Health Sector Reforms and Health Information in Ghana

The new Health Management Information System in Ghana is seen, not as an end in itself, but as a powerful managerial tool.

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INTRODUCTION

Ghana is divided into ten administrative regions and 110 districts. Within these divisions health services are organized, managed and delivered at five levels, namely community, sub-district, district, regional and national. Services provided at community, sub-district, and district levels constitute Primary Health Care (PHC) and are delivered in the context of a district health system. [1]

The regional and district health services have management teams, which oversee managerial and technical aspects of health delivery in all health facilities and their catchment populations throughout the country. Activities at the regions and districts are coordinated and supported at the national level by the Ghana Health Service (GHS) while the Ministry of Health (MOH) is responsible for overall policy and programmes direction.

Currently, a comprehensive reform package is under way to tackle fundamental problems in the health sector. These reforms mark the start of immense changes in the way health services are delivered in Ghana. There are several strands to these changes including funding arrangements, structural change and decentralized processes. [2]

While information has never been undervalued in the health sector, this recent period of re-evaluation and reform has seen a distinct shift of perception in the recognition that information is an essential tool which needs to be managed in its own right if the aims of the reforms are to be translated into reality.

This perception is highlighted by the central role being played by new stakeholders in the health sector, such as economists and development practitioners. Essentially the present context of the widening gap between increasing demand for health services and scarce resources available in the health sector requires evidence-based decision-making, especially in the areas of resource allocation, health services monitoring and the evaluation of their impact on improving health status and in achieving greater equity. These new requirements demand innovative strategies to respond to efficiency and quality concerns. The assumption is that having the right information at the right time in the right format at the right level of the health care delivery system would facilitate the full involvement of the various management levels in the planning, implementation and evaluation of health services. A health information management system which enables this process is a pre-condition for realistic decision-making and planning and would thus improve the efficiency and effectiveness of health care.

HEALTH SECTOR REFORMS IN GHANA: AN OVERVIEW

Attempts to reform the health service started in 1988. The motivation for reform was to halt the downward trend of performance of the health sector – in other words to reverse the deterioration of the service caused by the economic decline of the country which started in the late 1970s. [3]

Efforts to improve the health sector gained renewed momentum in the early 1990s when further initiatives were articulated for health sector development as part of the overall long-term vision for Ghana's future growth and development as framed in the document 'Ghana Vision 2020'. [4] As its contribution to these development objectives, the MOH unveiled its Medium Term Health Strategy (MTHS), designed to guide health development in Ghana. A major goal of the MTHS is to improve the health of Ghanaians by increasing assess to services and also augmenting the quality and efficiency of services provided.

These new initiatives for the first time acknowledged the first premise that improvement in the standard of health care delivery required a fundamental redefinition both of aims and in the running of the service. The first consideration led to a restatement of policy, launching a shift away from quality per se to an emphasis on balancing quality against cost. The second led to a structural reorganization after findings conclusively demonstrated that the management structure as it stood (see Figure 1) was not only counter productive but also an active impediment to the implementation of a viable strategy of health management and criteria of performance. [5]

This structure was vertical in nature, resulting in the development of a vertically organized management system: for the transmission of information, for

