Original Article

The Health Management Information System of Pakistan under devolution: Health managers' perceptions

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Summary **Devolution implies that use of data for decision making starts at the level of data generation. However under a newly decentralized system, managers may face different hurdles in utilizing the preexisting Health Management Information System (HMIS). This qualitative research explores the perceptions of health managers regarding HMIS under the devolution reforms enacted in 2001 in Pakistan. The study was carried out by interviewing 26 managers at various levels in seven selected districts in all provinces. There was general dissatisfaction and confusion over roles and responsibility: respondents reported that the overall atmosphere was characterized by the reluctance of provincial managers to release data under their authority, the absence of prerequisite human resources, and conflicts of interests between political and administrative leadership. The devolution didn't bring immediate good effects for the HMIS. Treated as a least priority area, staff was distributed from provincial HMIS cells, causing overburdening of remaining staff and jeopardizing data analysis. Reporting regularity from the districts was also compromised secondary to political interference and loss of provincial control. The present HMIS is in need of redesigning so that it may keep pace with the devolved system. The HMIS reforms are needed to improve information systems at the district level, capacity building of district managers, political commitment, and administrative ownership of the system and to earmark and make available resource and promote evidence-based decision making. Change in the public administration culture towards encouraging initiative taking at lower levels, introduction of performance incentives, inculcating work ethics, encouraging local accountability, and good governance are all essential.**

Keywords: HMIS, Health managers, Devolution, Pakistan

Introduction

Information plays a vital role in effective management of any system. The Health Management Information System (HMIS) provides specific information support to the decision makers at various levels of the health system to assist evidence-based decision making.

Under the devolution initiative, Pakistan's Ministry of Health (MOH) has recommended strengthening of health information systems for informed decision making in planning, management, monitoring, and supervision of health services for improved service delivery in the districts (*1*). However, attempts to strengthen information systems have generally proved unfruitful and at times counter-productive (*2*). One reason is that is stakeholders' perceptions have been ignored (*3*).

HMIS and Devolution – The experience in Pakistans' context: Before the 90s, Pakistan had several vertical programs with stand-alone information systems. The resulting fragmented data transmission made it difficult for managers to assess program effectiveness (*4*). In 1991-92, MOH transformed those vertical information systems into a comprehensive National Health Management Information System through a consultative process (*5*). The national feedback reports of the new HMIS pointed out that albeit gradual, there

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has been improvement in the scope and regularity of reporting, improving the quality of information and encouraging information use at various supervisory levels (*4,6,7*). In view of provincial managers' growing concerns about the HMIS, MOH held a series of workshops through which vertical information systems were found still to exist, together with a culture of non-evidence-based decision making as indicated by planning and management decisions which most of the time disregarded relevant information (*8,9*).

As opposed to typical centralized information systems which draw essentially upon data collection and morbidity and mortality profiles, the HMIS is understood primarily to enable field level managers to carry out information based decision making (*10*). This function of HMIS is plausible under a devolved system.

To address political, social, economic, demographic and epidemiological needs, Pakistan launched health care reforms in 2001 (*11*). Since promulgation of these devolution reforms, the new District Health System has faced crucial challenges stemming from a dearth of basic information such as data on population, health status, disease patterns, and coverage of essential health care, *etc*., which are fundamental requisites for planning and setting priorities, targets, and objectives for health and health care. This is coupled with an absence of adequate resources, logistics, organizational arrangements, and incentives to ensure prompt implementation of any program (*12*).

Though the literature suggests that devolution (or decentralization) is required for decision making at the lower management level and HMIS *per se* is meant to serve the needs of lower level managers, there may yet be various impediments in a decentralized system to the realization of evidence-based decision making. The devolution process as an organizational change may have a mismatch with the preexisting information system.

Decentralization implies that whoever collects the data, analyzes it: *i.e*. analysis and self-assessment are to be carried out at the level where data are collected and used for decision making at that level and not collected merely for upward reporting (*13*).

With decentralization, local decision-makers gain new responsibilities for planning and resource allocation and hence require additional skills (*14*). If skill development is ignored, the process of decentralization is likely to fail (*15*).

