

Chapter 88

Building Intelligent Systems for Paying Healthcare Providers and Using Social Media to Detect Fraudulent Claims

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ABSTRACT

Using an interpretive case study approach, this paper describes the data quality problems in a regional health insurance (RHI) company. Within this company, two interpretive cases examine different processes of the healthcare supply chain and their integration with a business intelligence system. Specifically, the first case examines RHI's provider enrollment and credentialing process, and the second case examines the processes within the special investigations unit (SIU) for investigating and detecting fraud. The second case examines DIQ issues and how social media can be used to acquire evidence to support a fraud case. In addition, the second case utilized lean six sigma to streamline internal processes. A data and information quality (DIQ) assessment of these processes demonstrates how a framework, referred to as PGOT, can identify improvement opportunities within any information intensive environment. This paper provides recommendations for DIQ and social media best practices, and illustrates these best practices within this real-world context of healthcare.

INTRODUCTION

Organizations rely on data for a multitude of applications: customer service and relationship management, decision making, and regulatory compliance. There is currently a push specifically in healthcare to be smarter about its management of key performance outcomes, as well as to actively investigate fraud

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and potential fraud. Organizations are beginning to search for methods to deliver information to decision makers in more intelligent ways. A desire to lower costs and improve patient outcomes is driving this need for more intelligent data. Therefore, one option is to use business intelligence (BI) and/or collective intelligence (CI) to form the heart of any system that delivers organizationally sustaining data to providers and payers so they can make decisions that positively impact patient and service outcomes, and lower costs.

The challenge is to convince administrators, clerical staff, clinicians and physicians to buy-in to the importance of integrating previously disparate data to create a real-time view of the relationship between a patient, the provider, and the payer or payers. This article focuses on BI and CI systems that support healthcare, and the data and information quality (DIQ) issues that are inherent in any environment that is information intensive. These systems have tremendous potential to impact healthcare, from multiple perspectives – patients, providers and payers. From a patient's perspective, BI can provide clinicians treatment and immunization recommendations that are preventative in nature, improving both diagnostic accuracy and better implemented care plans. Billing is critical in today's healthcare environment; providers transmit claims to multiple payers, and payment denials are common. BI dramatically improves data and information quality. Therefore, from the provider's perspective, IT professionals can streamline the complex billing process using BI. From a payer's perspective, a better connection to providers and a more intelligent way to enroll and credential them will reduce claims adjustments and disputes. CI has the ability to systematize the discovery of fraud – both provider fraud and member fraud.

This article provides a brief literature review of healthcare, business intelligence (BI), and collective intelligence (CI), as well as data and information quality (DIQ), followed by a brief summary of fraud prevention, deterrence, detection and response. The article then examines two cases that make the point that BI and CI are reasonable approaches to managing key healthcare performance outcomes, including early detection of fraud. The first case details the process that a payer performs to enroll and credential a healthcare provider. The second case examines a special investigations unit's process for determining if fraud has occurred, independent of whether it was committed by a provider or member. The objective in this second case was to streamline the process by utilizing lean six sigma to eliminate waste and explore fraud red flags using social media so that more investigations, using the same resources, can be processed within a given time period. We conclude with recommendations for using BI and CI most effectively in a healthcare setting.

LITERATURE REVIEW

Healthcare

As defined by the U.S. Department of Health and Human Services, a healthcare provider is “a provider of services as defined in §1861(u) of the Act (Social Security Act), a provider of medical or health services as defined in §1861(s) of the Act, and any other person or organization who furnishes, bills, or is paid for healthcare services or supplies in the normal course of business.” (U.S. Department of Health and Human Services, 2001) Until recently, healthcare providers were paid when sick people sought treatment. Quality and outcomes were not rewarded, but rather providers were paid based on how much was done to treat the patient. In the future, healthcare providers will be given financial incentives to keep people well, and quality, not treatment, will matter a great deal. This shift from volume to value will require a rethinking of treatment plans and a shift towards preventative care.

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