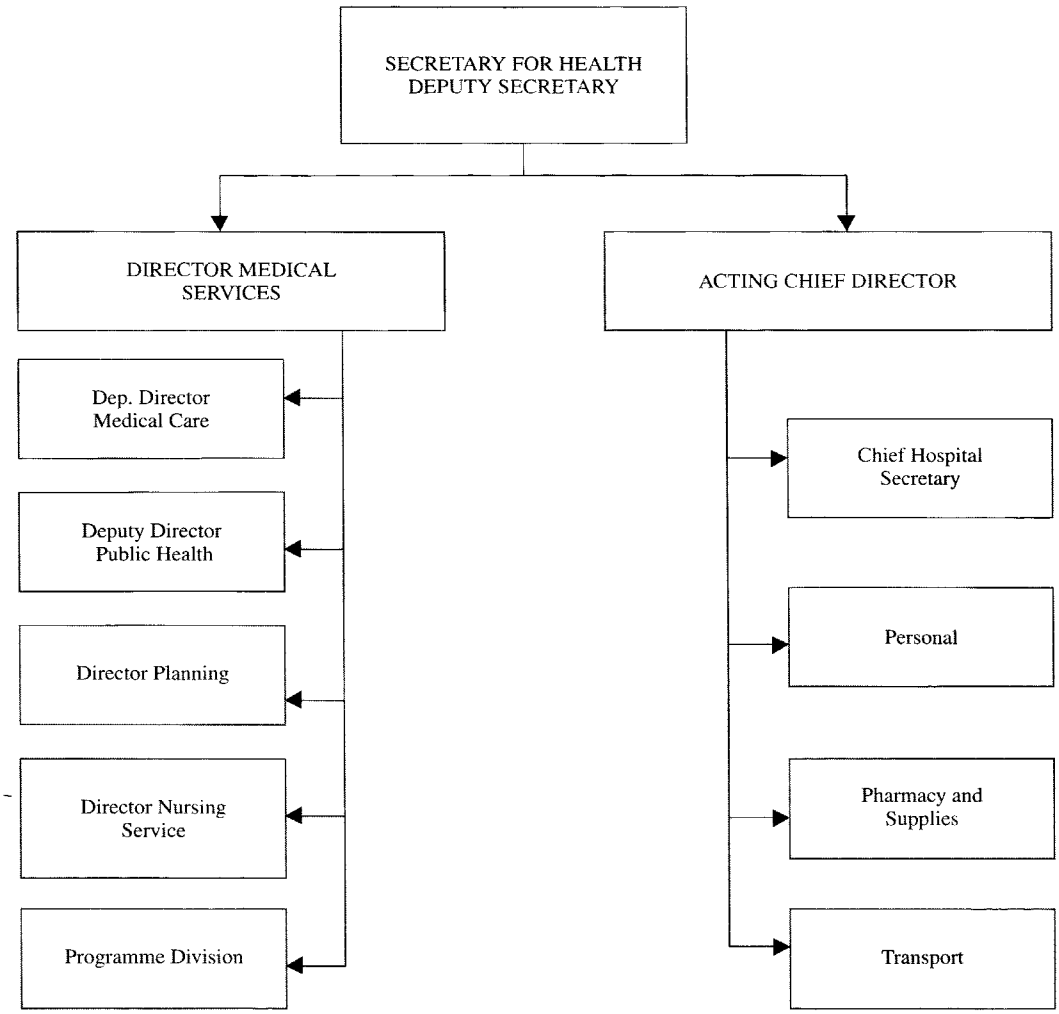

Figure 1. Organizational chart, Ministry of Health, 1989.
Source: Ministry of Health. *Health in Brief*, 1991.

financial management, and for supervision. There was duplication and competition for centrally managed vertical programmes; roles and responsibilities between technical and administrative divisions were confused; and standards and mechanisms for monitoring performance were ill-defined. This situation was the basis for the reorganization of the MOH, which was undertaken as part of the reform goal to provide a sound management base for advancing the larger aims of the reforms.

THE REORGANIZED MINISTRY OF HEALTH

The objectives of the reorganization were two-fold: first, the establishment of a Ghana Health Service (GHS) alongside the Ministry of Health (MOH), and secondly to provide a sound organizational framework for the growing degree of managerial responsibility in all health service institutions. [6]

Under the new order the technical and support divisions have been integrated within a new directorate structure. Seven directorates have been created to include Finance, Administration, Research Statistics and Information Management (RSIM), Policy Planning Monitoring and Evaluation (PPME), Human Resources, Procurement and Stores, and Traditional and Alternate Medicine (see Figure 2).

A far-reaching element in the structural re-organization is the creation of the Ghana Health Service (GHS) in addition to the Ministry of Health (MOH). The GHS became operational in 2001 following the enactment of the Ghana Health Service and Teaching Hospitals Act, 1996. [7]

This new arrangement is to facilitate decentralized planning and management of health care, to change the role of the centre (headquarters) and to give more