Decentralization has caused major problems for health and health care (*16*). Aas, for example, mentions several problems that might follow decentralization, such as lack of organizational control and co-ordination, deterioration of competency due to isolation, limited ability to release creativity, and conflict resulting from an unclear division of authority or simply the pursuit of personal ambition (*17*). All these factors have the same implications for information systems and information-based decision-making under decentralization.

Another dimension of decentralization is community involvement. A fundamental principle of the Alma-Ata Declaration was that individuals and communities need to be involved in the generation, dissemination, and use of health information for planning and implementation of health care (*18*). Research suggests that the effect of decentralization on local health system performance is more influenced sometimes positively, sometimes negatively, by the local political culture than by resources from central government (*19*). Hence use of information in decision-making may be encumbered by a political culture with its own tradition of decision making.

This study was conducted to explore the perceptions of health managers regarding HMIS, within their organizational setting and in the context of Pakistan's decentralization process. Little, if any, work has been done on this important aspect of HMIS in Pakistan, particularly under the new devolution initiative.

Materials and Methods

Since the purpose of the study was exploring (understanding, describing, and explaining rather than measuring) the perceptions of managers, a qualitative design was adopted. Patton notes that qualitative approaches emphasize the importance of getting close to the people and situations being studied (*20*).

In-depth, face to face, semi-structured interviews were conducted at the federal, the four provincial, the district, and the local health facility levels. Overall, twenty-six managers were interviewed. Data analysis was done at the level of statements, meanings, themes, and general descriptions of experiences (*21*).

Results

The context: perceptions about the devolved system

There is little awareness and more than sufficient confusion over the new system's status: to some respondents, the devolution was in a state of transition, others perceived it to be static at a certain point, leading nowhere, like ‘a hanging object’. Another respondent expressed his confusion by describing devolution as a ‘hodgepodge’. Others considered the need to bring devolution of power to the union council (sub-district) level.

Despite having the authority, districts lack the apparatus and skilled human resource to manage their affairs. Inertia was cited as another reason for the poor state of affairs; owing to centralization in the past, the staff is habituated and comfortable with working in a centralized system, while at the higher echelons of management at the provincial level, managers seems unwilling to release power from their grasp.

As stated by one respondent:

Apparently, I think, we are reluctant to yield power to district managers. [A provincial level health manager]

To some respondents, one of the prerequisites of appropriate implementation of devolution is the existence of uniform development in all areas, while in reality there is great disparity in development terms among districts, as some are at 'a higher level of development and others at a humble level'. Hence devolution was viewed as beneficial wherever there was skilled manpower, infrastructure, and intellect. But the real problem resides in underdeveloped areas which lack sources and resources.

The new district setup has caused deterioration of many systems... All authority is now in the hands of the District Coordination Officer (D.C.O.)[a]*. Nazims*[b] *are also being given authority. [A Nazim] has enormous authority but has no idea of what this means; having come from the business sector, [Nazims] will never let down their business. When requested to join hands in some noble cause (e.g. health care), they expect some personal benefit in return. [A facility level health manager]*

This self-interest also takes the form of bribes:

In the past, whatever task used to be accomplished by giving [bribing] around one hundred to hundred and fifty rupees is now done by giving a thousand or more… there used to be ten people around who took bribes but now there is a huge list of takers. [A district level health manager]

Respondents were quite concerned about political interference. It was pointed out that political influence after devolution has focused upon the Executive District Officer - Health (EDO).

HMIS and devolution: perceived benefits

Respondents were in agreement that both HMIS and devolution reforms may conceptually reinforce each other.

One respondent mentioned the merit of consolidation:

Now there are no multiple chains of communication to move upward and/or downward. The more there are steps of HMIS data transmission involved, greater the chances of errors. But now it is a single-step process. [A district level health manager]

Rationally HMIS was conceived to support district health management and become an essential tool in the devolved system by providing information support to the managers in their very surroundings, enabling them to tally the information with the real scenario and thereby to monitor the data generation process as well.

HMIS under devolution was perceived to work with more efficiency, as districts were given authority to make decisions on an '*as is-where is*' basis instead of reporting to the higher authorities and waiting for feedback, creating delays.

Referring to equity, the respondents perceived that under devolution there will be more chances for the district government to rearrange resources and focus on the respective diverse needs of each facility, since at the lower levels of district management, the needs and problems vary.

