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Types of Hospital Frauds: Nature and Methods of Prevention

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Introduction

The recent outbreak of COVID-19 has pushed American hospitals to the forefront of daily news. It is evident that hospitals are vital to the well-being of Americans, and hospitals face significant financial challenges due to COVID-19. Healthcare fraud impacts both the public and private sectors. The costs of healthcare fraud are borne by all Americans: (1) insurance policyholders who pay higher premiums and out-of-pocket expenses while receiving reduced benefits and coverage; (2) businesses that have to pay more to purchase healthcare for their employees; and (3) taxpayers who have to pay more to cover healthcare expenditures in public health plans. In addition to creating monetary losses, healthcare fraud hampers the healthcare system, diminishing the resources available for legitimate healthcare needs (Ahadiat and Gomaa, 2018).

Fraud can occur in any business, but it is especially devastating when dollars that could be helping patients are padding the pockets of unethical fraudsters. The National Health Care Anti-Fraud Association estimates conservatively that health care fraud costs the nation about $68 billion annually—about three percent of the nation's $2.26 trillion in health care spending (NHCAA, 2017). Other estimates range as high as 10 percent of annual health care expenditure, or $230 billion (NHCAA, 2017). Another source states that healthcare related financial fraud and abuse continue to be a major problem: health care related financial fraud accounts for an estimated $58 to $84 billion per year in the United States (Shrank, 2019). It is possible that these percentages are understatements; Rosenbaum et al. (2009) hypothesized that the losses due to health insurance fraud could be sufficient to cover the currently uninsured population in the United States.

Healthcare fraud is often distinct from other industries' frauds due to the complexity and the collusion involved. Given the damage created by hospital frauds, prevention and detection are critical. Unfortunately, and as detailed below, detection of hospital fraud is rendered especially difficult by both the complexity of the schemes themselves, and the fact that some types of hospital fraud involve collusion among two or more parties. We study how to overcome these issues by first identifying the distinguishing features of the various types of hospital fraud, and then providing recommendations regarding strategies for prevention and detection.

Complexity

Hospital fraud is often masked by both complexity and collusion. The complex, indirect nature of healthcare revenue recognition allows fraud to go undetected for much longer than is typical in other industries. An important difference between medical services and other consumer goods or services is that the patient does not usually directly pay the doctor or "provider." Bills are paid by third parties, usually a governmental or private insurer. For example, consider the contrasting scenarios: First, consider the scenario where a customer orders a sandwich in a restaurant. The customer herself pays $6.57 for the specific sandwich she ordered based on the price displayed for that sandwich on the menu.

In contrast, consider the scenario where a patient gets an EpiPen in the Emergency Room for an allergic reaction. That service is translated into different, specific codes based on the medicine received, how long the patient was at the hospital, how many doctors consulted with her, etc. The codes are sent to the patient's insurance provider. The insurance provider pays a portion or all of that bill based on two predetermined contracts. The first contract is between the hospital network (provider) and the insurance provider. The second contract is between the insurance provider and the patient. Even if the

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insurance company disclosed how much the provider will be paid for that procedure (which is typically prohibited due to confidentiality), it would then need to be analysed along with the specific patient's healthcare history and coverage to give the patient an accurate price.

For example, if the cost of administering an EpiPen is $79 as determined by the provider network and the insurance company involved (Contract 1), then the $79 "claim" is paid by the insurance company on behalf of the patient to the doctor once the insurance company determines that the patient's individual contract (Contract 2) includes emergency services and that she has already paid a required $200 minimum in previous medical expenses for the year ("deductible"). (If the patient had only paid $175 towards her deductible this year, she would owe the doctor $25, and the insurance company would pay $54 [$79-$25]).

In reality, claims are not only checked for service eligibility and patient deductible amounts, but against coverage and procedure timing, full patient medical history, provider network, allowed providers, location of the service, federally mandated coverage requirements, allowed exclusions, and limits of the patient's employer insurance plan. Insurance companies act primarily as data processors, "bumping" claims up against annually changing rules from the government, employer/insurer agreements, and payment formulas. Many individuals have multiple insurers, which further complicates this process. The most common example of multiple insurers involves policyholders covered by Medicare and supplemental private insurance plans.

Claim processing is made more complex by the five-digit Common Procedural Terminology (CPT) Code and an optional two-digit modifier used to communicate from the provider to the insurance company. It can be difficult to detect the use of fraudulent billing code schemes designed to increase reimbursement. For example, in a news announcement by Department of Justice, a hospice owner was indicted for billing with Common Procedure Code 99233, a highly complex or detailed examination, on top of a daily per diem Medicare rate for the same service (DOJ, 2021). To detect this upcoding (using a code that charges more than necessary) scheme, an auditor would need to have knowledge of coding and billing.

Collusion

The prominence of collusion (the idea that multiple people work together to commit a fraud) in healthcare fraud has been evidenced in the literature. For example, Timofeyev and Jakovljevic (2020) showed that collusion is a significant factor in mental health industry fraud committed by medical providers. Likewise, Thornton et al. (2013) showed that collusion is an important factor in detecting fraud. One example of this would be collusion in providing medically unnecessary infusions in prescribing unnecessary durable medical equipment.

Fraud may be concealed through collusion among management, employees, or third parties (AICPA, 2021). Internal controls are the mechanisms, rules, and procedures implemented by a company to ensure the integrity of financial and accounting information, promote accountability, and prevent fraud. However, internal controls rely on each person serving as an independent check and balance. When people start working together, internal controls can become meaningless. For example, in New York, a recent healthcare fraud of collusion was uncovered where an ambulance operator and co-conspirators subjected patients to unnecessary ambulance rides that fraudulently billed Medicare and Medicaid $7M (DOJ, 2018). The scheme went on for four years without being prevented or stopped by external or internal auditors.