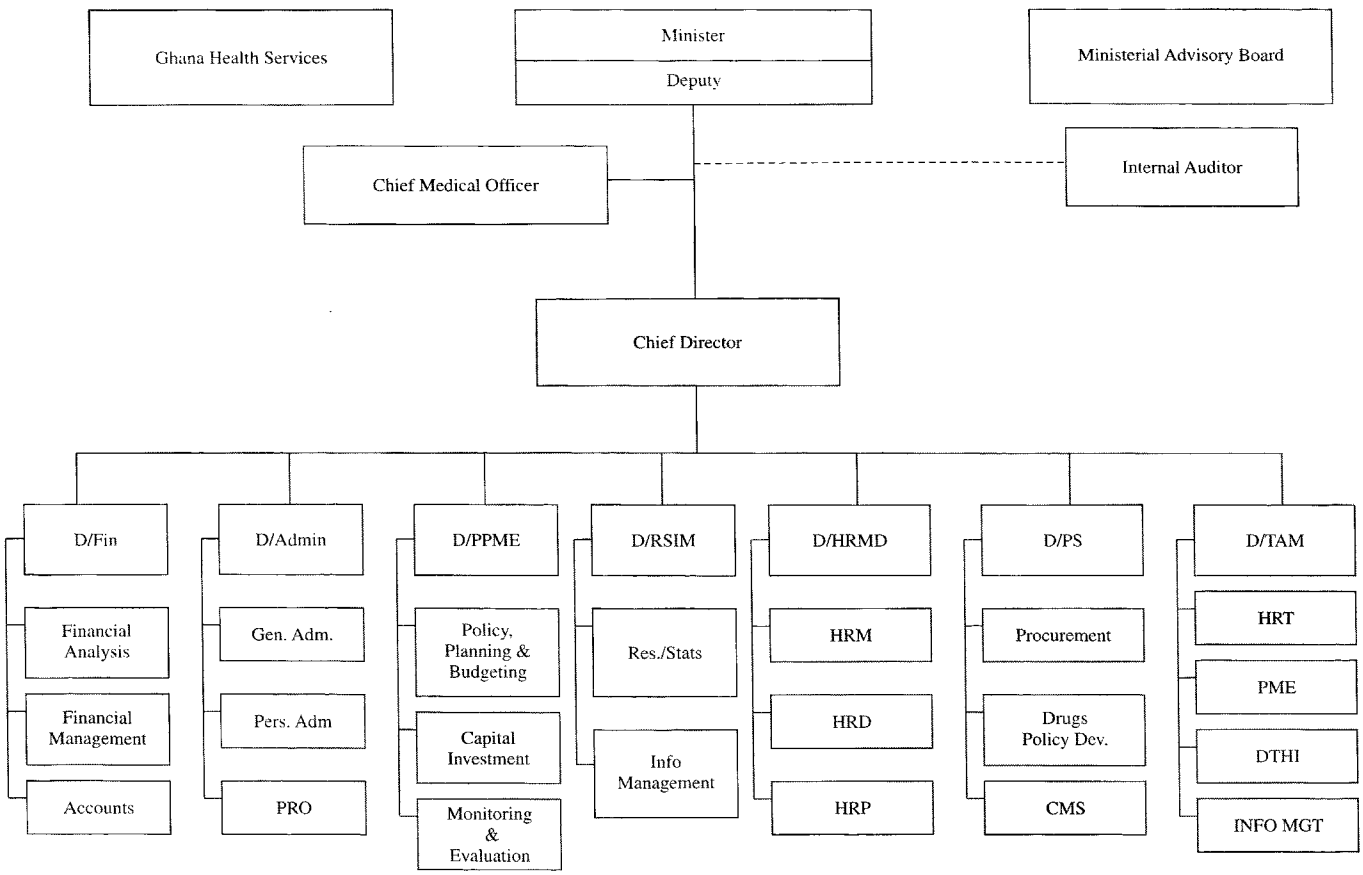

Figure 2. Organizational structure for Ministry of Health.

functional authority to Regional and District Health Services (managed by GHS) in planning and implementing their own health delivery activities within the framework of national plans. Decentralization in the context of the current development in the health services means granting greater financial and management autonomy to local units within the system.

In tandem with the decentralization of the health service is the establishment of Budget and Management Centres (BMCs) which have the responsibility for planning, managing and implementing an agreed programme of work within a given budget. [8] These changes are slowly but progressively being implemented.

RELATIONSHIP BETWEEN THE GHS AND THE MOH

The new organizational arrangement has transformed the role of the MOH as the central government agency responsible for coordinating all health issues in the country. The MOH now focuses on sector-wide policy formulation and on the monitoring and evaluation of progress in achieving targets. Its main duty remains overseeing the health of the nation and monitoring the performance of the GHS. The GHS assumes responsibility for the former executive functions of the MOH with respect to the organization and management of health services. The GHS is highly decentralized and is accountable for performance according to established performance indicators. [9] This separation of service delivery functions should permit health services to be more patient-oriented and to be managed more efficiently and less bureaucratically.