The HMIS under the devolution reforms was thought to bring more effectiveness to management as well. With the involvement of various stakeholders the resources used through a team work were perceived to entail more potential for effective management in terms of quick action on complaints, better control over absenteeism, regular assessment of staff performance, checks on pilferage, and scrutiny on the misuse of resources *etc.*

HMIS and devolution: perceived reality

Effect on organizational structure: In the pre-devolution period, the HMIS was controlled at divisional levels and later after the dissolution of divisions, at the provincial level. Subsequent to devolution, a gross reduction in HMIS cells at the provincial offices was observed. For example, in some areas, the regular post of Deputy Director HMIS was abolished during devolution reforms. A time came when there was not a single Deputy Director left to look after the HMIS section and it *'was done away with'* by assigning it as an additional responsibility to one of the many other Deputy Directors in the health department *'against the wishes of the individuals concerned'*. It was reported that certain provincial cells experienced a severe shortage of human resource due to retrenchment of staff, jeopardizing their reporting and data analysis work as a result. The HMIS organization was weakened at the provincial level by shifting power to the district level. Provincial offices had little awareness of the plans to strengthen the HMIS at the district level. To respondents, these reductions happened because *'the implementers at the local level perhaps did not know that information is the backbone of the health department'*.

Effect on communication: Respondents mentioned that communication declined after devolution at various levels of HMIS organization. Regular monthly HMIS meetings, held in the past, were discontinued in some provinces.

One respondent complained:

If facilities complain of absence of feedback, they are unaware that after devolution there is no one to analyze their reports and extend feedback, and at the

[a] District coordination officer: Bureaucratic representative at the district level government;

[b] Politically elected representative & head of house, at the district level of government.

district level, the situation is worse. There is only one officer, without any support staff. [A provincial level health manager]

Effect on decision-making: Prior to devolution, the District Health Officer-DHO had discretionary powers of budget utilization. Now that the Nazims are local government district heads and the public sector administration is headed by the DCO, the EDO-Health has no budget utilization powers. The system can run smoothly only if the DCO and Nazim are on good terms. The share of the health department due out of the district budget can only be allocated on the discretion of the DCO coupled with the consent of the Nazims.

As was mentioned by a respondent:

The DCO enjoys the overall discretion to incur expenditure in the areas deemed 'profitable' by him (health and education are exempted, as these do not generate cash). He has no background knowledge of health. [A district level health manager]

Another complained:

There hasn't been any criterion for budgeting. In spite of having populations similar in number, districts received funds that were poles apart. Certain facilities haven't received a single penny for even six months. These are the personal contacts, the level of awareness of the DCO, and the individual priorities that influence the budgetary allocation. [A district level health manager]

Reporting: In the previous centralized system, there were HMIS cells at provincial levels that received and gave feedback to the small number of districts within their jurisdictions. This was much more efficient for proper reporting. Now the districts are free to send reports or not as they wish, and the DHO blithely checks the timely submission of error-free reports, nothing else.

HMIS under devolution: the perceived hurdles

Capacity issues: The HMIS is teamwork dependent and requires a blend of many systems and skilled human resources, such as demographers, public health professionals, statisticians, epidemiologists, *etc*., in every district. However, in a developing country setting, the capacity to use and analyze data is scarce, due to the scarcity of human resources and finances.

Lack of accountability: Respondents commented that since the districts were currently free of central-level influence and authority, the districts might stop obliging the requests of national HMIS cells for submission of reports, which, according to some respondents, had already been observed in some districts.

Before devolution we were receiving reports on a regular basis but now the numbers of districts that are sending reports regularly has been drastically decreased. [A provincial level health manager]

Indifferent attitude of EDO-Health: In the new devolved system, the role of EDO-Health is very crucial but, according to respondents, the most worrisome issue is that for many EDOs, HMIS is not on the priority list. Respondents opined that it was because they were either not dynamic, or unaware, or they needed motivation.

Political interference: Respondents noted that, in the past, funds for facilities that failed to submit HMIS reports to the central level in due time were withheld. Recently that system is now being interfered by the Nazims, who to oblige their vote banks extend undue favors by issuing orders for release of salaries to individuals they wish to influence. This has resulted in an 80 to 90% decline in reporting regularity in certain districts after devolution. In addition, in the past, the EDO-Health practiced full authority in his sphere, but now administrative authority rests with DCO while the Nazim enjoys political authority, and this situation has influenced HMIS based decisions and activities on merit.

