LOOKING AT HISTORY TO REDUCE CURRENT HEALTHCARE COSTS

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Key Words: accounting, healthcare, three-way match, purchasing, patient involvement, fraud, cost control, medical

JEL Classification(s): M38, I13, I15, I18

Abstract

When the history of healthcare and insurance in the US is examined, it is clear the patient has become more and more removed from the payment process. Insurers including Medicare moved to pay providers more quickly and eliminated pre-payment by the insured customer beyond a typical small co-payment. The patient is not clear regarding costs and lacks incentives to control spending. The payment process has deviated so far from the traditional accounting three-way payment match that fraud and other issues have surfaced in billing and payment error. This article presents suggestions from accounting's three-way match process used in purchasing to carefully outline problems and challenges in US healthcare. Discussion and ways to adapt the popular

accounting framework for healthcare are presented within the historical context of the changing healthcare reimbursement and payment process. Areas for future research are also included.

INTRODUCTION

Healthcare in the US accounts for more than 17.4 percent of GDP annually ($2.9 trillion) according to the latest data from the National Center for Health Statistics (NCHS, 2013). Sources of inefficiency abound in the US Healthcare system from lack of price information for patients to administrative complexity of coping with paperwork and insurance requirements (see Fineberg, 2012 for a list of inefficiencies). As healthcare insurance has evolved over the past fifty years, the patient has been eliminated from the payment process to speed reimbursement to physicians and hospitals. This has resulted in the loss of basic payment control.

This article examines the impact of the current payment process for healthcare costs as well as possible linkages to rising costs, billing errors, and even fraud, and presents solutions to improve the process, including an increase in patient participation in the payment process. The article highlights how the history of health insurance and declining patient participation in approving payments evolved, as well as how the insurance system model compounds the problem. Business entities that provide health insurance to employees should be interested in potential cost savings from the suggested improvements.

US HEALTHCARE COSTS

Health insurance has been a popular component of compensation by US employers since World War II (WWII) (Morrisey, 2008; Starr, 1982). Interestingly, 17.4% of GDP is spent on healthcare in the US as compared to the Organization for Economic Cooperation and Development (OECD) average of only 9.3% (OECD Health Data, 2014). Most of the OECD countries

provide national healthcare, while the US relies on independent healthcare providers and a third-party payment system. From 1960 to 2000, US healthcare costs grew at a rate of more than 10% per year, contributing to the increase in healthcare as a percentage of GDP, from 5% in 1960 to 17.2% in 2012. To compare World Bank data for the US and other countries, see http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS. Annual healthcare expenditures per capita increased from $147 in 1960 to $9,255 per capita as of 2013. Efforts to reform healthcare and reduce the growth of healthcare costs by past Presidents Nixon, Carter, and Clinton were not successful (Davis, 2009). President Obama's Patient Protection and Affordable Care Act (PPACA) signed into law March 23, 2010 is an attempt to reform the health insurance industry by providing access to healthcare by many uninsured individuals (see http://obamacarefacts.com/obamahealthcare-summary/)

Yet, even under the PPACA, in today's healthcare environment, providers direct bill third-party payers for services without the patient reviewing or verifying the accuracy of the charges. Since patients generally do not question charges billed to third-party payers such as Medicare or insurance companies, a gap in the control over such charges exists. The Office of Inspector General (OIG) recently reported that approximately 21% of Medicare and Medicaid charges for evaluation and management services from physicians were incorrect based on their review of 2010 charges (Daly, 2014). This article suggests that third-party payers could reduce the risk of making improper payments by increasing the involvement of patients prior to payment, similar to the three-way match process used by many accounts payable departments of business entities.

THE ACCOUNTING THREE-WAY MATCH

In traditional procurement operations, a purchase requisition is prepared and approved by the requesting

organization. The requisition is then sent to the Purchasing Department charged with the responsibility of acquiring the product or service from an approved supplier. The Purchasing Department then sends a purchase order to the selected supplier and a copy of the purchase order is also sent to the Accounts Payable group in the Accounting Department. When the item is received, an employee other than the requestor verifies and acknowledges receipt, and forwards a copy of the approved receiving report to the Accounts Payable group.

