Chapter 1.14
Differences in Computer Usage for U.S. Group Medical Practices: 1994 vs. 2003

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ABSTRACT

Research on the use of information technology in healthcare has focused on hospitals and Health Management Organizations (HMOs). However, little has been done to study the use of IT in group medical practices. In 1994, we conducted a pilot study of group medical practices and then repeated this pilot study in 2003 to obtain a longitudinal picture of the IT services used by these private practices. Researchers can use this to form ideas of the important issues and changes involved in IT usage in group medical practices over the past decade thus providing a needed benchmark to fill a gap in the existing literature and that can be used to compare domestic as well as international practices. For example, an expanded form of this study will be conducted in Taiwan this summer.

INTRODUCTION

Studies of the introduction of computer technology in medical settings have focused on hospitals (Griffith & Sobol, 2000; Sobol, Humphrey, & Jones, 1992; Sobol & Smith, 2001) and more recently on HMOs. In these studies, such issues as barriers to the introduction of technology in hospitals, returns to adoption of technology, and the market status of the adoption of different technologies have been studied. It was found that there are many barriers to the adoption in hospitals. The longitudinal issues of what the changes

have been in the last decade have been studied with the results that certainly there has been an increase in adoptions over the past decade. These increases have occurred in both transactional, informational, and strategic uses of technology (Sobol & Woods, 2000). This trend is expected to increase. A survey in 2002 by Sheldon I. Dorenfest & Associates of Chicago indicated that IT spending on healthcare in 2002 would be $21.6 billion (Dorenfest, 2002).

While the focus has been hospitals and HMOs, very little has been done to study the use of IT in group medical practices both small and large. This is the case even though researchers have for years trumpeted the impact of IT on physician's practice (Rodger, Pendharkar, & Paper, 1996; Shine, 1996). In 1994, we conducted an initial study of group medical practices of three or more doctors; we completed a later study in 2003 to obtain a longitudinal picture of the IT services used by these private practices. While this is not yet the definitive study of IT in group medical practices, it can be used to form ideas of the important issues and changes involved in IT usage in the smaller group medical practices over the past decade thus providing a needed benchmark to fill a gap in the existing literature and to start an intensive study of changes in IT usage.

In this article, we look at the differences in computer usage, computer facilities, sources of computer information, and the satisfaction with computer usage in group medical practices from 1994 to 2003. We compare these characteristics and the amount of time spent on business issues by size of practice and years in practice for group medical practices studied in 1994 and 2003.

BACKGROUND

There has been a great deal of research on IT as well as healthcare. Unfortunately, much of this has been of limited use to practicing physicians. From the computer science side of research, most work has been done on theoretical computing structures. This includes work such as neural net applications of drug/plasma levels (Tolle, Chen, & Chow, 2000) or parsing methods for biomedical texts (Leroy, Chen, & Martinez, 2003). When trying to overlap IT and near term healthcare concerns, the research has tended to focus on public policy (Magruder, Burke, Hann, & Ludovic, 2005) or on hospitals. This includes work done on hospitals and adoption of computer-based IT (Sobol et al., 1992; Sobol & Woods, 2000), as well as the impact of IT use on hospital staffing and payroll (Sobol & Smith, 2001). Other work has focused on the barriers to IT adoption within healthcare (*Economist*, 2005; Sobol, Alverson, & Lei, 1999).

On the other end of the spectrum, some research has been conducted on issues surrounding IT in private practices. This research has tended to be very specific in nature, however. This includes whether or not medical practices should hire an IT person or outsource (Lowes, 2005) or the use of electronic billing systems by private practices (Burt, 2005). Other research tends to focus on a hot technology that is currently being embraced such as electronic medical records (Miller & Sim, 2004; Palattao, 2004). What is lacking is an overall benchmark or "snapshot" of overall IT use by private practice physicians. That is the goal of this research.

METHODOLOGY

In the summer of 1994, a mail survey was sent to a sample of 270 multiple physician groups within Maricopa County, Arizona, who were chosen from lists of a value-added reseller. These practices were medical groups containing three or more physicians. A total of 65, or a response rate of 24%, of usable replies were received. This is a good response for a mail survey. In the summer of 2003, 54 physicians were surveyed in group practices of three or more in the Arlington/Mansfield area of Tarrant County, Texas. The surveys were