The GHS has branches in every one of the ten administrative divisions of the country; each headed by a Regional Director of Health Service (RDHS), assisted by a team of health professionals constituting a Regional Health Management Team (RHMT). (See Figure 3). Regional Directors are responsible for the day-to-day organization and administration of health services, and report directly to the Director-General on technical issues. Furthermore, they provide support and supervision for regional and district programmes. At the district level, health services are managed by a District Health Management Team (DHMT) headed by a District Director of Health

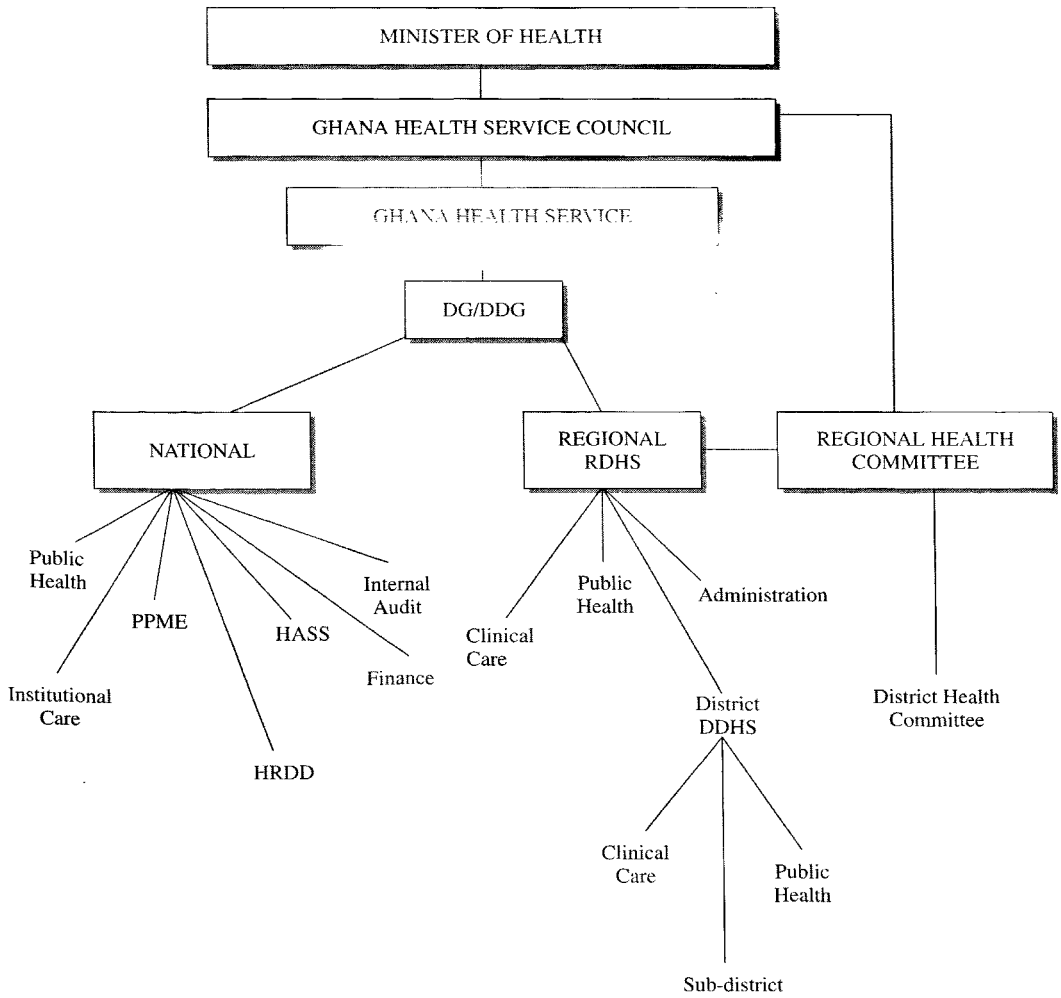

Figure 3. Structure of the Ghana Health Service.
Source: Ghana Health Service at a Glance. September 2003. p. 3.