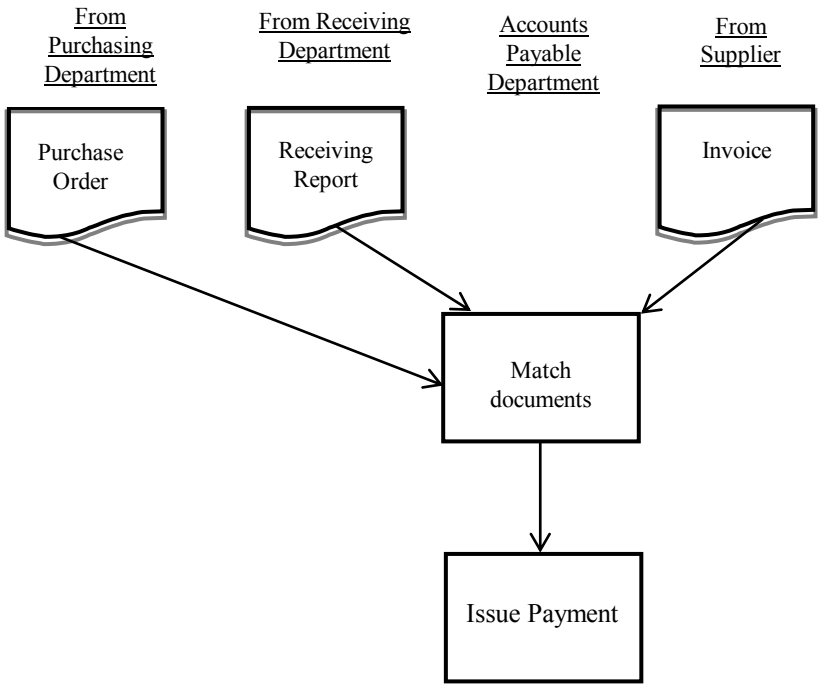
The supplier sends a request for payment to the Accounts Payable group in the form of an invoice. Before making the payment, the Accounts Payable group matches the purchase order, receiving report, and invoice for accuracy and agreement. Any discrepancies in amounts, quantities, or approvals are investigated and reconciled before the invoice can be properly posted to the accounting records and subsequently paid (Dobler, Lee & Burk, 1984). Accounting refers to this document matching process as "the three-way match" as shown in Figure 1. The three-way match is an element of the internal control system to detect unintentional errors and fraud, and serves to safeguard an organization's assets (AP Fraud 2010; Schaeffer, 2008).

In some firms, a higher level of management approval may be required for expensive purchases above a certain set dollar limit (for example, above $500). Without a verification process in place, employees could potentially order goods without a purchase order, create a purchase order after the invoice arrives, or falsely attest goods have been received before verifying an order had been placed. There is also potential for a four-way match by introducing a cross-check with an inspection report.

These same review and approval processes are also important for consumer purchases. When individuals order products, they should verify that the goods received match their order. Organized individuals might match the receipt (often e-mailed for on-line purchases) with monthly credit card statements to verify the correct amount was charged before they pay their bill.

Services are similar in that customers verify they received the agreed upon work (i.e., a haircut, landscaping, cable television, or

Figure 1. Traditional Accounting Three-Way Match of Purchase Order, Receiving Report, and Invoice by Accounts Payable Department Prior to Payment

