



Evaluation criteria for district health management information systems: lessons from the Ministry of Health, Kenya

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Summary

Introduction: There has been no comprehensive evaluation of the district health management information systems (DHMISs) since the establishment of these systems by the Ministry of Health (MoH), in Kenya. This is partly due to lack of defined criteria for evaluating the systems. The objective of this study is to design evaluation criteria for assessing the viability, sustainability and ultimate contribution of DHMIS in the management of the district health system (DHS) in Kenya.

Methods: This descriptive cross-sectional study was undertaken in three DHSs in Kenya. Empirical evidence was collected through interviews, complemented by a comprehensive review of relevant literature, reports and operational manuals of various health information systems in Kenya.

Results: A set of evaluation criteria for DHMISs in Kenya was designed for each of the three phases of implementation: phase one—pre-implementation evaluation criteria (categorized as policy and objectives, technical feasibility, financial viability, political viability and administrative operability) to be applied at the design stage; phase two—concurrent (operational) implementation evaluation criteria to be applied during implementation of the new system; phase three—post-implementation evaluation criteria (classified as internal-quality of information; external-resources and managerial support; ultimate-systems impact) to be applied after operating the implemented system for at least 3 years.

Conclusions: In designing a DHMIS model there is need to have built-in these three sets of evaluation criteria which should be used in a phased manner. Pre-implementation evaluation criteria should be used to evaluate the system's viability before more resources are committed to its implementation; concurrent (operational) implementation evaluation criteria should be used to ascertain the status of the on-going implementation with the view to either fine-tune or abandon it altogether before more resources are used on it; and post-implementation

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evaluation criteria should be used to assess its overall effectiveness (if it has achieved its hypothesized benefits) towards the management of DHS.
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1. Introduction

In 1970, the Ministry of Health (MoH), Kenya became more conscious of the need for more useful data to assist in the formulation of health policies, the setting of priorities, and evaluation of health policies and health programs. This was followed by the establishment of a Health Information System (HIS) Department which comprised the following: computer section, statistical and medical records section and district health management information system (DHMIS) section [1]. The main function of the DHMIS section was to initiate and coordinate the development of a DHMIS at the district health system (DHS) level. Rationale for establishing DHMISs at the DHS level was that health facilities in the DHS collected information haphazardly and irregularly, the information collected was incomplete and unreliable for use at the point of collection and a large volume of data was collected rendering analysis impossible [1]. Although much administrative and health programs related data was collected at the district level, little use was made of this data at that level. The general trend was that data was aggregated by information personnel in the district and sent directly to the ministry headquarters with little or no feedback provided to the districts. It soon became clear that data collected on routine basis was not sufficient for purposes of planning and evaluation of district level health services. The most frequent problem is the lack of feedback to local districts and health care workers [2]. The establishment of effective health information systems to support decision making by district health personnel is an essential component of the district health services [3]. The challenge then was to develop an information system for the district health management teams (DHMTs) that would provide health information that would be utilized locally to achieve the DHMTs' management and planning objectives [1].

These DHMISs were to collect and store basic information from HIS forms for immediate use by DHMTs. The first DHMIS in Kenya, funded by the United Nations Children's Fund (UNICEF), was piloted in Murang'a DHS in 1988 [4]. Before its evaluation, a number of donor agencies initiated DHMISs in various DHSs in Kenya. UNICEF also funded DHMISs in the following DHSs: Kwale, Mombasa, Baringo, and Kitui; the African Medical Research Foundation (AM-REF) funded DHMISs in Nyamira and Nyandarua DHSs

[5]. The Swedish International Development Agency (SIDA) supported the implementation of DHMISs in Kisumu and Uasin Gishu DHSs [4]. The Finnish Government through the Kenya–Finland Primary Health Care Programme (KFPHCP) funded DHMISs in the DHSs in Western Province [6]. These systems were to become an integral part of the Kenyan health system infrastructure. District health information systems designed to support decision making for policy makers, managers and care givers within districts are envisaged to be an essential component of a country's health services [7]. Despite the existence of the computer section whose mandate among others was to facilitate computerization of all manual information systems, it was not involved in the establishment of these DHMISs. A major feature of the DHMISs in Kenya was that they were all manual systems [8]. No attempt was made to take advantage of the information technology (IT).

Since the establishment of these DHMISs in various DHSs in Kenya, the MoH, Kenya, has neither developed its own evaluation criteria nor accessed developed evaluation criteria for other similar systems hence there has been no formal comprehensive evaluation to assess their strengths or weaknesses. Evaluation is critical in ascertaining the extent to which the hypothesized benefits of the introduced DHMISs have been realized [8]. Evaluation results provide information on the system's relevance, efficiency, effectiveness, and costs. Such results would have indicated if the DHMISs need to be terminated, reorganized, "fine-tuned" or implemented the same way in the other DHSs [8]. It is recognized that evaluation of any DHMIS is an essential follow-up to the design and implementation process. The objective of this paper is to develop a comprehensive set of evaluation criteria for DHMIS in Kenya.

2. Evaluation of health information systems

Evaluation is a general investigative activity applicable to many fields. Health administrators, boards of trustees, health system agencies, and other decision makers generally have not recognized that a thorough evaluation is essential to achieve the maximum return on an investment in a DHMIS [9]. Evaluations are generally undertaken for a variety of reasons: to judge the worth of ongoing pro-

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