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INFORMATION MANAGEMENT AS A CORNER STONE FOR IMPROVING THE QUALITY OF HEALTHCARE SERVICES IN PAKISTAN

by

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Accurate, reliable and timely information is of key importance for planning, management and decision-making. According to Fuller-Love and Cooper (1996), information technology has been of strategic importance in the implementation of rapid changes taking place in the National Health Service (NHS), in the past few years. Its role is of particular importance with reference to increasing the competitiveness of the hospitals. Petit *et al.* (1997) has established that proper, correct and clear information is positively connected to job satisfaction and productivity. In this context, the importance of Health Management Information System (HMIS) cannot be underestimated in the complex environment of National Healthcare System, especially large-scale hospitals.

Health Management Information System (HMIS) can be stated as the specialty of Management Information System [Tan, 1995] and the disciplines of HMIS are derived substantially from the more general field of MIS [Seelos, 1992]. Like other information systems, HMIS is also built on the foundations of data identification, data collection and its processing into useful information. Other issues may include data validity, storage, classification, update, computation, retrieval, presentation and confidentiality. Proper information management gives timely and easier access to information throughout the organization, improves the accuracy of data, demonstrates the balance of proper levels of security versus ease of access and enhances patient care through greater collaboration and sharing of information [Joint Commission Accreditation Manual, 1994]. Ellis *et al.* State that a well-designed clinical information system with the routine collection of data can provide the necessary output data to enable resource modeling.

Unfortunately the condition of HMIS in most of the developing countries is not very encouraging. A World Health Organization (WHO) report on the status of National Health Management Information Systems in countries of the WHO Eastern Mediterranean Region mentions a lack of motivation, over-recording, over-reporting, poor quality of data, limited use of information and low importance of HMIS as some of the main problems prevailing in these countries [Hammoud, 1990].

The globalization of health information cannot be ignored – even in remotest Pakistan. Presently via the world wide web and soon to be supported by satellite telemedicine communication systems (with an aphorism of *'anybody, anywhere, anytime communication'*), an information-rich universe will be simple step away from any Pakistani hospital. This must help to improve the quality of Pakistan's medical practice. Until now the government hospitals have not

understood its significance, but in such a competitive environment with increasing decentralization, the importance of joining the global information highway is likely to penetrate government hospitals as well.

HEALTH MANAGEMENT INFORMATION SYSTEM AND HEALTHCARE QUALITY MANAGEMENT

An appropriate HMIS is not only essential for planning and management, but the fate of any Quality Improvement Programme depends on appropriate, accurate and timely information. According to Kruger and Mazuzan (1993), the CQI process requires an accurate database of information that is easily retained when looking for systems and individual patient care improvement. Leading scientists in healthcare quality improvement such as Williamson, Reerink and Donabedian State, 'to help quality assurance professionals and clinical practitioners keep up with advances in healthcare knowledge and technology, a prototype Health Services Management Publication is essential'.

Such a system should comprise:

- Identification of unique science information needs;
- Rapid retrieval of valid needed information;
- Using the information to improve healthcare benefits [Williamson *et al*.; 1991].

Healcare quality improvement and HMIS together form the basis of a healthcare system, essential to establishing both the organizational and the management infrastructure of the system. Improving quality needs programme planning and the planning process depends on accurate, appropriate, reliable and timely information. Quality and information thus can be viewed as two sides of a coin that complement each other for the ultimate success of the organization.

THE STATUS OF HEALTH MANAGEMENT INFORMATION SYSTEM IN PAKISTANI HOSPITALS

Both HMIS and Quality Improvement System have been historically neglected during the development of the National Healthcare Systems in most of the developing countries including Pakistan. Healthcare leaders in Pakistan are not aware of the advantages of HMIS in improving the quality of care.

SOME OF THE SPECIFIC FEATURES OF HMIS IN PAKISTAN INCLUDE:

- Weak health management information infrastructure;
- Poorly organized data collection facilities;
- Lack of coherence between the information collected and information needed;
- Limited use of the generated information;
- Reliability issues of the collected information.

Lack of HMIS was acknowledged as one of the problems in the proposed Pakistani National Health Policy (Pakistan Ministry of Health, 1990). In the very first study of its kind on the condition of HMIS in Pakistan, Lippeveld (1991) identified the following problems:

- Overall health information management system is poor;
- Existing indicators do not always respond to specific information needs;
- Data collection in health facilities is poorly organized;
- Information flows are fragmented;
- With a few exceptions, data consolidation and processing is done manually;
- Use of information generated is greatly limited.