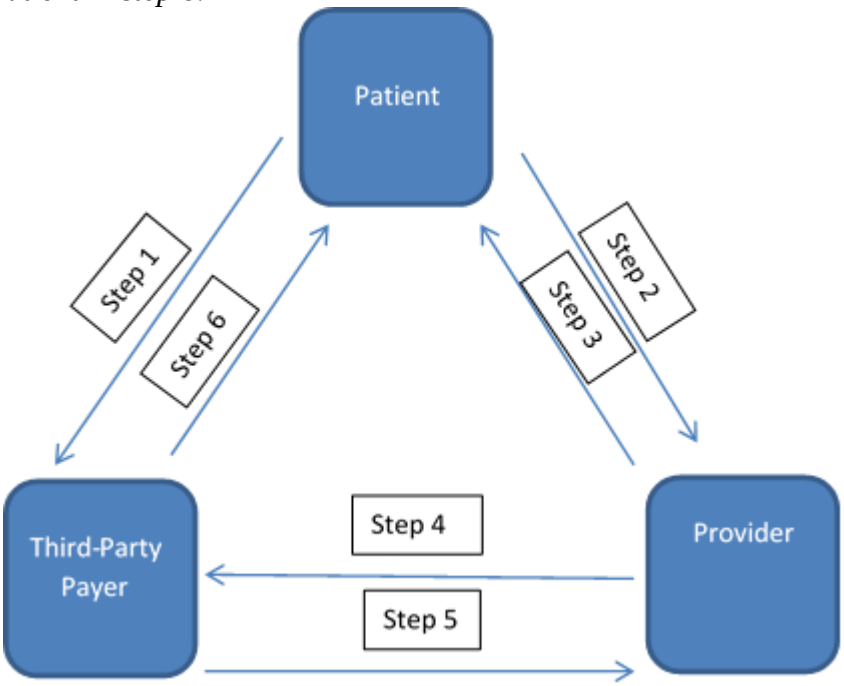


electricity) before they pay the bill. Recipients of healthcare services could similarly participate in the payment process by reviewing and concurring with billed hospital and physician charges before payments are issued by third-party payers.

Yet the predominant healthcare payment process today allows the service provider to bill a third-party insurer directly and allows the insurer to pay directly, without confirmation from the consumer that the service was indeed provided and that the amount billed was correct, as shown in Figure 2.

Figure 2 – Standard Interaction of Patient, Provider, & Insurer

Note: In step 5 the insurer pays the provider then notifies the patient in step 6.



Step 1 – Patient obtains insurance coverage

Step 2 – Patient requests services from provider. At this time, the provider obtains the necessary information to bill the insurer after services are provided. Patient also pays any co-pays if any.

Step 3 – Services are provided by the physician or hospital to the patient

Step 4 – Provider bills the insurance company

Step 5 – Insurance company pays the provider

Step 6 – The insurer notifies the patient of billed amounts paid and not paid

Instead of the patient participating in the process, billing and verification is conducted using electronic data interchange (EDI). The provider bills the insurance company, the insurer processes the bill using sophisticated analytical tools and either remits payment or indicates that the charges are not proper or are excessive according to codes for diagnostic related groups (DRG) (a classification system designed in 2007 to group medical services into standard practice categories for reimbursement), will not be paid. After allowable payment has been made, patients are flooded with statements that notify them of the amount paid, reconcile the charges with allowable charges under their insurance plan, update the deductible and any co-payments, and indicate the amount that the insured customer is responsible to pay. The patients usually pay their co-pays and their portion of the charges when they entered the provider's office, but the reconciliation or explanation of benefits (EOB) (statement of electronic payments explaining what medical treatments and services were paid for the patient) arrives weeks or months later. Once payment has been made, any changes are almost impossible and errors are very difficult to correct.

Currently, claims from physicians' offices can be submitted via paper or electronically, but Federal rules require that at least 80% of all claims must be submitted electronically to meet meaningful use requirements. Medicare/Medicaid will generally *only* accept electronic claims. In most cases, providers utilize a clearinghouse to audit the data and correct errors before submitting claims to third party payers. The clearinghouse also confirms the terms of the insurance for each claim, then distributes claims to the various payers. The clearinghouse is dependent on the data received from providers and insurers. The clearinghouse does not confirm claims with patients. However, sending a notice to patients for confirmation of the services could be easily performed as part of the review and screening process.

Big data and predictive analytics are used by Medicare and large insurance companies to screen claims and reject claims that

appear to be erroneous or inappropriate. US patents are filed every year that describe methodology and systems to control errors and fraud in health care billing. While these processes will be necessary with the data driven systems being implemented, a simple control implemented by involving the patient in the billing process can help reduce errors and frauds at very little incremental cost. Parente et al. (2012) note use of a fraud and abuse analytical detection technology containing a predictive algorithm has been developed for use by Medicare to identify and determine the extent of abuse and fraud and they estimate some $18.1 billion in the Part B physician program of Medicare alone could be saved from the use of the technology. Liu (2013) agrees antifraud approaches today incorporate data mining, machine learning and Geo-location information to detect fraud. However, all these data analysis systems happen after services and payments have been made. Other benefits that this would drive include helping people to better understand their own healthcare services and appreciate the cost.

HISTORY AND EVOLUTION OF THE US HEALTHCARE PAYMENT PROCESS

The US healthcare system has moved away from the three-way match to address individual issues without considering the system as a whole (Blumberg & Davidson, 2009; Starr, 1982). The creation of insurance addressed a specific need of covering large, major medical bills; but solving one issue resulted in unintended negative consequences.

