

## Chapter LII

# Organizational Factors in Health Informatics

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### **ABSTRACT**

*There is a general recognition that numerous organizational factors will influence the success of an informatics intervention. This is supported by a body of evidence from multi-disciplinary and health-specific research. Organizational factors are highly interrelated and the exact nature and contribution of each to the success of an intervention is not clear. A health-specific understanding and recognition of these factors is necessary if informatics applications are to reach their potential in healthcare settings.*

### **INTRODUCTION**

The influence of organizational factors on the success of informatics interventions in healthcare has been clearly demonstrated. This health-specific research, informed by a larger body of evidence emerging from interdisciplinary organizational, psychological, and sociological research, has confirmed the view that organizational factors can be the decisive factor in the success of an intervention (Lorenzi, Riley, Blythe, Southon, & Dixon, 1997).

However, it remains rare for organizational factors to be explicitly addressed in the implementation process. As such, their contribution to the success or failure of informatics applications is not properly understood. This has implications for future interventions. Applications that were not utilized or did not perform adequately in a particular setting may be dismissed, while other less appropriate systems may be adopted because organizational factors influenced their success. Explicit study of the role of organizational factors on the implemen-

tation of health-informatics interventions is necessary to develop an understanding of their influence in the healthcare context.

Healthcare organizations tend to be highly task oriented, labor intensive, and dependent on interdisciplinary teamwork, so the influence of organizational factors within them may differ considerably from the business settings in which they have traditionally been studied (Chau, 2001). Health organizations are also increasingly underresourced due to the global downturn in government social spending, to health-sector privatization, and to aging populations. It is these characteristics that necessitate the rapid uptake of informatics applications, capable of automating aspects of healthcare provision and reducing labor intensity (Coiera, 2004).

From a technical perspective, rapid and fundamental transformation of the healthcare sector through informatics is achievable. However, without a clear understanding of, and ability to, manage organizational factors, it is unlikely that informatics applications will realize their potential in the health sector. This short review provides an overview of the key organizational factors influencing the success of informatics interventions. It begins by positioning informatics interventions in the broader context of organizational change before discussing the current understanding of selected factors.

### **INFORMATICS IMPLEMENTATION AS ORGANIZATIONAL CHANGE**

Implementing informatics applications is essentially “a politically textured process of organizational change” (Berg, 1999, p. 87), aimed at achieving user acceptance and the utilization of informatics applications. Organizational change requires people to be aware of a need for

change, to identify a particular course through which the change can occur, and to take actions to make it happen (Lorenzi, 2004). Resistance to change occurs if users are not aware of the need for change, are not convinced of the course of action set out, or are unable to carry out the necessary action. It is the users, not the technology, that should be the centre of the change process as the decision to utilize the system is ultimately theirs (Berg).

Even the best designed and well-intentioned informatics interventions are likely to lead to productivity losses in the early stages and create major changes (Lorenzi, 2004). The timely and effective training of users can reduce the disruption; however, it is not enough to ensure success as even a correctly used system can have far-reaching effects. Informaticians taking a sociotechnical approach view the application as one component of a complex system (the health organization) whose introduction will disrupt other components of the system (e.g., patients and clinicians). They advocate design approaches that aim to create technology that fits within the complex system (Kaplan, 2001).

The multidisciplinary nature of health-sector organizations makes finding the correct fit challenging (Kaplan, 2001). A range of professionals with different needs, expectations, and work norms are likely to use an application, and each will expect it to fit with his or her work practice. When an application does not fit, resistance will increase. This is often due to valid concerns about increased workload or the ability to care for patients (Timmons, 2003). When systems do not fit, the best way to overcome resistance is to change them. However, when they are essentially effective, resistance can be overcome by changing people’s opinions or work norms. Organizational culture and social networks, from which many of these norms and opinions arise, need to be understood and managed.

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