Auditing Standard (AS) 1001, *Responsibilities and Functions of the Independent Auditor*, states that "the auditor has a responsibility to plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud. Because of the nature of audit evidence and the characteristics of fraud, the auditor is able to obtain reasonable, but not absolute, assurance that material misstatements are detected" (PCAOB, n.d.). While auditing standards clearly charge auditors with detecting material fraud, audits are not designed to detect fraud from collusion. According to Public Company Accounting Oversight Board (PCAOB, n.d.), "Collusion may cause the auditor who has properly performed the audit to conclude that evidence provided is persuasive when it is, in fact, false. As an example, the auditor may receive a false confirmation from a third party that is in collusion with management (AS2401.10)." Similarly, internal auditors may be fooled by collusion scenarios. Therefore, in circumstances where collusion is occurring, detection may not be possible.

While the detection of hospital frauds is difficult, shareholders can still hold accounting firms accountable for not finding frauds. For example, one of the largest shareholders of a major international hospital chain recently sued a Big Four accounting firm seeking $7 billion (Browning, 2021). While the outcome of this legal case is yet unknown, it does reflect shareholders' expectations for accountants to prevent hospital frauds. This gap between the expectation for accountants and auditors to catch frauds and the practical difficulty of doing so motivates this study.

In this manuscript, we seek to understand characteristics of hospital frauds so that we can provide recommendations to equip accountants and auditors to improve prevention and detection. Given the importance of hospital frauds and given the difficulty of detecting hospital frauds due to complexity and collusion, in this manuscript we seek to understand four issues. First, what are the natures of hospital frauds? Second, what is the role of the perpetrator, and does the perpetrator's role affect the nature of fraud? Third, do frauds of greater dollar amounts result in longer sentences? Fourth, what strategies can auditors use to prevent hospital frauds, based on the natures and mechanisms of past frauds? We do so by examining previous hospital frauds reported by the U.S. Department of Justice between 2010 and 2021.

The rest of the article is organized as follows: first, we provide a literature review related to hospital frauds. Next, we describe the research questions and the data sample. Then, we present and analyse the results. Last, we offer discussion and concluding thoughts.

Literature Review

Literature Concerning Healthcare Fraud Laws and Regulations

Healthcare fraud is punishable according to various laws and regulations, and many of them apply to the hospital frauds discussed in this study. For a detailed review of federal laws regulating healthcare fraud, please see Stowell et al. (2020). They state that the Federal False Claims Act (FCA) is currently "the primary law used to pursue healthcare fraud." They further note that this law imposes liability on a fraudulent claim to the United States government. In addition to allowing the United States to pursue perpetrators of fraud on its own, the FCA allows private citizens to file suits on behalf of the government (called "qui tam" suits) against those who have defrauded the government (DOJ, 2022). The FCA is a powerful tool against hospital fraud because a whistle-blower can be rewarded 25 percent to 30 percent of the proceeds, which can be millions of dollars in a hospital fraud (Stowell et al., 2020). The Department of Justice obtained more than $5.6 billion in settlements and judgments from civil cases involving fraud and false claims against the government in the fiscal year ending September 30, 2021 (DOJ, 2022).

Another important law applicable to hospital fraud is the Stark law, the Physician Self-Referral Law, which prohibits medical professionals from making referrals based on financial relationships (OIG, n.d.; Stowell et al., 2020). For example, a physician cannot refer patients to clinical laboratory services, physical therapy services, or home health services and receive payments in return. The Stark law goes beyond outright bribery to include a broader range of inappropriate financial relationships (Stowell et al., 2020).

Further, the Office of Inspector General may use The Civil Monetary Penalties Law to pursue civil financial penalties for healthcare violations such as presenting to the U.S. Department of Health and Human Services an insurance claim that the person knows or should know is for an item or service that was not provided as claimed, or that is otherwise false or fraudulent (OIG, n.d.).

In terms of criminal laws, one significant statute is the federal Anti-Kickback Statute, which forbids paying kickbacks to induce patient referrals involving federal healthcare programs (OIG, n.d.; Stowell et al., 2020). As with the Stark Law, violations are not limited to direct cash bribery (Stowell et al., 2020).

Additionally, the Exclusion Statute legally prohibits individuals participating in healthcare fraud from participating in all Federal health care programs (OIG, n.d.). For example, excluded physicians may not bill directly or indirectly for treating any Medicare and Medicaid patients. (OIG, n.d.).

While the laws above are arguably the most significant regulations against healthcare fraud, there may be other applicable regulations against fraud and abuse. For example, the Emergency Medical Treatment and Labor Act (EMTALA) requires that all emergency room patients be seen regardless of insurance status (Zuabi et al., 2016). For a review of laws and regulations related to Medicare Fraud and Abuse, please see CMS (2021).

Literature Concerning Severity and Prevention of Healthcare Fraud

There is an extensive literature on the importance, scale, prevalence, and most common schemes of healthcare fraud. For example, healthcare fraud costs perhaps between $58 billion and $200 billion annually in the United States (NHCAA, 2017; Shrank, 2019). Healthcare fraud is a worldwide problem (Gee and Button, 2015). Flasher and Lamboy-Ruiz (2018) summarized the scale and prevalence of healthcare fraud in the United States; they also provided an extensive review of healthcare data sources, such as the Department of Health and Human Services Office of Inspector General, the American Hospital Association Annual Survey Database, and state-level resources, and summarized previous fraud research projects conducted using these databases.