Services (DDHS). He is responsible to the RDHS. Overall planning, organizing, monitoring, and evaluating health within the district is vested in the DDHS and his team of health professionals. [10]

INFORMATION MANAGEMENT CONSTRAINTS

The old vertical management structure of the Health Service has led to a situation where information is largely organized within departments and along programme lines to satisfy specific requirements. This may be viewed as a legacy of the old civil service system where managers collect information at lower levels for the purpose of transmission to the centre.

This has brought with it a number of constraints in the way information is handled and used:

- the proliferation of data collection tools which managers at higher levels find not very relevant
- an uncoordinated information system which is overwhelmed by data demands from higher levels with virtually no feedback
- the very little priority given to data for planning and decision making at lower levels
- the very poor linkage between the various systems for data collection, leading to duplication and inability to assess performance.

Besides these broad constraints, information management in the Ministry suffers from other setbacks. These include:

- poor communication between users and producers of health statistics
- the Centre for Health Information Management operates not in support of planning activities,

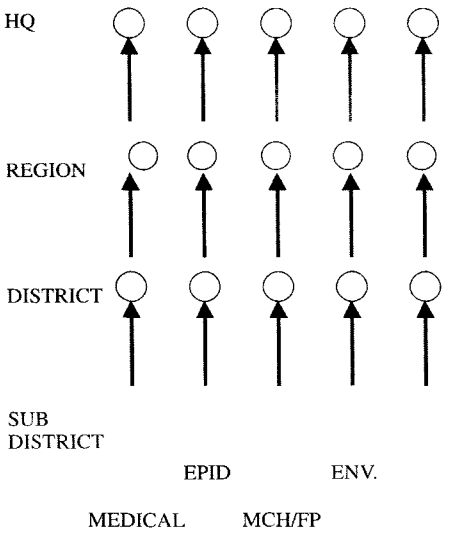

Figure 4. Existing reporting system.
Source: Centre for Health Information Management, Accra.

but as a unit which produces statistical information as an end in itself

- feedback within institutions and between levels is also virtually non-existent
- shortage of statistical manpower at each level of the health management hierarchy makes for the lack of integrated health information.

Furthermore, much of the data collected is not analysed at the point of collection, making it difficult to obtain information on trends related to coverage, service cost and changing health status of a community. Analysis of data at regional level usually causes loss of information. One study noted, for example, that schistosomiasis, which was a major problem in some districts, did not appear in the regions' top ten diseases. [11] Thus microanalysis for micro level planning cannot be contemplated if one depends on the analysis produced at the regional level.

A review of reporting formats within the Ministry shows that health facilities are required to complete between 36 and 40 different forms from 15 different units and programmes for submission to higher levels. Information on about 90 percent of these forms is submitted as raw data. [12] Another basic problem of the information system is the low rate of data and report submission from the periphery. While this may be linked to the lack of capacity at the lower levels, the real reason may be due to the excessive demand for data recording and reporting on service staff.

Much of this data is not used for tasks performed at the lower levels. For instance, very little information on disease conditions and situations at the periphery is collected, organized and analysed for local action in prevention and control. Data is collected for the purpose of onward transmission to district, regional and sometimes directly to the national level, sacrificing commitment and validity in such circumstances.

The current health sector reforms recognize that quality information is essential for effective health planning, management and policy development. With focus on performance, establishing an integrated and properly functioning health information system is seen as a priority.

The current information system does not collect data from traditional and private practitioners and institutions outside the MOH. Again, data on populations without access to public health facilities or who use the private sector is not reported on in the public sector. These omissions not only create a problem for policy formulation and development strategies, but also provide an inadequate basis for planning and resources allocation.

THE NEW MANAGEMENT STRUCTURE AND THE IMPLICATIONS FOR INFORMATION MANAGEMENT

The new management structure aims to foster a system under which each level of authority exercises clear responsibilities. The GHS will have management relations with Regional and District Health Administrations within the context of lines of accountability that run from the MOH. Greater emphasis is being placed on the need for Districts and Regions to set their strategic plans with clear and quantifiable objectives. In turn these objectives are amplified by more precise statements in short-term programmes. Progress towards long-term objectives and short-term targets will be analysed at the national levels in respect of policy and strategy. The key to success in the new management arrangement lies in the effective use of improved information. This in turn implies that information systems need to meet equally important needs: the provision to support clinicians, nurses and other staff in their day to day work; and the supply of valid management information as a by-product of these operational systems

The movement away from the overly vertical structure and the adoption of a sector-wide approach leading to steady and sustainable health reform provides the context for the interest by the MOH in exploring the potential for an integrated health management information system.