Author visited thirteen teaching hospitals from Khyber to Karachi in 1997 to review the condition of HMIS. Findings were disappointing. Some hospitals were not even collecting the most basic data on admissions and discharges. Disease classification and coding system did not exist. The credibility of the collected data was poor because it was not being collected through an organized system. Data collection and information management staff were either non-existent or were not trained to perform the job properly. There was no concept of confidentiality. Medical record departments were either non-existent or were in extremely bad shape.

Under the circumstance, the government of Pakistan needs to pay serious attention to planning and developing the information system capacity of healthcare services including hospitals. Simplicity, cost effectiveness, easy operability and suitability to the local environment could be some of the features needing prioritization. The system can be developed on the following lines:

THE ASSESSMENT OF THE EXISTING SITUATION OF HMIS IN PAKISTAN:

- Review of existing literature on HMIS;
- A comprehensive survey of existing information system;
- Understanding the opinions of managers and planners about the information system and collecting their views about information requirements;
- Feasibility study for the development of information system.

HMIS FOR HOSPITALS MAY BE DEVELOPED ALONG THE FOLLOWING LINES:

- Orientation of managers;
- Involvement of managers in identifying their information requirements;
- Development of policies, procedures and guidelines for the system;
- Development of infrastructure for HMIS;
- Development of tools and techniques for system implementation;
- Development of Minimum Data Set (MDS);
- Establishment of HMIS departments in the hospitals and at central level;
- Confidentiality issues.

BARRIERS TO THE DEVELOPMENT OF HMIS IN PAKISTANI HOSPITALS

The development of HMIS for Pakistani hospitals may not be an easy task. There are several managerial, organizational, technical, financial and cultural barriers that hamper the development of such a system. Some of these barriers are listed below:

- No understanding of the role of HMIS in organization management;
- HMIS not considered as an important/priority issue by leadership;
- Lack of organizational culture to base decision-making on facts and figures;
- Lack of motivation to plan and develop HMIS;

- Lack of properly qualified and trained human resources to plan and develop HMIS;
- Lack of financial support for the development of HMIS;
- Inadequate support services infrastructure for the development of HMIS.

While the planning and development of HMIS for Pakistani hospitals and healthcare system is a time consuming process, at some stage the government has to take initial steps to plan and develop such a system. A range of issues shall be involved in the development of such a system and the system is likely to have majore impact on the way hospitals and healthcare resources are managed in the country. An initial step could be establishment of some basic standards to be achieved in a specified timeframe. A set of six basic standards has been proposed below.

STANDARDS FOR HEALTH MANAGEMENT INFORMATION SYSTEM

STANDARD ONE
The basic structure for the organization and management of an Information Management Department exists in the organization

STANDARD TWO
Staff in the Information management Department are capable of performing their jobs according to the principles of information management and according to the information requirements of the hospitals.

STANDARD THREE
Essential information management functions exist in the organizations.

Standard Four: Functioning mechanisms exist in the organization for safe storage and timely retrieval of all types of medical record.

Standard Five: Information management Department produces different types of reports about different hospital activities for internal and external use, according to the policies and procedures of report generation and information dissemination.

Standard Six: Medical record, statistics and computer departments exist in the hospital to support Information Management Department.

REFERENCES

Fuller-Love, N. and Cooper, J. 1996. Competition or cooperation? Strategic Information Management in the NHS: A Case Study of Ceredigion NHS Trust; International Journal of Information management; 16(3):219-232.

Hammoud, E. I.. 1990. The ststus of national health inforamtion systes in countries of the WHO Eastern Mediterranean region. WHO; Gevena.

Joint Commission on Accreditation of Health Organizations, 1994. Accreditation Manual for Hospitals. Vol. 1. Statndards. JCAHO. Chicago.

Krueger, N. E. and Mazuzan, J. E. Jr., 1993. A collaborative approach to standards, practices: setting the stage for contuous quality improvement, AORN Journal, 57(2):470-5.

Lippieveld, T., 1991. Assessment study on health information systems in Pakistan. Pakistan Child Survival Project. Ministry of Health, Islamabad.

Petit, J. Goris, J. and Vaught, B., 1997. An examination of organizational communication as a moderator of the relationship between job performance and job satisfaction. Journal of Business Communication. 34:81-88.

Seelos, H. J., 1992. The science of medical information systems. Journal of Medical Systems. 164(4):171-175.

Tan, J. K. H., 1995. Health Management Information Systems: theories, models and applications. ASPEN; Maryland.

Williamson, J. W., Reerink, E. Donabedian, A., *et al.* 1991; Health sciences information management, an approach to improve QA and clinical practice; Quality in Health Care. 3(2):95-114.

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