

Chapter 1.4

Researching Health Service Information Systems Development

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ABSTRACT

Information is considered the currency within health systems. Numerous reorganisations and restructuring, coupled with many buzz words (e.g. evidence-based practice) and the various advancements in ICT (information and communication technology) are apparently designed to improve the utilisation of this currency. However, what constitutes information appears to vary between health professionals. For some, only the data derived from RCTs (randomized control trials) is considered evidence, for others it is the conclusions drawn from focus groups, whilst for others, finding information goes well beyond subjectivity and experimental design and comes from understanding human behaviour and other processes. Although advancements in ICT have greatly improved access to information (currency), the data often disguised as information appears only as small change. Restructuring and reorganizing have been used to inflate the value of this currency (information) leading to the replacement of information departments by the Public Health Intelligence Units

or Observatories. However, a change in behaviour is difficult to bring about and manage, while it is easier to change the tools with which the tasks are carried out. It is all too easy to fall into the trap of reproducing what has been produced before by information departments only under a different guise, as well as using different configurations, software or updated hardware and ICT (e.g. the Internet). These units hardly concern themselves with exploring the underlying message of the data. A quick trawl of the web pages of these entities can be testimony to this fact. The process so far has been, in effect, one of test-tubing health outcomes and then extracting the data from the test tubes. Although we have been eager to embrace technological advancements and change, we have failed to monitor the impact and consequences of change on our behaviour and thus on health outcomes. This chapter will delve into the current availability of information for public health policy purposes and will argue its ineffectiveness as information/evidence in the context of human behaviour and social processes. Behaviour and processes are by nature dynamic. Specifically, the feedback effect, a feature of dynamic process, can have a profound attenuating effect on data that

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was once important, thereby affecting not only the shelf life of a policy but also its intended outcomes. Examples from published reports by public health intelligence units/observatories in New Zealand and the UK, plus references to teenage smoking and suicide, will be used to illustrate these concepts and issues. A conceptual but pragmatic model of data collection based on current health care data management systems will be argued as a way forward for translating data into information and tangible evidence with a view to informing the process of public health policy formation. This chapter discusses a holistic approach to identifying data needed as evidence to inform the process of policy formation/decision making as a conceptual model.

INTRODUCTION

The central issue in information technology (IT) and its management is information itself, for without it, decision making and policy formation would have had to follow a different process. However, with the advancement in technology and the development of social, health and political models, we may have spent more resources on the relationship between technology and access to information than on how information and technology may be utilised to inform the process of decision making more effectively and efficiently.

In the health service sector, IT management has been focused on using the technology to manage health data primarily to develop information systems that cater for the storage of data without hindering access to it. Within the health service, this line of approach may be limiting by unwittingly reinforcing the assumption that the development of an information system is specific to the task under study. Therefore, by allowing market forces to dictate to the management of the health service sector, there will naturally be competing models of IT management which in

turn will lead to different IT models operating different sections of the same organisation, for example, variation in IT models between and within GPs, hospitals, and private health service providers.

In recent decades we have witnessed rapid advancements in technology which may have contributed to improvements in ICT (information and communication technology) such as faster communication and data transfer devices, smaller but faster storage devices with large storage space e.g. hard disks, and database software. However, to some extent the advancement in ICT may have encouraged a move to develop models to improve inter-agency access to data. Certainly, using the latest database package and appropriate hardware, technology data from various sources can be uploaded, stored and retrieved centrally.

Although IT management involves adopting models that utilise various tools including hardware and software to improve the collection, storage and access/retrieval of data, too much emphasis on the technology and access to data may have helped to shift the focus away from the actual data itself. The health service sector generates huge volumes of data, including morbidity and mortality outcomes. However, social and lifestyle information is often collected separately as part of projects with specific aims and objectives. In the UK, hospital records were expanded to include the routine collection of data on social class. In the early 1990s attempts to utilise these pieces of information with other health outcomes proved ineffective as social class had only been collected for a handful of patients' records.

Indeed, in order to include socio-economic data in the analysis of health outcomes, the Analysis Unit in the former Yorkshire Regional Health Authority (UK) using a multi-method approach, utilised a mix of databases from various sources (Bensley et al 1994, also see Shahtahmasebi 1997, 1999, 2001). The process of preparing, analysing and presenting the information involved extracting health and census data from various

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