TOWARDS AN INTEGRATED HEALTH MANAGEMENT INFORMATION SYSTEM

The MOH seeks to address the above constraints by moving away from programme-specific reporting

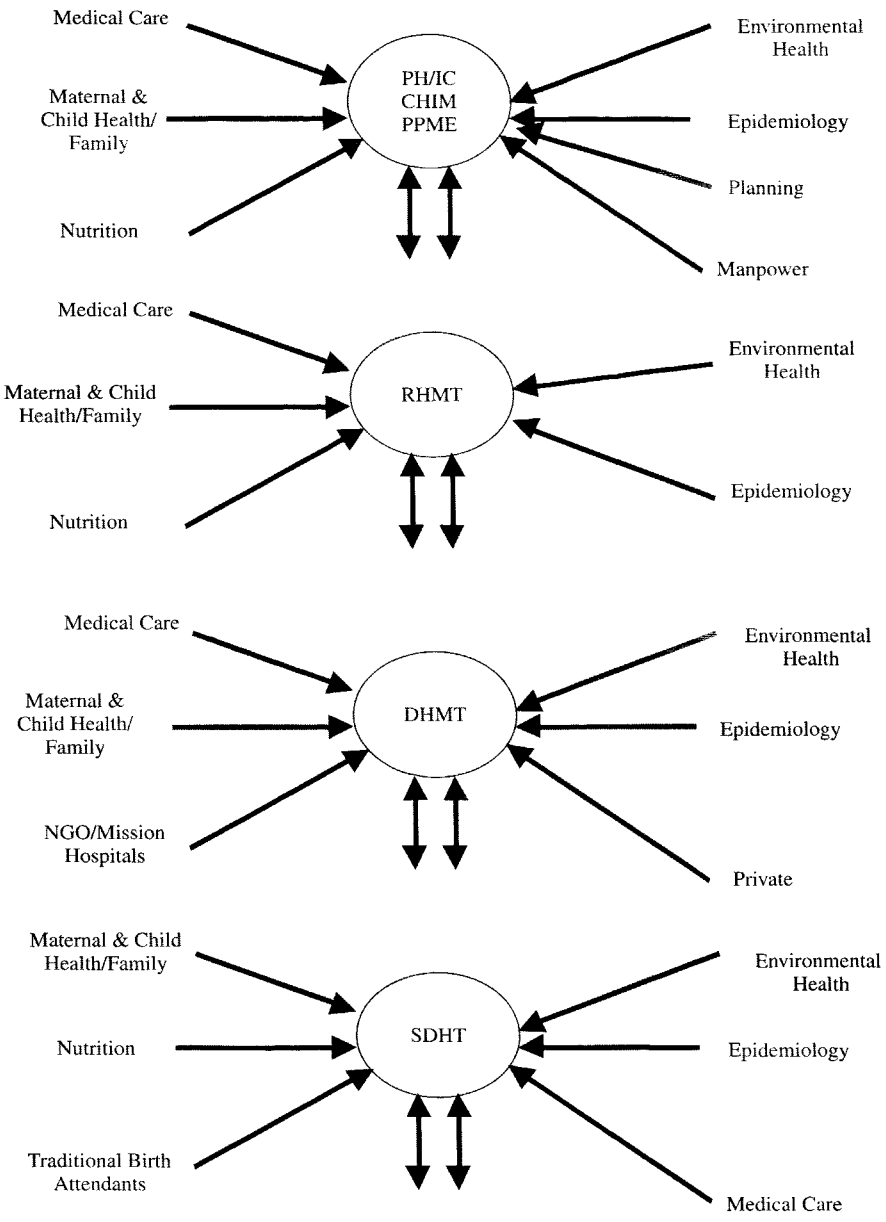

Figure 5. Proposed HMIS
Source: Centre for Health Information Management, Accra.

formats to building a system that will encourage data use at all levels.

To this end the Centre for Health Information Management (CHIM) and the Policy Planning Monitoring and Evaluation (PPME) divisions of the MOH have designed a health management information system with the following broad objectives:

- to ensure that management units observe standards set for facility services
- to ensure all managers plan for and deploy resources in the most cost effective way to meet their own objectives.

