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Associations Between Provider Type and Medicaid Overpayments

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Walden University

College of Health Professions

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Kezia Hercules

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Walden University
2021

Abstract

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by

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MPA, Long Island University, 2012

BA, Long Island University, 2010

Doctoral Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Healthcare Administration

Walden University

August 2021

Abstract

Healthcare costs have been rapidly increasing in the United States and consume a significant percentage of the Gross Domestic Product (GDP). A percentage of these costs are attributed to increased incidences of healthcare overpayments to providers. This study examined the impact of these overpayments by provider type, and the underlying reasons which resulted in overpayments from the Medicaid perspective. The theoretical framework used in this study was Ostrom's institutional analysis and development (IAD) framework. The study used all available data ($N = 682$) from New York State Medicaid Inspector General final audits of providers for Medicaid overpayments. A chi-square test of association with a Phi and Cramer's V analysis was used to test for significance. Results of the study were significant and suggest that there is a relationship between provider types and Medicaid overpayment amounts, as well as provider types and error reasons cited for overpayments. Findings indicate a 56.2% prevalence of overpayments in long-term care facilities and 78.9% of dentists failed to meet meaningful use requirements, resulting in the most significant error reason for overpayments. Recommendations for future study include nationwide collection and aggregation of data for overpayment analysis. The study contributes to positive social change by adding to limited body of research regarding overpayments and root causes and allowing providers and healthcare administration professionals to identify and implement best practices for reducing overpayments and alleviating healthcare economic burdens.

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Section 1: Foundation of the Study and Literature Review

Introduction

The Centers for Medicare and Medicaid Services (CMS, 2019) reported that the United States (US) spends approximately 17.7% of its gross domestic product (GDP) on healthcare expenditures. Furthermore, the US ranks second in terms of highest healthcare spending in the world (World Bank, 2017). Federal government financing represented the largest portion of all healthcare spending, with 16% of spending attributed to Medicaid alone (CMS, 2018). However, as more states adopt Medicaid expansion under the Affordable Care Act (ACA), Medicaid spending per enrollee is projected to increase significantly (CMS, 2020).

Given projected increases in Medicaid spending, state budgets will be burdened as 40% of state funds must be allocated to financing Medicaid (Medicaid and CHIP Payment and Access Commission [MACPAC], n.d.). Additionally, MACPAC noted that Medicaid consumes the second highest proportion of all state budgets. Not only do states bear the responsibility to finance Medicaid, but each state is charged to investigate and combat incidences of Medicaid fraud and improper payments through established Medicaid Recovery Audit Contractor (RAC) programs (CMS, 2016).

Recoveries due to Medicaid RAC audits include improper payments and overpayments due to potential fraud and other provider billing errors (CMS, 2016). The US Government Accountability Office (GAO, 2018) said Medicaid's vulnerability to overpayments is due to the size of programs. States should target efforts in identifying predominant root causes of overpayments and concentrate measures in terms of

promoting provider compliance to minimize opportunities which reduce the integrity of Medicaid programs and burden the US healthcare system.

This study will have positive social implications by adding to the limited body of knowledge on the root causes of Medicaid overpayments from the state perspective. It can allow best practices to be developed so that Medicaid overpayments will be reduced and funds available to Medicaid beneficiaries may be employed more effectively. Effective employment of Medicaid funds could also contribute to lowering overall costs of healthcare within the US.

This section of the study will frame the problem, outline current gaps in the research, and delineate the purpose, research questions hypotheses, and the nature of the study. Additional sections include the theoretical framework, a review of current literature, search strategies employed in finding relevant literature, and definitions of pertinent terms used in the literature review. Lastly, Section 1 will highlight assumptions, scope, and delimitations and the overall significance of the study.

Problem Statement

The Office of the Inspector General (OIG, 2018) reported that \$1.6 billion of overpayments identified in Medicaid RAC audits currently remain outstanding. Overpayments tend to differ by provider type, and among those provider types, different reasons are cited for overpayments. Prevalent reasons for overpayments identified in audits are frequently defined using data processing and medical review error codes as defined by the CMS. It is imperative that primary reasons for these overpayments are

investigated as well as why overpayments citations are issued by provider type to prevent erosion of state healthcare financing and availability of funds for Medicaid beneficiaries.