To investigate financial frauds against Medicare/Medicaid and private health insurance providers, Ahadiat and Gomaa (2018) conducted a survey of 1,000 business professionals in southern California. The survey respondents ranked incorrect reporting of diagnosis or procedures as the most important fraud scheme for Medicare/Medicaid, and unnecessary services as the most important fraud scheme for private insurance companies.

Similarly, the U.S. Government Accountability Office reviewed and analyzed 739 health care fraud cases and found that the most common health care fraud schemes were fraudulent billing and billing for services that were not medically necessary (GAO, 2016). This research also noted that in the current body of healthcare fraud detection research, upcoding fraud studies are scarce (Bauder et al., 2017).

While these previous large-scale studies helped to understand the prevalence and magnitude of health care fraud and the most common medical billing fraud schemes, there is a lack of studies that examine the detailed elements of hospital fraud cases to understand the mechanisms involved. In the literature, studying a small set of fraud cases in detail is a methodology that has been successfully applied to other types of frauds. For example, Archambeault et al. (2015) examined 115 news announcements of non-profit organizations to understand the perpetrators' roles and mechanisms in non-profit frauds. While the sample size is small, the detailed descriptions in the news announcements allow for investigative insights.

There remains a need in the literature to address hospital frauds from an auditor's perspective. In other words, our question is how accountants can contribute to the prevention and detection of health care fraud in terms of research and education. For this purpose, we examined hospital fraud news announcements from the United States Department of Justice. While the sample size is relatively small, this data source has multiple advantages. First, the data comes from the entire United States, not only one state. Second, the data deals with cases that have been thoroughly investigated. Third, these frauds included not only cases of hospitals victimizing the public, e.g., stealing from Medicare, but also instances in which hospitals are victimized by an insider, e.g., an administrator who fraudulently charges a hospital's account. Most importantly, the news announcements include detailed information about the cases: the perpetrator's name, perpetrator's role, hospital's name, how the fraud was committed, the amount that was stolen, the duration of the fraud, and, in many instances, sentencing information. This detailed information provides insights into how an auditor could detect and prevent such frauds. This data source is limited by its small sample size, precluding the study of fraud prevalence. However, our goal is not to study the prevalence, but the nature of fraud, as outlined below.

There have been studies in the literature reporting the use of computer programs to detect healthcare fraud. For example, Liou et al. (2008) applied data mining techniques to detect fraudulent claims in diabetic services and found the computer technique to be highly accurate. Though computer techniques could be helpful for detecting the frauds examined in this study, the details of these computer methods are beyond the scope of this article.

Research Questions

The purpose of the current study is to examine the natures of hospital frauds, including the roles of the perpetrators and the outcomes of the fraud. First, we would like to understand how hospital frauds arise, including the magnitudes and durations of frauds of various types with research question 1.

Research Question 1: What are the natures of the fraud? What are the magnitudes and durations associated with these frauds?

Next, to help us develop focused strategies to prevent fraud, it would be useful to examine the roles of the perpetrators. Even more interestingly, how does the perpetrator's role affect the nature of the fraud? If people in certain roles are more likely to commit certain types of frauds, prevention strategies can be more effectively developed.

Research Question 2: What are the roles of the perpetrators? Are they administrative professionals or medical professionals? Is the role of the perpetrator related to the nature of the fraud?

To deter healthcare fraud, various federal laws have been developed; please see Literature Review section above. However, empirically, has the punishment fit the crime? In other words, do crimes involving larger amounts of money result in longer sentences?

Research Question 3: What is the outcome of the fraud for the perpetrator? Does the punishment fit the crime (i.e., longer sentences for larger amounts stolen)?

We next turn our attention to what auditors can do to help prevent hospital fraud. The Institute of Internal Auditors (IIA) notes that when a fraud does occur, an anti-fraud response plan should include investigations to determine how existing controls failed and what changes should be made (IAA, 2019). This motivates us to examine past fraud schemes to understand how the controls failed and how they can be improved.

Research Question 4: What information do past frauds provide regarding how accountants and auditors can prevent future frauds?

Data Collection

We follow the methodology of Archambeault et al. (2015), who used news announcements to study the roles of perpetrators and the natures of frauds in non-profit organizations. News announcements provide detailed accounts of the fraud, including the perpetrator's name, perpetrator's role in the hospital, (oftentimes) the hospital's name, location, amount of loss, sentencing outcomes, and (usually) details regarding how the fraud was committed.

We performed a search of the United States Department of Justice (DOJ) website for all news announcements concerning financial fraud related to hospitals during the period between March 2010 and December 2021. We searched for the keyword "fraud" along with keyword "hospital." We removed instances that were not financial frauds, such as prescription fraud and lack of physician supervision, which are beyond the scope of this paper. We also removed instances that were duplicates of the same event. We removed instances where the start year, end year, or amount is missing. Finally, we removed instances where a hospital was victimized by an outsider not part of the hospital. We found eighty cases, which we will examine in the next section.

For example, in a news announcement about a hospital fraud at Columbus Regional Health (DOJ, 2017b), we can find information regarding the roles of the perpetrators, including the fact that one held the title of accounts payable manager. The name of the hospital is Columbus Regional Health in Columbus, Georgia. The announcement gave the amount ($1.2 million) and the duration (2011–2014), along with how the crime was committed: "In 2011, Columbus Regional switched credit card companies and employees were required to surrender their old card. However, Ms. McFerrin and Ms. Adcock kept their cards and began to make unauthorized purchases and using the cards for their personal benefit" (DOJ, 2017b). Such detailed information is useful for devising future prevention strategies: such a fraud could be prevented in the future if hospital administrations separate the credit card payment approval process from the credit card holder.

