Sustaining Healthcare Through Waste Elimination: A Taxonomic Analysis with Case Illustrations

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ABSTRACT

The growth in U.S. national health expenditures (NHE) has continuously outpaced its Gross Domestic Products (GDP) growth since 1997 and this trend will continue with a 2.1% annual gap for the next decade (RAND, 2010). This nonstop healthcare cost increase make healthcare one of the most urgent issues in USA. Concurred by this study, the key factor that drives up the healthcare costs is waste. In this paper, a taxonomy on the root causes of healthcare waste is developed with a corroboration on why healthcare waste could be eliminated through effective use of health information technology (HIT). Furthermore, real world cases are used to highlight the research findings that waste can be avoided by: (a) recognizing the precursor of each potential waste, (b) examining business processes using defined detection criteria, and (c) implementing HIT systems that support efficient information sharing among all healthcare stakeholders. Finally, recommendations for implementing IT enabled healthcare management systems are presented.

Keywords: *Cost Containment, Fraud, Health Information Technology (HIT), Healthcare Costs, Healthcare Waste, Root Cause Analysis, Taxonomy*

INTRODUCTION

The United States of America (US hereafter) has a serious problem of skyrocketing healthcare costs. Currently, the US has the highest *Per Capita Spending in Health* ($8,160 in 2009) in the whole world. The annual *National Healthcare Expenditure*, as a percentage of the Gross Domestic Product (GDP), is also the highest among the industrialized countries (World Health Organization, 2009). The continued annual growth of healthcare expenditures has outpaced economic inflation and the GDP growth. It is expected that by 2018, more than

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20% of the GDP will be spent for healthcare (Sisko et al., 2009).

While many health care issues (e.g., care quality, access to care, evidence-based practice, standards of care) have been raised by the public and studied by academia over the past few decades, one most urgent issue with critical concerns is healthcare cost containment. Questions such as "Why have healthcare costs gone so high?" "Can healthcare costs be controlled?" or "Can healthcare costs be contained without compromising quality?" have been frequently asked since 1980 (Dalen, 2010; Liebowitz, 1994; Weinberger, 1980). Yet, to date, these questions remain unanswered. The continued increase in healthcare costs has not only made U.S. firms less competitive but also forced them to go bankrupt (Himmelstein et al., 2009; James & Bayley, 2006). Furthermore, the high insurance premiums have also driven 45 million US residents to become uninsured. This in turn makes *healthcare reform* one of the most urgent tasks for the US. The US Congress passed the *American Recovery and Reinvestment Act* of 2009 (The United States 111th Congress, 2009) and President Obama signed into law the historical *Healthcare Reform Bill* on March 23, 2010. Now, one of the most popular questions in healthcare is "Can healthcare be reformed and made affordable for the public?" Due to the multifaceted and complex nature associated with healthcare, there exist multiple answers, depending on one's perspective (e.g., economics, sociology).

To date, many studies have been conducted to analyze causes that drive up the healthcare costs and to explore possible ways to control healthcare expenditures (Dalen, 2010; Delaune & Everett, 2008; James & Bayley, 2006; Kelly & Fabius, 2010). While existing findings are meaningful, more concern is focused on the escalating healthcare costs. This paper revisits the "healthcare costs issue" with an aim at answering the following two questions:

Q1: What actually happened to the skyrocketing healthcare costs? What are they and how did they occur?

Q2: Can we contain the runaway healthcare costs? If yes, how and what can we do?

With little doubt, findings for Q1 substantiate our knowledge about the contents of healthcare expenditures and subsequently help us identify root causes of healthcare cost increase and seek possible answers for Q2. In this paper, details of healthcare expenditures are analyzed using data published by the Centers for Medicare and Medicaid Services (2010). Concurred with early studies (James & Bayley, 2006; PriceWaterhouseCoopers, 2008), our research confirms that "waste" is the key factor that drives up healthcare costs, for which a taxonomy on root causes of waste is developed. Our study further highlights that via an integrated fully-informed HIT system waste can be effectively avoided (i.e., reduction of healthcare expenditures) without compromising healthcare quality while maximizing the benefits of all stakeholders involved in full-cycle healthcare as addressed by Porter and Teisberg (2006).

HEALTHCARE COSTS REVIEW

In less than fifty years, US National Health Expenditures (NHE) has grown from $27.5 billion (i.e., 5.2% of GDP) in 1960 to $2,472 billion (i.e., 17.6% GDP) in 2009. In other words, compared to fifty years ago, US citizens have tripled the money spent on healthcare, but still this has not kept pace with the skyrocketing costs. As reported by PricewaterhouseCoopers (2009), in the last five years, health insurance premiums have increased four times faster than wages. Though the recent growth may be tempered by the economic recession, medical costs (i.e., cost for acquiring medical services) will continue to increase by 9% in 2010. Yet, there are more disparaging facts related to healthcare costs: (a) nearly 50% of all business bankruptcies declared in 2007 were related to healthcare cost issues (Himmelstein et al., 2009); (b) 1.5 million families lose their homes to foreclosure every year because of high medical bills (Robertson et al., 2008); (c) if costs are not