Privatization and control of NGOs: Some respondents felt that devolution was the beginning of privatization. One respondent shared his suspicions:

I think this is a trap advocated by NGOs. They have already bought some public health facilities and God knows whether they will share the data of those facilities with us or not [A provincial level health manager]

Ambiguity of power: Inherent in the concept of information-based decision making is the idea of power to make decisions for implementation and these two cannot be separated. So far in the devolution process, the issue of decision-making authority and control were reportedly unclear at both the provincial and the district government levels.

Respondents' suggestions for improving HMIS under devolution

Training of civil servants in the use of data: The District Management Group officers, having only a bureaucratic background but with a key role in decision making at the district level as DCOs, should also be trained and sensitized on HMIS and its significance in administration matters and decision making.

Interaction with health management teams: There is a need to appraise the DCOs and Nazims of the usefulness of HMIS in their ambits. It was suggested that HMIS capacity building and data use should begin from the facility and extend to the district level.

Creating a state of healthy competition between facilities: Some respondents argued that the performance of facilities could be compared on the basis of the HMIS, which might ultimately serve as a tool of healthy competition among health managers of various facilities. This competition might be extended to various constituencies.

Sharing budget allocation information: Few of the respondents opined that information sharing about finances would be more beneficial in terms of health management and information-based decision-making. The union council Nazim, the doctor, the vaccinator- all these people should be thoroughly conversant in the budget allocations of their union councils *etc.*

However small the share of the national budget being provided to health, even that does not trickle down to the masses because of misappropriations and bureaucratic delays: the solution is to link the HMIS to finances. The budget arrives and stays lying at the district office, and the BHU doctor is ignorant of his budget allocation. [A district level health manager]

Technical assistance by the provinces: There should be a task force at the provincial level which should come forward to assist district management in technical matters as such as HMIS training of human resources, as well as technical and management issues.

Dissemination of information at the community level: It was proposed that female representatives such as Lady Health Workers (LHW), as they are in direct contact with the community, should be involved in the dissemination of information generated through the HMIS at the community level. This will not only help in creating health issues awareness but will also inform people about the types and range of services available at facilities.

They (female representatives) should share the data at the grass roots level. They may reflect upon utilization of services and inform the masses as to what health services are available. They may also promote prevention by informing opinion leaders and the masses about common diseases prevalent in the community as reported by the HMIS and encouraging them to take preventive measures. [A facility level health manager]

Discussion

The initiative of devolution of power by the Government of Pakistan to district governments is facing numerous challenges interrelated with health systems and the HMIS.

Devolution did not bring immediate positive changes to the existing HMIS; rather it was associated with loss of certain achievements gained over time, such as established provincial HMIS cells and reporting regularity. Provincial HMIS offices have also faced certain setbacks. It is evident from the responses that no well-thought-out interim plan existed for the HMIS functioning or, had it been conceived, it was not implemented during replacement of the old system.

Jean Gladwin *et al.*, while investigating the effect of health services' decentralization on health information management in low-income countries, proposed that in order to improve information management under decentralization, existing management practices need to be related with the new tools of information management and to draw on existing experience and research in the introduction of HMIS (*22*).

The situation calls for HMIS reforms to improve the information systems at the district level by establishing a system to generate district-level data, capacity building of district managers to use this data, and political commitment and administrative ownership of the system to earmark and make resources available and promote evidence-based decision making. Last but not the least, giving performance-based incentives, inculcating work ethics, encouraging local accountability, and good governance are indispensable.

Enabling the field-level health managers to carry out information-based decision-making necessitates change in the public administration culture as well, where it might encourage staff at lower echelons to make decisions, create changes, and take initiatives to improve the health care system. Otherwise none of the attention paid to information will be fruitful (*23*).

As mentioned in the literature (*24*), the present HMIS is in need of redesign to enable it to keep pace with the devolved system. In the newly decentralized system, the existing information system may also need modifications to enable managers to use the information to develop their operational and financial plans and thus make reforms at the local level according to the needs of the community for effective and efficient service provision.

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