Results

A total of eighty cases were found through our search. Table 1 shows a summary of the years in which the various frauds started.

To answer Research Question 1, "What are the natures of the fraud? What are the magnitudes and durations associated with these frauds?" we examined the eighty cases in detail. Our method of categorizing the cases is to read each case and record the primary fraud, as described in the DOJ news announcement. (These announcements sometimes note a secondary fraud, for which the information is typically sparse.) For clarity, we then categorize the primary violations reported in these eighty cases into five major categories, as shown in Table 2.

Using all the news announcements with complete dollar impact and duration information, we found the average magnitude and duration of each of these categories (Table 2). Fraudulent billing is the most common hospital fraud, with the second highest magnitude of loss. Illegal referrals, including Stark law violations, result in the highest magnitude of loss over the longest duration. For examples of the frauds, please see Appendix. The five categories of hospital fraud are:

1. Fraudulent Billing of Medical Services (including billing for unnecessary medical services and upcoding)

Fraudulent billing includes billing for services never performed or inadequately performed, billing for services with higher reimbursement than the actual services provided (i.e., "upcoding"), and intentionally misdiagnosing a patient (Bothwell, 2015).

In our research we determined that fraudulent billing of medical services had the highest frequency with 42 out of 80 cases (Table 2). This scheme averaged 4.4 years in duration and $28.0M in magnitude. Specific examples of this include billing for physical therapy not performed, billing for a 30-minute consultation when 15-minutes is provided (known as "upcoding"), testing for lead poisoning after a car wreck, and billing massage services as physical therapy services. The perpetrator is often the medical provider or staff who bills the payor. Collusion is sometimes involved.

The direct financial impact of this type of activity falls on the payor, whether that is an insurance company, the patient's employer (through self-insured plans), or the Centers for Medicare & Medicaid Services (CMS). As companies and third-party payors take on more (inaccurate) expenses, they will likely pass on those expenses to employees and policyholders in the form of higher premiums. Therefore, there is an indirect impact on employees and individuals purchasing health insurance plans.

2. Illegal Patient Referrals (including Stark Law violations and unnecessary services through bribery schemes)

This type of fraud occurs when a medical professional or administrator (primary conspirator) gives kickbacks to another medical professional or administrator (co-conspirator) to provide referrals or unnecessary prescriptions for the benefit of the primary conspirator.

Such actions violate the Stark law (the Physician Self-Referral Law), which prohibits medical professionals from making referrals based on financial relationships (OIG, n.d.; Stowell et al., 2020). When a U.S. government agency is the payor, this fraud can be punished under the U.S. Anti-Kickback Statute. In many instances, the patients may not be good candidates for the services involved, or the hospital might not be particularly well suited for providing the services in question. For example, in the case of "Operation Spinal Cap" (DOJ, 2015), hospital executives paid kickbacks to doctors for referring their patients to a hospital in California to perform spinal surgeries that could have been performed at a hospital closer to a patient's residence.

Illegal Patient Referrals has 16 out of 80 cases with an average of 6.8 years in duration and $97.1M in magnitude, the largest average magnitude among the five categories of fraud (Table 2).

With this type of scheme, bribes can involve means beyond direct cash transactions. The fraud tends to occur at the top of an organization. For example, the CEO of a hospital could perpetrate this fraud with another "C-suite" officer. Collusion is always present in this scheme.

These schemes almost always have a direct impact on the patient. At worst, a patient receives an unnecessary procedure. At "best," the referral is made for money and is not in the patient's best interest.

3. Vendor Managers Receiving Bribes

This type of fraud occurs when an administrative manager grants contracts to vendors for kickbacks that he or she receives. For example, a director of facilities operations at New York Presbyterian Hospital and his assistant director "awarded contracts for the installation and repair of heating, ventilation and air conditioning systems (HVAC) to a co-conspirator's company in return for kickbacks given in the form of cash, goods and services from that co-conspirator." (DOJ, 2012). In some instances, this technique includes having co-conspirators submit false bids to make the bidding process appear competitive.

Vendor Managers Receiving Bribes has seven out of 80 cases with an average of 5.9 years in duration and an average of $963,000 in magnitude (Table 2). The perpetrator is the administrative manager responsible for hiring the vendor, and these cases always include collusion.

In these cases, the healthcare facility itself is being defrauded, in that it is paying higher prices for goods and services. The higher operating costs directly impact the facility's liquidity and profitability, which ultimately impacts patients and other stakeholders due to an increase in costs and a decrease in the amount of resources available to meet patient needs.

4. Checks or Credit Card Schemes

This type of fraud is defined as a fraudster issuing checks to himself or herself, or a company credit card being used for personal expenses. In some cases, the perpetrator may attempt to avoid detection by using the name of a family member, rather than his or her own name. Checks or Credit Card Schemes have eight out of eighty cases with an average of 5.1 years in duration and an average magnitude of $531,000 (Table 2)**.**

These schemes are usually committed by a treasurer or controller who is an authorized credit card user and/or has access to the hospital's bank account. Collusion is less likely here than with other categories of hospital fraud. Fraudulently using a hospital check or credit card will directly impact the financial statements of the hospital. This fraud indirectly affects the patients, because money that could have been used to improve medical care has been stolen.