A brief review of healthcare's history shows the transition from the pre-payment verification process. Initially, doctors provided services based on the needs of the sick and billed based on the patient's ability to pay (Starr, 1982). Physicians and their patients had a direct interactive relationship through the service provided by the physician to the patient, and payments were made

directly by the patient to the physician with no third party intermediary involved.

Advances in medicine made possible through costly research and development extending the boundaries of medical technologies have not only cured diseases that previously resulted in death but also increased life expectancies. In short, the ability to diagnose and treat a growing number of ailments led to a greater perceived need for medical services. Not only were more medical services demanded, but the services were more extensive, specialized, and expensive.

The Emergence of Insurance

The increased demand for and costs of medical services created an opportunity for insurance to play a greater role in the delivery of healthcare. Insurance companies began collecting premiums so funds could be reallocated to individuals with extended or debilitating illnesses ensuring they would not be financially devastated by their health conditions. Initially, insurance was used to mitigate catastrophic losses from major acute illnesses (i.e., cancer) rather than pay for preventive services (i.e., wellness visits) and large deductibles and co-pays were common. Providers would bill the patient who would pay the bill then seek reimbursement from their insurer. In many cases, the physician or hospital would experience a significant delay between the time of service and ultimate receipt of the payment because patients could not afford to pay the provider until they first received reimbursement from their insurance company. To aid in providers being compensated on a timely basis, health insurance companies agreed to speed up payments to the providers by paying them directly, removing the patient from the payment process. During this period, insurance plans consisted of three types: (1) conventional indemnity plans (without primary care physicians, networks, referrals, and other restrictions); (2) pre-paid plans, operating much like managed-care organizations (MCOs) or health maintenance organizations (HMOs) today (care arranged and

covered by doctors who have agreed with a contract to treat patients by the insurance restrictions and policy guidelines); and (3) direct-pay plans (Morrisey, 2008).

Increased Employer Involvement

During the 1940s, employers began to include healthcare insurance in employee compensation packages, at least in part because of the prohibition against wage increases during WWII. Tax laws encouraged employers to provide healthcare insurance in lieu of additional compensation. From an income tax standpoint, healthcare insurance is asynchronous. Health insurance costs are deductible by the employer but are a non-taxable benefit to the employee. The percentage of the US population covered by healthcare insurance grew rapidly as employer-provided insurance became more commonplace, and the number of insured grew from 9% of the US population in 1940 to 57% in 1950 (Levitt et al., 1998). During the 1950s and 1960s, healthcare costs were somewhat stable and health benefits for retirees were not significant liabilities. Most companies accounted for these costs on a pay-as-you-go basis, so the total cost of healthcare as an employee benefit was not obvious, and received little attention.

The Creation of Medicare

Medicare and Medicaid were signed into law July 30, 1965 to provide health coverage to individuals age 65 and older, indigent children, and persons with disabilities. More than 19 million people enrolled in Medicare when implementation began on July 1, 1966. After Medicare was implemented, healthcare cost became a significant cost to the federal government. The federal government via the Centers for Medicare and Medicaid Services (CMS) (www.cms.gov) joined other third-party payers, including private insurers and employers, who became increasingly interested in controlling costs. Total Medicare spending today including doctors, drugs and hospitals is approaching $600 billion per year (Abelson & Cohen, 2014).

Medicare adopted the Prospective Payment System (PPS) to replace the typical fee-for-service coverage. Instead of simply reimbursing consumers for the costs incurred, the new process reimbursed providers for reasonable and customary expenses based on averages, rather than actual billings and paid according to a schedule of diagnosis related groups (DRGs). Private insurers followed suit.

During the 1990s, direct reimbursement to providers rapidly began to replace the conventional indemnity insurance as managed care plans grew in popularity. These managed care plans paid providers on a capitated basis instead of a fee-for-service basis, and covered some 60% of the US population by 1996 (Levitt, et al., 1998). Employers were changing the form of plans offered to employees to control costs by dropping the fee-for-service indemnity plans in favor of managed care plans. Indemnity plans quickly declined from 49% of employer provided plans in 1993 to 18% in 1996 (Gabel et al., 2000). According to the *Employer Health Benefits 2014 Annual Survey* sponsored by the Kaiser Family Foundation and the Health Research & Educational Trust, the percentage of employers offering conventional plans had declined to less than 1% by 2009 (Kaiser Family Foundation, 2014; see http://kff.org/report-section/ehbs-2014-summary-of-findings/).