These objectives are based on the assumptions that policy guidelines and standards are available for key management and technical activities, and that when data is collected and analysed, it should provide management with the scope to:

- assess the health needs of target populations
- efficiently allocate resources to meet those needs
- manage and monitor the use of resources, including human resources
- set targets and monitor achievement in areas of coverage and quality of care

- control epidemics and other emergency situations that may arise
- understand local issues and promote community participation in health care delivery.

Based on these assumptions the system will aim at:

- defining and establishing a framework by which Budget and Management Centres (BMCs) which will collect and analyse information for decision-making
- defining data boundaries for every category of BMC, which will consist of a minimum set of data relevant to and based on the responsibilities of these management units
- putting in place performance monitoring system firstly to facilitate self-assessment and to account for use of resources
- putting in place a mechanism for reporting and feedback in a timely fashion so as to make current information available for decision-making
- ensuring that relevant sector-wide information on the performance of the health sector is available to all stakeholders to support resource mobilization.

In the context of the above objectives the information system will primarily aim at supporting the districts and sub-districts. However, this will not exclude the use of selected information for higher-level performance monitoring. The data for the central level will be regarded as an important issue, but not as has been the case in the past.

The design of the new information system is based on three main considerations: analysis of data at the point of collection, decision-making and reporting. Behind these considerations is the recognition that each level of the health care system assumes responsibility for major aspects of service under the current reform programme. It also recognizes that lower levels will develop and implement action plans with higher levels overseeing the implementation of programmes and monitoring of performance of the various units. In this regard less emphasis will be placed on the transmission of raw data to higher levels. Rather, much of the demand will be placed on the development of capacity to manage information, to support decision-making and to improve performance at all levels.

Another basic principle is the recognition of the responsibility of every management unit for the collection and analysis of basic information for day-to-day management decisions. The scope of such systems will basically depend on the level of development of management systems within units. It is therefore important to ensure that a minimum basic level is attained by all identical units to provide scope for comparative assessment. On these bases, the criteria for data collection will include the element of use, quality and the need to report on performance.

Use of Action Oriented Health Data at Recording Level

In a bid to move away from the traditional methods of information management where raw data is transmitted, the MOH will emphasize data analysis and use at the point of collection. This implies that data which is not used by a particular level will not be collected by that level. This is because self-assessment is seen as an important activity in a decentralized health system.

Better Use of Data at all Levels

Information systems developed along programme lines will be encouraged to the extent that they support programme managers to take decisions, monitor trends and address efficiency issues. The new system will emphasize improving quality for analysis at each level based on data 'currently' being collected to encourage use. No data will be requested if that level has no immediate use for the data.

Reporting Frequency

The existing information system requires that reports be submitted monthly from health institutions to districts. In some cases even districts are required to report to regions and regions to the centre monthly.

Akrong [13] has noted that information use within the Ministry is rarely analysed. Also the central level does not produce quarterly reports while annual reports are usually very late. With this state of affairs decisions are usually taken without current information. The new system seeks to ensure that reporting frequencies are tuned to the decision making process of the MOH. This implies that some information requirements will be on a quarterly, semi-annually or annual basis and will form the basis for decisions to be taken for that period.

CRITERIA FOR DATA ELEMENTS

As has been stated, the information management strategy will be developed on the principle that data collected at various levels will be used to assist management at that level to assess their own performance. This means that data should be such that analysis will be decentralized, providing scope for:

- planning activities and programmes relevant to management at each level
- facilitating decision-making at each level
- management of resources which fall under the direct control of management, with a view to

improving efficiency in resource mobilization and allocation
- monitoring performance of all Budget Management Centres at the regional or district levels or divisions and units within each Budget Management Centre
- identifying areas which are not performing as determined by set standards and enable studies to be conducted by management to improve performance
- identifying training needs of staff in specific areas of competencies to improve quality, efficiency and effectiveness
- informing management about quality of service, utilization and equity including gender issues
- seeking clients' opinion with respect to quality of service, utilization, equity and gender issues.