5. Fraudulent Invoices

This type of fraud is defined as falsified invoices (for instance, for non-existent equipment) being submitted to the accounting department. This technique differs from fraudulent billing (Category 1) because it is outside of the provider/patient transaction. Here the accounting department of the hospital is being defrauded by a fake administrative cost. The perpetrator could enlist a co-conspirator to assist in the fraud.

Fraudulent Invoices has seven out of 80 cases with an average of 7.1 years in duration (the longest average duration in the sample) and an average magnitude of $2.3M (Table 2).

These types of fraud are not necessarily committed by an accounting or financial professional. Rather, they are often committed by a manager or employee that seeks fraudulent reimbursements from the hospital. This scheme will negatively impact the financial statements of the hospital, which again will have an indirect effect on patient care.

To answer Research Question 2, the role of the perpetrator, we categorized the primary perpetrator's role into two groups: administrative professionals (e.g., managers) and medical professionals (e.g., physicians). While there may be many co-conspirators involved in a fraud, we consider here the role of the primary perpetrator. For example, in a fraud involving kickbacks for illegal patient referrals, we consider the role of the primary perpetrator who provides the kickbacks rather than the co-conspiring medical professionals that refer the patients to the primary perpetrator.

Table 3, Panel A shows a summary of the cases. Administrative professionals were the primary perpetrators for 61.3 percent of the fraud cases and medical professionals were the primary perpetrators for 38.8 percent of the fraud cases. To answer the question of how the role of the primary perpetrator relates to the nature of fraud, Table 3, Panel B summarizes the role of the primary perpetrator and the nature of fraud. Interestingly, the vast majority (87.1 percent) of frauds committed by medical professionals fell into the category of fraudulent billing, whereas frauds committed by administrative professionals were distributed much more evenly across the five major categories. This difference is consistent with the fraud triangle (Cressey, 1953), which states that the three factors for fraud are perceived need, perceived opportunity, and rationalization. Since medical professionals are involved in billing, they would seem to have more opportunities to engage in fraudulent billing than in any other category of fraud.

To answer Research Question 3, we conducted a regression analysis between sentence duration and the dollar amounts of various instances of fraud. In a case where there are multiple co-conspirators being charged, we used the sentence of the primary perpetrator, who had the longest sentence among the co-conspirators. Table 4 shows the results. The sample has forty-six cases where both the amount and sentence information were available. The R^2 is 0.40, and the coefficient is positive and statistically significant ($p < 0.001$). The results suggest that crimes with larger magnitudes result in longer sentences.

To answer Research Question 4, how to prevent frauds based on the natures and mechanisms of hospital frauds, we reviewed the eighty fraud cases in detail and determined the audit strategy that could have prevented each fraud case. Interestingly, we found that many of the fraud cases could have been prevented by similar strategies based on the nature of the scheme, as shown in Table 5. In the following paragraphs, we will discuss audit strategies for each of the five categories of fraud. We will have more discussion on the first two categories of fraud because fraudulent billing is the most prevalent hospital fraud and illegal referrals result in the largest loss, while the latter three categories are fraud can occur in other industries.

1. Fraudulent Billing of Medical Services

Since perpetrators can be "creative" in how they construct fraudulent billings, our question was to investigate how auditors can effectively deter and detect these fraudulent behaviors. We were interested in learning if there was any common pattern among the frauds that could have been prevented by a common strategy. Interestingly, based on the data of forty-two fraudulent billing cases, one or both of the following two major audit strategies could have detected and prevented most of these billing frauds:

(1) Verify billing records with medical records. It can be useful to examine whether medical billing codes are consistent with medical records. For example, a rehabilitation clinic stole millions of dollars from Medicare by billing massage as a physical therapy service (DOJ, 2013a). In this case, there would be missing medical records for physical therapy conducted by licensed physical therapists. In this example, an auditor who validated the legitimacy of a charge by reviewing detailed medical records would have identified the discrepancy: physical therapy in billing records and yet no physical therapy in medical records. Application of this strategy could have prevented twenty-seven of the forty-two cases of fraudulent billing in our sample (Table 5).

(2) Analyse coding data. Sophisticated data analysis of billing codes can reveal unusual patterns. For example, Dr. Gross in Texas stole almost $2M from Medicare and Medicaid by filing false claims for nursing home patients. If an auditor looking at billing codes had analysed the date of services, he or she would realize that Dr. Gross "performed services" on deceased patients and that his aggregate services consistently amounted to longer-than-usual workdays (DOJ, 2014). In our sample, coding data analytics could have been applied to prevent twenty-four of the forty-two fraudulent billing cases (Table 5); of these twenty-four instances, seventeen instances had to do specifically with the timing or location of the service. The other seven instances were more obscure such as overuse of a special billing modifier and using out-of-network filing for in-network patients. Auditors can potentially detect odd patterns of billing by comparing datasets among similar practices and providers.

2. Illegal Patient Referrals (including Stark Law violations and unnecessary services through bribery schemes)

Preventing this type of violation can be especially challenging, because collusion often overrides the strong internal control of "segregation of duties." The principle of segregation of duties is based on shared responsibilities of a key process that disperses the critical functions of that process to more than one person or department (AICPA, 2021). Of the sixteen cases in our data concerning illegal patient referrals, two detection audit strategies could apply to most of the schemes, and a third could help in some instances (Table 5):

(1) Have anonymous tip lines. An anonymous tip line available to all employees can be an effective strategy. Auditors should review fraud hotline responses. For example, Holland and Moore, former Tenet Hospital System executives, bribed other hospital operators to refer patients to their hospital. The scheme lasted from 2000 to 2013 (DOJ, 2017c). For a scheme that involved many patients among multiple hospitals, it seems likely that an employee at one of the hospitals would notice an unusual pattern of patient referrals. Making employees aware of the rewards and protections offered by Federal False Claims Act (FCA) laws could help incentivize an employee to be a whistle blower and report the illegal patient referrals. For a detailed review of Federal False Claims Act incentives for whistle blowers, please see Stowell et al. (2020). In summary, referral fraud could be deterred if surrounding providers, accountants, and administrators utilized an anonymous tip line and the auditors ensured proper follow-up of these tips.