TODAY'S PATIENT PROTECTION AND THE AFFORDABLE CARE ACT

As insurance products continued to evolve, the health services consumer was even more disconnected from the payment process. Appendix A displays a timeline of significant events in the evolution of the healthcare payment process. The Patient Protection and Affordable Care Act (PPACA) was signed into law on March 23, 2010, and confirmed, with a few exceptions, by the Supreme Court in 2012 (see http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf). While the ACA theoretically reforms health insurance without affecting

healthcare delivery, the system still depends on third-party reimbursement.

Receiving less attention were the PPACA bill's provisions aimed at controlling healthcare fraud (U.S. PPACA, 2010). Efforts to reduce losses caused by healthcare fraud generally involve enforcement and collection efforts concerning perpetrated frauds that have been identified (Krause, 2010). The ACA strengthens the penalties for crimes involving healthcare fraud, intending to reduce fraud through deterrence. While effective in deterring fraud, these rules do not address financial controls that could prevent fraud before it ever occurs.

The Office of Inspector General of the Department of Health and Human Services serves to watch Medicare fraud and abuse has recommended greater review of physicians who were Medicare's highest billers and to closely review the use of high-paying DRG codes, particularly when used in the emergency room. Abelson and Cohen (2014) note that the recent release of data from Medicare notes a small fraction of the 880,000 healthcare providers accounted for almost a quarter of the $77 billion paid out to them. As more data is available from Medicare, it will be the subject of intense review by fraud investigators, health insurers, and other researchers.

The Moral Hazard Disconnect Remains

One of the challenges of insurance remains the moral hazard associated with the insurance that reduces consumers' incentive to control costs, causing another unintended consequence (Morrisey, 2008). Since patients are no longer responsible for all or most of their cost of healthcare, there is a tendency to ask for a greater amounts of care than they would consume if they had to pay for all of the costs themselves. This is the reverse of the common business phrase of having "skin in the game" or having to incur a monetary fee for care beyond a small co-pay. Having to pay a significant amount for care focuses patients on more cautious spending.

Today's disconnect in the patients' responsibility for healthcare payment increases the magnitude of the risk associated with moral hazard. The payment control process is now missing two steps provided by the accounting three-way match process, the traditional control in most accounts payable systems. First, patients do not know what they are purchasing, and second they do not know the cost. Healthcare services are exceptionally complex. Many patients do not understand the procedures or treatment they are receiving and lack the sophistication or medical training to know whether the correct services were indeed delivered. Although patients receive reports or statements from insurance companies about payments made to healthcare providers (explanation of benefits, or EOB forms), they have little incentive, knowledge, or interest in carefully monitoring what has been paid on their behalf. Patients focus solely on their deductible or their out of pocket costs. As a result, the billing and payment is handled between the third-party payer and the provider without the patient knowing how much is actually paid to the provider. The patient does not have an opportunity to make an informed decision about the value of services received.

The lack of consumer knowledge of healthcare accelerates the risk and increases the cost of this moral hazard. The complexity of the medical services being acquired and the lack of sophistication of the patient enable providers to deliver more than is necessary and bill more than is proper. In most cases, providers are ethical and deal with patients fairly; however, the gap in understanding by the service recipient creates opportunities for mistakes and potentially for fraud.

The Cost of Healthcare Fraud

Healthcare fraud was recognized as a significant cost and the Health Insurance Portability and Accountability Act (HIPAA), adopted in 1996, contained anti-fraud provisions. While healthcare fraud may be perpetrated on patients/consumers as well as insurers

and providers (Byrd, Powell, & Smith, 2013), most federal control efforts are directed at fraud perpetrated on third-party payers, i.e., Medicare, Medicaid, and private-insurers. Although many factors contribute to healthcare fraud, erroneous or fraudulent billing from the provider to the insurer has been facilitated by eliminating the patient from confirming and approving the payment *after* services were delivered.

The Association of Certified Fraud Examiners' (ACFE) *2014 Report to the Nations on Occupational Fraud and Abuse* noted the top three types of healthcare fraud involved corruption, billing, and expense reimbursements (http://www.acfe.com/rttn-victim-organizations.aspx). The ACFE's report cited lack of internal controls, followed by override of existing internal controls, and lack of management review as top weaknesses. Departments to blame in more than 50% of the reported cases of healthcare fraud were accounting, operations, and sales. The true extent of fraud is difficult to quantify since much fraud may not be reported because it is not detected or it is not reported to avoid negative publicity.