Gaps in Current Research

No empirical research exists regarding whether there are relationships between providers and Medicaid overpayments. Few researchers have developed frameworks or models to improve overpayment identification and detect fraud in healthcare claims. The OIG conducted an audit of Medicaid providers to find the number of overpayments by type of provider and reasons for overpayment. The New York State Office of the Comptroller also conducted an audit of Medicaid claims processing which highlighted where overpayments were discovered in terms of types of overpayment and provider. However, none of those audits examined relationships or associations between types of overpayments and providers.

Purpose of the Study

With an anticipated 5.7 % projected increase in Medicaid expenditures (CMS, 2020) and the impact of rising healthcare costs as evidenced by the 17.7% of the GDP consumed by healthcare costs, an investigation of the key contributors to Medicaid spending is warranted. CMS (2020) predicts an estimated 724.5 billion dollars in Medicaid expenditures for 2022, compounding the economic impact of healthcare costs by consuming more of the US GDP. Medicaid overpayments to providers drive increases in spending and influence the availability of state funding (Ekin, 2019; Stowell et al., 2018; Shay, 2016). Therefore, the purpose of this quantitative study is to determine if

there is any relationship between provider type, reasons cited for overpayments, and Medicaid overpayment amounts in New York State (NYS).

Research Questions and Hypotheses

RQ1: Based on NYS OIG overpayment audits, is there a statistically significant relationship between provider type and Medicaid overpayment amounts?

H₀₁: Based on NYS OIG overpayment audits, there is no statistically significant association between provider type and Medicaid overpayment amounts.

H_{a1}: Based on NYS OIG overpayment audits, there is a statistically significant association between provider type and Medicaid overpayment amounts.

RQ2: Based on NYS OIG overpayment audits, is there a statistically significant association between provider type and error reasons cited for overpayment?

H₀₂: Based on NYS OIG overpayment audits, there is no statistically significant association between provider type and error reasons cited for overpayment.

H_{a2}: Based on the NYS OIG overpayment audits, there is a statistically significant association between provider type and error reasons cited for overpayment.

Theoretical Foundation for the Study

The theoretical foundation for this study was Elinor Ostrom's institutional and analysis development (IAD) framework. Faridah et al. (2020) said the IAD framework is a health policy analysis framework which involves influencing healthcare policies and outcomes on an operational level. The IAD framework consists of what Ostrom describes as the action arena, its actors, and their actions (McGinnis, 2016). The action arena describes the context of where actors, or those who influence outcomes, interact in their

environment to effect change based on their actions (Yang & Ren, 2020). Actions are contingent on rules which govern actions within an institution, as well as systemic processes and constraints, and are influenced by characteristics of the community they serve (Ostrom, 2011).

McGinnis (2016) said action arenas are composed of operational, collective, and constitutional choices. Operational choices are actions exhibited by those who have the authority to do so. Moreover, collective choices represent actions which underscore adherence to policies that govern decision making in the action arena. Constitutional choices highlight whether actions indicate conformity in terms of policies involving collective choices. Given collective, operational, and constitutional choices, one assumption of the IAD framework is that actors are aware of the actions which result in compliance with policies that govern the context of providing services within their institution (McGinnis, 2016).

Polski and Ostrom (1999) said an institution is defined by processes which govern interactions between one or more people and therefore can be conceptualized by providers engaged in delivery of services within respective settings. In other words, an institution is an entity that comprises of rules and policies which dictate how individuals such as providers work to deliver their services to the populations that they serve in the environment where they provide their services. For example, State Medicaid Agencies (SMAs) provide resources for providers to ensure they are educated and compliant in terms of billing for services (CMS, 2019). Resources such as Medicaid Integrity Manuals include legislation which govern overpayments and may include strategies for providers

to minimize the likelihood of overpayments due to errors (CMS, 2018). Moreover, Medicaid providers are also provided guidance regarding acts such as fraud (CMS, 2018).

Given resources from Medicaid to promote provider compliance, providers are armed to make appropriate collective, operational, and constitutional choices. However, provider actions resulting in overpayments may be indicators of nonconformity in terms of the aforementioned choices (Ikono et al., 2019). Thus, the IAD framework was used to address provider actions involving billing Medicaid, how these actions influence Medicaid overpayments and subsequently the Medicaid population, and how those actions influence frequency of and reasons why overpayments may occur.

Nature of the Study

The study involved using a quantitative correlational approach. I analyzed final audit reports of Medicaid overpayments from the NYS Office OMIG for all providers available. The NYS OMIG provides final audit reports indicating amount of overpayment as identified in provider audits. Reports also cite the type of provider and provider actions which resulted in overpayment. The independent variable in this study is the provider type, and the dependent variables are overpayment amounts and types of errors which may influence overpayment amounts. Both dependent variables are presumed to be contingent on provider type. Lastly, the nature of this data suggested that a quantitative approach was most appropriate for data analysis.