(2) Perform fraud inquires that include provider staff. Even in the presence of an anonymous tipline, an auditor can proactively perform fraud inquires that include provider staff. In other words, an auditor can ask direct, probing questions about patterns in facility and provider referrals. This questioning can be a helpful strategy as assistants and surrounding staff may notice an unusual referral pattern but may not report it unless directly investigated by an auditor. As another example, in the Spinal Cap scheme (DOJ, 2015), over two hundred patients from all over the country were referred to a hospital to do spinal procedures. Staff of the hospital may have questioned patients from other major cities traveling to California for routine procedures, and auditors' fraud inquires could be effective in detecting illegal activities.

(3) Sample provider contracts and corroborate the legitimacy of the services. In four of the sixteen cases, fictional or current employee overpayment was utilized to receive the bribes. In the "Spinal Cap" fraud mentioned above, providers were paid for bogus services such as "consulting," "rental space" and "bill collection" that never happened (DOJ, 2015). This technique allowed the referring providers to receive these bribes concealed as legitimate compensation. Auditors can combat this scheme by sampling contracts of providers and corroborating the legitimacy of the services. For example, consulting should have deliverables, meetings, or receipts; rental space should be utilized routinely; providers should have evidence of bill collection efforts; bonuses should have documentation or approvals that follow a standard process.

3. Vendor Managers Receiving Bribes

Bribery can be challenging for auditors given that collusion is always involved. A strategy that could effectively prevent managers from receiving kickbacks is to test vendors. Six of the seven schemes in our data that involve management bribery utilized a bogus vendor and could have been detected by vendor testing (Table 5). For example, in New York, a facility director and assistant facility director awarded contracts for the heating, ventilation and air conditioning system in return for $2.3M in kickbacks funnelled through a sham company (DOJ, 2012). Lack of internal oversight of the vendor process gives fraudsters ample opportunity to accept kickbacks. Therefore, initially the auditor needs to understand the current bidding and contract acceptance process. To test vendors, auditors should compare employee records to vendor data and test the validity of vendors by means such as calling them and researching ownership. This vendor testing can be creative, and the auditor can use judgement (vendors within certain dates, P.O. Box vendors, etc.) to select vendors or randomize the testing.

4. Checks or Credit Card Schemes

Interestingly, in our data most of the checks or credit card schemes in a hospital could have been detected by performing bank reconciliations. The bank reconciliation, aside from its accounting purposes, double checks that withdrawals are legitimate. Of the eight fraud cases, six could have been detected through bank reconciliations (Table 5). For example, Deborah Morrison of Maryland was an executive in charge of a hospital's bank accounts. She wrote 140 checks to herself from 2009 to 2015 utilizing a signature stamp of a former President of Medical Staff (DOJ, 2017d). If another individual had reconciled the hospital's bank statements on the account the checks were cut from, the reconciler could have noticed the outdated individual's approval signature on the check copies that were included.

As this type of fraud is less specific to hospitals, for more information on how an audit team should examine the validity of a company's internal controls to prevent check or credit card schemes, please see Schandl and Foster (2019). Even two-

employee accounting departments can have the above separation of duties. Auditors must verify the above controls and must include procedures to test transactions from credit card charges, checks and cash by the individual who reconciles bank statements for the company. After identifying transactions that do not include segregation of duties, auditors should corroborate those transactions with third party receipts and invoices. For more information on how to reduce collusion in general, please see Rechtman (2019). For example, auditors should become proficient in detecting "internal control risks," such as the ability of more than one person to override such controls (Rechtman, 2019).

5. Fraudulent Invoices

For five of the seven cases in our data, the perpetrator utilized a fake company to receive payments for fraudulent invoices. For example, in South Carolina a co-conspirator, Gary Joiner, established a fake durable medical equipment company, "Creative Casting Concepts (CCC)." He then proceeded to submit $2.8M in bogus invoices to Providence Hospital, representing that CCC was providing orthopaedic boots, when they were not (DOJ, 2017a). To combat this practice, auditors may perform vendor testing. Auditors may compare employee records to vendor data and/or test the validity of vendors (e.g., calling them and/or researching ownership). The five cases in this category that could have been detected through vendor testing, combined with the six cases that could have been detected in the "Vendor Managers Receiving Bribes" category through that same approach, amount to a total of eleven of the eighty cases in the overall sample, or about 14 percent.

Discussion

The audit strategies learned from the data assume that the auditors have adequate resources and expertise to complete these audit procedures. Auditing Standard 1010.01 states "the audit is to be performed by a person or persons having adequate technical training and proficiency as an auditor" (PCAOB, n.d.). Due to the complexity of healthcare frauds, an auditor must be knowledgeable of billing cycles, healthcare acronyms, compliance requirements and how healthcare generates revenue. The auditor may need to delegate part of the work to someone with sufficiently specialized knowledge, for example a Certified Professional Coder. Please see Auditing Standard 1210: Using the Work of an Auditor-Engaged Specialist from the PCAOB (n.d.) for external auditor guidance.