Requiring patient approval before payment could help reduce several "provider" frauds. The basic fraud or error is simple overbilling by providers for services that were not performed (submitting claims for services not provided). More subtle fraudulent billing schemes include unbundling claims, double-billing, misrepresenting the frequency, description or duration of services provided, and upcoding or miscoding. Requiring patient approval before payment should reduce these types of inappropriate billings.

OPPORTUNITIES FOR IMPROVING US HEALTHCARE

There are numerous opportunities to improve the payment process for healthcare services. The potential improvements that follow are specifically related to addressing issues surrounding the lack of three-way purchasing match in healthcare.

Increase Healthcare Consumer Sophistication

The construct of consumer sophistication was developed by behavioral researchers and has been applied in marketing and business strategy (Estelami, 2014; da Gama, 2011; or Newell et al, 2011). Consumer sophistication represents a cognitive ability to make purchasing decisions, defined as the ability to discern quality and price differences between alternative competing products. Sproles, Geistfeld, and Badenhop (1978) described consumer sophistication as "an individual's aggregate level of acquired knowledge, experience in purchasing products, and skills which are relevant to being an efficient decision-maker" (p. 91). Others refined and extended the concept (Barnes & McTavish, 1983; Hirschman, 1983; Spiller & Zelner, 1977; Titus & Bradford, 1996) and added the requirement that consumers actually participate in the purchasing decision and benefit from their knowledge.

Byron Hollis, the National Anti-Fraud Director for Blue Cross Blue Shield Association, emphasized that increased consumer knowledge was key to mitigating healthcare fraud (Carozza, 2006). The three-way match process in a typical business is applied by employees that understand the quantity, quality and prices of products received. The three-way match process in healthcare, however, is frustrated by the lack of consumer sophistication by those receiving the service. Consumers pay attention to purchases that cost them the most money. High deductible plans may offer a solution and encourage customer involvement thus increasing customer sophistication.

Increase High Deductible Insurance Policies

During the last decade, the number of high deductible plans, also called consumer-driven plans, has increased among employers offering health insurance to their employees (Haviland et al., 2012). These plans have high deductibles and are often combined with Health Savings Accounts (HSAs) managed by employees. A recent RAND Health Care Policy Center study

(Haviland et al., 2012) determined that half of employer healthcare plans are consumer-directed. The RAND study noted that these plans could save as much as $57 billion annually from the greater customer involvement. Since consumers are paying for more of the services out of their own pockets before insurance pays, demand for certain services has decreased (Haviland et al., 2012). Related benefits of the increased involvement by consumers in the payment process could be more sophisticated consumers and a reduction of the moral hazard effect. Greater involvement in the payment process may begin to reverse consumers' disconnect from the process which may increase consumer oversight and control.

Institute Pre-Payment Patient Approval

When compared to the traditional three-way match process, healthcare reimbursement appears to lack another key element, a knowledgeable recipient who approves the payment after services are delivered and prior to paying the provider. Insurers attempt to verify services have been provided and billed properly before payment, but rely on systematic controls that do not include payment approval by the recipient of the services (CMS, 2014). From earlier references, the lack of internal controls, i.e., a three-way match, can significantly contribute to the potential for billing errors. The ideal goal might be for the payment of healthcare services to be similar to more traditional payment approval process. However, the dissimilarities of the processes present challenges. The three-way match process in a typical business environment is applied by employees who understand the quantity, quality, and prices of products received.

To improve the payment process and reduce overpayments from unintentional errors or fraud, an opportunity exists to have the patient involved in the receipt acknowledgment step, prior to payment being made to the provider. A common method of involving the patient is for the insurance company, as the payer, to send a description of the services paid for and the payment

rendered as notification to the patient. However, the notification normally occurs after payment by the insurer to the provider.