COMPONENTS OF THE PROPOSED HEALTH INFORMATION MANAGEMENT SYSTEM

The health sector information management system will focus on routine activities, which will provide information necessary for reviewing, and managing operational policies within each management unit. Information will be collected on inputs, process output, outcome and impact of services through routine and sentinel reporting systems. Five subsystems or areas of focus have been identified initially to form the core:

1. Health Status Subsystem
   This will measure output, outcome and impact on curative preventive and promotion services. It will focus on demographic data, disease and health status and service utilization information. This subsystem will have two sections, one for clinical and one for public health activities.
2. Financial Management Subsystem
   This will measure the financial input into the health system. It will provide basic accounting information to enable the measurement of cost in delivering the service. Accountability and efficiency will be the main motive behind the selection of indicators.
3. Human Resource Subsystem
   This will provide understanding of staffing patterns, movement and training requirement for effective delivery of services. At the moment there is an integrated payroll and personnel system in place. This will be expanded to provide information on the labour mix at each level and relate this to human resources standards.
4. Drugs and Supplies Subsystem
   This sub-system will measure utilization and stock management, especially at the district level and provide information to assess rational use. The system will support provisioning, budgeting and procurement procedures at the district level and provide a scientific basis for national quantification exercises.
5. Support Service Subsystem
   This subsystem will provide information on infrastructure, equipment and other capital inputs and allow for planning and budgeting for maintenance and replacement. These assessments will be against a set of minimum physical standards.

ORGANIZATION OF INFORMATION

The organization of information will be along these subsystems for each level and for each Budget and Management Centre (BMC). Each BMC will be required to collect and collate information based on a range of indicators congruent with their responsibilities. In other words, for each group of responsibilities, a set of indicators, which will adequately show that the BMC is undertaking those responsibilities, will be nominated.

For reporting purposes a minimum set of indicators will be identified for each subsystem and reporting formats will be designed specially to enable analysis to be done. Information based on analysed data will be submitted to higher levels. To facilitate performance monitoring at each level, data for each subsystem will be linked. This linkage will be at the district, regional and national level and will provide information to facilitate resource allocation and determining health sector priorities.

Within each BMC data collection and information organization will necessarily satisfy the information demands of each subsystem appropriate for each level and reporting will be based on selected indicators. For example, a district hospital will collect information on clinical and public health activities as determined by its responsibilities and in fulfilment of the demands of the health status subsystem. In the same way the demands of the other subsystems will be met. However, in reporting to the District Health Administration, selected and agreed areas will be organized into a composite reporting format, which will then be submitted.

IMPLEMENTATION

The Ministry of Health is at the moment mapping out plans and strategies to pilot test this new system in 20 districts. Implementation will be phased specifically to respond to the needs of the reform programme.

The following preparatory activities have been outlined as the pre-requisite for take-off:

- preparation of a statement of responsibilities for all Budget Management Centres (BMCs)
- development of performance monitoring framework for BMCs
- development of a Decision Support Manual for the district level
- identification of benchmarks for monitoring the reform process
- development of policy guidelines for medical records management
- development of a policy for the deployment and use of information technology.

The Centre for Health Information Management (CHIM) will be strengthened to the extent that it will take on the responsibility of providing analytical information based on routine data to enable decision-making at the national level. CHIM will, therefore, be mandated to produce on annual basis a statistical report that will feed into the decision making process. CHIM will also lead a process of capacity building at the district and regional level that will allow the use of routine information for decision-making.

CONCLUSION

Whilst institutional reform is necessary, it is not sufficient in itself to guarantee sustained improvements in the performance of the health system. Having the capacity to define and evaluate expected levels of performance and to monitor achievements – which to a large extent depend on information – is critical to the operation of the whole system. In this context, a Health Management Information System is not an end in itself but a powerful managerial tool when it is focused on health information management for decision-making at the level where information is generated.

The present arrangement put in place by the Ministry of Health for managing information generated in the health sector should allow for improved efficiency, effectiveness and quality of service delivery.

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Abstract

The health care system in Ghana is undergoing organizational and structural changes, creating the need for timely and reliable information for policy development and health planning. Over the years attempts at strengthening health management information systems have been ad hoc and focused on review of reporting systems. The concern for the health sector in this era of reform is the need for the development of an information system in which there is focus on aggregation of information for review and monitoring of service performance at all levels in the health care delivery system. This article documents the organizational and structural changes taking place in the health sector in Ghana and reviews attempts being made by the Ministry of Health to strengthen information to meet the demands of the changing health system.

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