Medical experts also are needed for complex areas such as oncology. For example, in Michigan a $35M fraudulent billing scheme was carried out by administering inappropriate chemotherapy (DOJ, 2013b). An auditor would need an expert in oncology to aid in identifying the false diagnosis, the treatment in remission and the administration of chemotherapy to end-of-life patients that will not benefit from treatment.

Just as "prevention is better than treatment" in medicine, preventing fraud is preferable to treating fraud. While auditors can help detect fraud, hospital management bears the responsibility of setting up policies to deter frauds. While we focus mostly on the perspective of an auditor in this study, it seems worthwhile for future studies to examine the internal control environment of the facilities themselves in conjunction with their auditors to prevent hospital frauds from occurring.

Conclusion

Hospital fraud has an enormous dollar impact on healthcare costs in the United States. In addition to these monetary costs, fraud also can cripple the healthcare system by reducing the resources available to provide legitimate and safe care that patients need (Ahadiat and Gomaa, 2018).

Hospital fraud schemes can be categorized into five categories: (1) fraudulent billing of medical services; (2) illegal patient referrals; (3) vendor managers receiving bribes; (4) checks or credit card schemes; and (5) fraudulent invoices. The nature, magnitude, duration, perpetrator information and resulting sentences from incidents announced by the Department of Justice (DOJ) have been summarized.

We found that the most frequent hospital fraud (42 of 80 instances) is billing of medical services. The greatest average magnitude ($97.1 million) found was for illegal patient referrals, and the greatest average duration (7.1 years) was fraudulent invoices. Administrative and medical professionals are both involved in fraud schemes, with administrative professionals spanning all types, whereas medical professionals are mostly involved in fraudulent billing. There is a clear positive relationship between the dollar amount of a fraud and the length of the prison sentence imposed on the primary perpetrator. Lastly, auditing strategies (specific preventive controls, detection strategies and deterrents) have been suggested for five types of hospital fraud. Suggestions include comparing billing records with medical records, using data analytics to detect unusual billing patterns, setting up anonymous tip hotlines, and verifying vendors.

One limitation of this study is the relatively small data set. Many medical frauds never find their way to the DOJ website. Future studies could enhance the findings of this article by examining such issues as frauds committed against private insurance companies, and/or cases outside the U.S.

While the audit strategies in this study were considered applicable to the cases in the data, an auditor might have limited time to deal with an enormous amount of data. Auditing Standard 1105.04 states, "the auditor must plan and perform audit procedures to obtain sufficient, appropriate audit evidence to provide a reasonable basis for his or her opinion" (PCAOB, n.d.). For cost effectiveness, auditors often must obtain "sufficient" evidence that includes samples. Sampling could leave room for fraud to go undetected. A future study could use simulated data to study the robustness of the audit strategies suggested in this study when sampling is applied to a realistic dataset.

We did not notice significant trends over time within the five categories of frauds discussed in this study. However, in recent years, we noticed on the DOJ website a rising trend of opioid and controlled substance related frauds. Most recently, since 2020, we noticed a significant number of COVID-19 related frauds, such as scams and COVID-19 relief related frauds. While opioid-related frauds and COVID-19 related frauds are especially important, they are beyond the scope of this article and require more space to discuss them adequately. We suggest future research devoted to these important topics.

Table 1: Year Fraud Incident Began

Year	Number of Cases
2000	3
2001	3
2002	1
2003	5
2005	5
2006	5
2007	5
2008	6
2009	12
2010	8
2011	10
2012	3
2013	2
2014	4
2015	5
2016	1
2017	1
2018	1
Total	80

Table 2: Five Main Types of Hospital Financial Fraud: Duration and Magnitude

Type of fraud	Number of news announcements in the sample	Sample average duration (years)	Sample median magnitude (U.S. dollars)
1. Fraudulent billing of medical services	42	4.4	$28.0 million
2. Illegal patient referrals	16	6.8	$97.1 million
3. Manager receiving bribery	7	5.9	$963 thousand
4. Checks or credit card schemes	8	5.1	$531 thousand
5. Fraudulent invoices	7	7.1	$2.3 million

Table 3

A. Primary Perpetrator's Role as Described in News Announcements

Primary Perpetrator's Role	Number of incidents	Percentage of sample
Administrative	49	61.3%
Medical Professional	31	38.8%
Total	80	100.0%

B. Primary Perpetrator's Role and Nature of Fraud

	Administrative professional (n = 48)	Medical professional (n = 32)
1. Fraudulent billing of medical services	30.6%	87.1%
2. Illegal patient referrals	26.5%	9.7%
3. Manager receiving bribery	14.3%	0.0%
4. Checks or credit card schemes	16.3%	0.0%
5. Fraudulent invoices	12.3%	3.2%
Grand Total	100.0%	100.0%

Table 4

Regression Between Magnitude and Sentence of Primary Perpetrator (n = 46*)

$$Sentence_i = \alpha_0 + \delta_1 Amount_i + \varepsilon_i$$

	Independent variable = magnitude (million dollars) Dependent variable = sentence (years)
α_0	4.52 **
δ_1	0.11 **
R^2	0.40

* Sample size (n) is 46 instead of 80 because not all the cases had sentence length information available in the news announcement

** indicates p-value < 0.001

Table 5: Primary Fraud category and prevention strategies*

Primary Fraud Category: Prevention Strategy	Number (Percentage) of cases where a strategy could have been applicable
1. Fraudulent billing of medical services (n =42)	
Verify billing records with medical records	27 (64%)
Analyse coding data	24 (57%)
Analyze coding data related to time or location	17 (40%)
2. Illegal patient referrals (n = 16)	
Have anonymous tip lines	15 (94%)
Perform fraud inquires that include provider staff	15 (94%)
Sample contracts of providers, and corroborate the legitimacy of the services	4 (25%)
3. Manager receiving bribery (n = 7)	
Test vendors	6 (86%)
4. Check or credit card schemes (n = 8)	
Perform bank reconciliation	6 (75%)
5. Fraudulent invoices (n = 7)	
Test vendors	5 (71%)

* Prevention strategies are not mutually exclusive. Also, some cases do not have a clear prevention strategy. Therefore, the percentages do not add to 100% for each category.