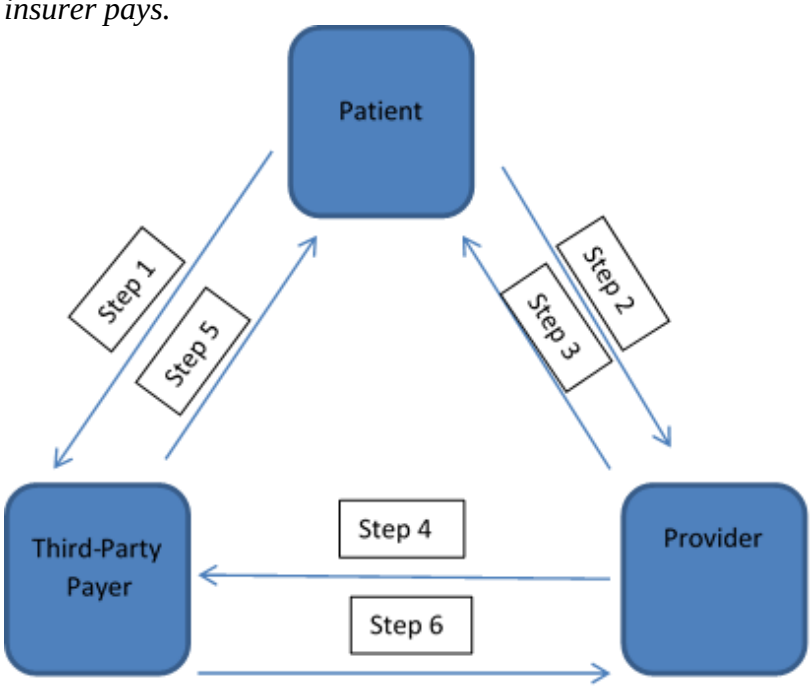
Some patients closely scrutinize these notifications, but others do not, which provides an opportunity for an inappropriate or inaccurate bill to be paid by the insurer. A possible alternative which would reduce these inappropriate payments is to have the patient confirm receipt of the service, and confirm to the payer that the billing appears appropriate. Including the patient in the process should be relatively easy since most, if not all, reimbursements are processed electronically. At the point when the provider submits the bill to the insurer, the patient could also receive an electronic copy of the bill. The insurer would not pay until the patient indicates that they did indeed receive the service that was billed. This receipt acknowledgement would take place before payment is made to the provider as shown in Figure 3.

Electronic communication could be used to secure a patient's payment approval without significantly slowing payments to providers. With health insurance now required, most people will be covered by Medicare or another form of insurance. Providing an incentive, such as reduced deductibles on that element of service or reduced premium payments, would encourage responses by the patient to the insurer.

Many healthcare providers and healthcare organizations use the accounting three-way match for purchasing supplies and materials they use in their hospital or practice (Bueler, 1999). Use in healthcare was also mentioned at the Healthcare Information and Management Systems Society meeting several years ago as a way to reduce medication error using RFID and sensors, bar codes and even software to check on drug conflicts and work with drug dispensers to reduce medication errors (Healthcare-Three Way, 2008). A variation on the accounting three-way match for healthcare service delivery might selectively be utilized for costs greater than a certain dollar amount. To gain efficiency, the process can be automated and refined in other ways ("How AP. . . ," 2008). Providers would potentially experience added time for

payments, but verifications using technology, bar coding, and even smart

Figure 3 – Proposed Interaction of Patient, Provider, & Insurer
Note: Changes in steps 5-6. The insurer obtains confirmation from the patient that services were performed and the provider submitted appropriate charges for reimbursement. Then the insurer pays.



Step 1 – Patient obtains insurance coverage
Step 2 – Patient requests services from provider. At this time, the provider obtains the necessary information to bill the insurer after services are provided. Patient also pays any co-pays if any.
Step 3 – Services are provided by the physician or hospital to the patient
Step 4 – Provider bills the insurance company

Step 5 – Insurance company obtains confirmation of services from the patient
Step 6 – The insurer pays provider

phone applications (apps) can potentially be adapted for health care uses and speed the approval process. The move to bundled payments or a single payment for a group of related services, such as a heart operation or knee replacement service, can improve efficiency and eliminate billing duplication.

While there is call for a single-payer system to reduce US healthcare costs that moves beyond the Affordable Care Act (Weisbart, 2012), adopting small but significant changes could work to reduce costs today. Patents (see http://www.google.com/patents/US8639522) for transaction profiling have been suggested as an approach for detecting potential fraud and abuse in healthcare billing. Researching healthcare fraud has also been an on-going investigation for the US Internal Revenue Service. Examining the various reports of fraud investigations too (see http://www.irs.gov/uac/Examples-of-Healthcare-Fraud-Investigations-Fiscal-Year-2014) can lead to solutions to detect and more importantly prevent abuse.

