in identifying the various healthcare components and in preparing a tentative list of problems, their probable causes and suggested solutions. The primary sources (field survey and focus group discussions) proved very useful in substantially enlarging these lists. It enriched the content and confirmed the findings obtained from literature survey. After processing the data collected from the primary and secondary sources it was possible to identify and build a final comprehensive list of all problems that seemed to affect the healthcare services in the public sector, and their possible causes and suggested solutions.

This list was processed through a content analysis and mapping. It led to the identification of eight focus areas namely, attitude, corruption, coordination, finance, governance-planning, governance-execution, public awareness and community participation, and human resource.

Aside from the focus-area wise solutions, the other inputs for strategy formulation were also looked into. These were a demand analysis and an environment analysis. The analysis of demand indicated that even with the most ambitious strategic initiatives it would take several decades for the supplies to match demands in the health sector. This implied that the demand for healthcare services would not have a restrictive impact on the formulation of strategy or limit its choice. The internal and external environmental analyses, comprising SWOT, were carried out to leverage on the strengths and opportunities and, at the same time, potentially neutralize the internal weaknesses and external threats, while formulating the strategies.

Considering all these inputs, the main strategy was formulated and then consistent with it sectional strategies were derived for each of the focus areas. Strategic Initiatives, an interface between strategy and its implementation, were also developed for each area. All strategies and strategic initiatives were first reviewed and verified through internal checks, and then sent for validation by external experts using the Delphi technique. The opinions of the experts were carefully reviewed and suitably incorporated to finalize the outputs of the study.
References


List of Publications


**P. Singh, B. Bose and S. Charde.** An Approach to Developing a National Strategy for the Public Health Sector in India. International Journal of Health Services. (Communicated)

Presentation in International Conferences