Appendix Table

Example Frauds in the U.S. Department of Justice News Announcements

Fraud Category:	Web link
1. Fraudulent billing of medical services **Definition: submitting charges to insurance providers for medical procedures or treatments that are not necessary, not performed, or fraudulently charged**. **Example:** "Dr. Fata owns and operates Michigan Hematology Oncology Centers (MHO) which has offices in Clarkston, Bloomfield Hills, Lapeer, Sterling Heights, Troy, and Oak Park. It was through MHO that Dr. Fata allegedly submitted fraudulent claims to Medicare for medically unnecessary services, including chemotherapy treatments, Positron Emission Tomography (PET) scans and a variety of cancer and hematology treatments for patients who did not need them. In the course of the scheme, Dr. Fata falsified and directed others to falsify documents. MHO billed Medicare for approximately $35 million over a two-year period, approximately $25 million of which is attributable to Dr. Fata." **Explanation: in this case, a doctor prescribed medically unnecessary services and submitted fraudulent claims.**	https://www.justice.gov/usao-edmi/pr/oakland-county-doctor-and-owner-michigan-hemotology-and-oncology-centers-charged-35
2. Illegal patient referrals (including Stark law violations and unnecessary services through bribery schemes) **Definition: a medical professional or administrator bribing another medical professional or administrator for patient referrals**. **Example:** "The indictment alleges, among other things, that from approximately 2000 to approximately 2013, Holland, Moore and Cota engaged in a scheme to defraud the United States, the Georgia and South Carolina Medicaid Programs, and patients who attended Cota's pre-natal clinics and were referred to Tenet hospitals. The indictment also alleges that Holland and Moore caused the payment of bribes in return for the referral of patients to Tenet hospitals in the Southern States Region, including Atlanta Medical Center, Inc., North Fulton Medical Center, Inc., Spalding Regional Medical Center, Inc. and Hilton Head Hospital. The indictment alleges that Holland and Moore took affirmative steps to conceal the scheme by, among other methods, circumventing internal accounting controls, falsifying Tenet's books, records and reports, and making, and causing to be made, false representations to the federal government. According to the indictment, these bribes helped Tenet bill the Georgia and South Carolina Medicaid Programs for over $400 million, and Tenet obtained more than $149 million in Medicaid and Medicare funds based on the resulting patient referrals." **Explanation: in this case, hospital administrators used bribes to cause patients to be referred to their hospital.**	https://www.justice.gov/opa/pr/former-executive-tenet-hospital-charged-along-clinic-owner-and-operator-400-million-fraud-and
3. Manager receiving bribery **Definition: an administrative manager grants contracts to vendors based on the kickbacks received.** **Example:** "Saglimbeni and Figueroa pleaded guilty today for their participation in a mail fraud conspiracy, which lasted from as early as June 2001 and continued through June 2006. The scheme to defraud New York Presbyterian Hospital centered on Saglimbeni, who with the assistance of Figueroa, awarded contracts for the installation and repair of heating, ventilation, and air conditioning systems (HVAC), to a co-conspirator's company in return for kickbacks given to Saglimbeni and Figueroa in the form of cash, goods, and services from that co-conspirator."	https://www.justice.gov/opa/pr/two-former-hospital-employees-plead-guilty-participating-kickback-scheme-new-york-city

Explanation: **these hospital managers awarded hospital contracts in return for kickbacks given to them.**

4. Check or credit card schemes

Definition: perpetrator issues checks to himself or herself, or a company credit card is **used for personal expenses.**

Example:

"Apart from her official work duties, since at least 2001, Morrison oversaw the bank accounts of the Providence Hospital Medical Staff, an association comprised of medical professionals at the facility. In that role, she had access to the checkbooks and reviewed the account statements. From December 2009 until December 2015, according to the statement of offense, Morrison wrote approximately 140 checks, totaling $391,600, from one of the association's bank accounts containing dues payments. She endorsed the front of the checks with a signature stamp of a former President of the Medical Staff who no longer worked at Providence Hospital. She deposited all of the checks into her personal bank account."

https://www.justice.gov/usao-dc/pr/former-hospital-executive-sentenced-prison-term-stealing-over-390000-medical-association

Explanation: **this administrator issued checks to herself, endorsed the checks fraudulently, and deposited the checks into her personal bank account.**

5. Fraudulent invoices

Definition: perpetrator submits falsified invoices to the hospital accounting department.

Example:

"Evidence presented at the change of plea hearing established that Joiner was the Director of Orthopedic Services for Moore Orthopedic Clinic between 2006 and 2015. In 2010, when Moore Orthopedic merged with Providence Hospital, Joiner established a fake durable medical equipment (DME) company, Creative Casting Concepts (CCC). He then proceeded to submit false invoices to Moore and Providence, representing that CCC was providing orthopedic boots, when they were not."

https://www.justice.gov/usao-sc/pr/duncan-woman-sentenced-defrauding-columbia-health-care-providers

Explanation: the perpetrator submitted false invoices to the hospital to enrich himself.

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