CONCLUSION AND AREAS FOR FUTURE RESEARCH

Insurers and billing organizations may be well served by re-visiting the traditional three-way match process, once again requiring patients to verify that billed products or services have been received. Perhaps insurers went too far in eliminating patients from the payment process in a mission to speed payments to providers. The industry should consider increasing the involvement of patients by having them review and approve payments before actually sending payments to providers. Such controls may play an important role in minimizing erroneous and fraudulent billing for healthcare services and make consumers more aware of healthcare costs versus their benefits.

Operationally, a match process could be initially selectively utilized for prescribed dollar amounts (i.e., services over $5,000). The healthcare landscape will continue to change, which will require revisions to internal control processes. However, before changes are implemented, the effect of the change moving further away from the three-way match must be considered and avoided to the extent possible. For the present, an increase in patient participation in the payment process appears to be a step in the right direction. Enhancements to the payment processes which could play a role in controlling healthcare costs should be of interest to all involved including employers, providers, patients, the government, and third-party payers. Areas for future research include the role of accounting and interaction with the healthcare system and suggestions of other accounting tools and techniques used in various industry settings or international arenas that might benefit the US healthcare community.

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Appendix A - Significant Health Care Trends

	1950	1960	1970	1980	1990	2000	2010	2012
Total Health Expenditures (Billions)	$12.7	$27.4	$74.9	$255.8	$724.3	$1,377.2	$2,600.0	$2,793.4
Population (millions)		186	210	230	254	282	309	313
Per capita health care cost	n/a	$147	$356	$1,110	$2,854	$4,878	$8,417	$8,915
Percentage paid by private insurance	12%	23%	21%	27%	32%	33%	33%	33%
Percentage paid by private plus government sources	35%	43%	56%	69%	74%	79%	83%	83%
Conventional indemnity plans as a percentage of employer-provided health plans				73% (1988) (4)	49% (1993) (4) 27% (1996)	8% (4)	1% (5)	<1% (5)
Notes: (2) Pre-1950, insurance was limited to income replacement during illness or disability. 1929 - The Baylor Plan introduced a single-hospital pre-paid health plan. The Baylor Plan is generally considered to be the first healthcare insurance plan. 1940's Commercial health insurance gaining popularity (primarily indemnity plans) AHA begins applying the Blue Cross designation to plans that meet their standard Pre-paid plans for physicians and surgeon services emerge ("Blue Shield")		Most plans were "Major Medical" that protected against catastrophic healthcare costs (2) 1940-1950 Rise of employer-provided health insurance (2) 1960 - Blue Cross plans merged to form "Blue Cross" a tax-exempt hospital insurance organization (2) 1965 - Medicare and Medicaid enacted (2)	Rise of "comprehensive plans" that covered normal health care costs (e.g. checkups) in addition to costs covered by major medical plans (2) 1971 - Blue Cross and Blue Shield merged (2)	1983 - Medicare introduced Prospective Payment System (PPS) (2)	1996 - HIPPA introduced new anti-fraud rules (2) Indemnity plans declined from 49% of employer provided insurance in 1993 to 16% in 1997 (2)	Employer-sponsored plans with deductibles exceeding $2000 grew from 3% in 2006 to 13% in 2013. Plans with deductibles exceeding $1000 grew from 6% to 31% during the same period. (5)	The rate of non-elderly insured declined significantly from 2007 to 2010 as a result of the increased number of unemployed who lost their employer-provided health insurance (5) 2010 - ACA added additional anti-fraud rules and increased funding for enforcement and recovery (7)	Conventional indemnity plans less than 1% of employer provided health plans (5) April 1, 2014 - ACA insurance exchanges have enrolled 8 million. (6)

Sources: (1) Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Bureau of the Census
The National Health Accounts, Health Care Financing Administration's Office of the Actuary
(2) Shi, Leiyu and Douglas A. Singh, Delivering Health Care in America: A Systems Approach, 4th Ed. Jones and Bartlett Publishers (2008)
(3) The Kaiser Commission on Medicaid and the Uninsured (http://kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population/)
(4) KPMG Survey of Employer-Sponsored Health Benefits (from Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2013)
(5) Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2013
(6) The White House, Office of the Press Secretary, FACT SHEET: Affordable Care Act by the Numbers, April 17, 2014
(7) U.S. Department of Health & Human Services, Key Features of the Affordable Care Act By Year, (http://hhs.gov/healthcare/facts/timeline/)