I used a cross-tabulation with a chi-square analysis to determine whether a correlation exists between provider types and NYS Medicaid overpayment amounts. I

used a cross-tabulation with a chi-square analysis to analyze whether there were any statistical associations between provider type and error reasons cited for overpayment.

To highlight the problem in this research, I conducted a thorough review of existing literature on variables within this study.

Literature Search Strategy

To conduct the literature review, I searched and combined the key words *Medicaid overpayments, Medicaid fraud, Medicaid waste and abuse, Medicaid program integrity, Medicaid improper billing, and Medicaid billing*. I also used the following databases: Google Scholar, ScienceDirect, Business Source Complete, PubMed, Gale Academic OneFile Select, Academic Search Complete, CINAHL Plus, and Medline with Full Text to explore articles related to the research questions. Articles selected for review were peer-reviewed and published between 2017 and 2021. I also used credible legislative sources involving governing Medicaid. Since there was little to no empirical research on Medicaid overpayments by provider type, the literature review involves specific topics and approaches which result in Medicaid overpayments.

Literature Review

Medicaid

Under Title XIX of the Social Security Act of 1965, the Medicaid program was developed in response to health needs of individuals with low incomes (Piatak, 2015). Eligibility for Medicaid at the program's inception was limited to children, low-income families, the disabled, and the elderly (Burger & Combs, 2020). Moreover, the power to implement Medicaid and delineate the scope of services under the program was granted

to each state with a mandate to cover a range of basic healthcare services from a variety of providers (Piatak, 2015).

Medicaid is both state and federally funded, with federal funds allocated to match state expenditures for Medicaid services (Biener et al., 2018). Due to Medicaid expansions under the ACA, individuals who are at or under 138% of the federal poverty threshold became eligible for Medicaid (Kobayashi et al., 2019). Medicaid is now considered one of the largest sources of healthcare funding for individuals in the US (Chernof, 2019).

Providers who accept Medicaid may receive payments directly through fee-for-service arrangements or managed care contracts with health maintenance organizations (Keast et al., 2016; Zuvekas & Cohen, 2016). Additionally, state Medicaid agencies are charged with rate setting and payment thresholds for providers (CMS, 2016). However, with continued expansion to states, technological advancements, and increases in the production of goods and services, the Medicaid program demands more allocation of healthcare financial resources to sustain the program (CMS, 2019). Consequently, this places the program at increased risk for incidences of fraud, waste and abuse (CMS, 2019; Favre et al., 2020).

Medicaid Audits

Medicaid audits are governed under the Deficit Reduction Act (DRA) of 2005 which was enacted with goals to improve the processes by which Medicaid overpayments were identified and recouped (CMS, 2019). Under the DRA, the Medicaid Integrity Program (MIP) was developed to address issues which contribute to fraud, waste, and

abuse of Medicaid funds (CMS, 2019). The terms fraud, waste, and abuse are used collectively to describe any acts that may result in improper payment and lead to targeted goals involving reducing overpayments and preserving federal and state funds (Ikono et al., 2019).

Other legislation involving Medicaid overpayments include the ACA of 2010. The ACA and recent revisions include provisions for protecting Medicaid funds by implementing a 60-day rule mandating that providers return overpayments within 60 days of discovering the overpayment (Goldin, 2017; Recca, 2016).

Several other programs and legislation exist under the Medicaid program to combat fraud, waste, and abuse, with the False Claims Act (FCA) law being one of the most notable for identifying fraud. The Improper Payment Act (IPA) of 2002 was also enacted to provide oversight for improper payments involving federal dollars and under this legislation, the Payment Error Measurement Rate (PERM) Medicaid program was created. Most recently, the Payment Integrity Information Act (PIIA) was enacted to mitigate the prevalence of improper payments.

Since states have oversight of their own Medicaid programs, each is required to conduct its own activities to minimize provider actions leading to overpayments. States may collaborate with Medicaid Fraud Control Units (MCFUs) or Unified Program Integrity Contractors (UPICs) to investigate and/or audit providers for overpayments (Beard, 2017; CMS, 2019; GAO, 2018). However, State Medicaid Offices (SMAs) are mandated to perform and report their own activities to govern fraud, waste, and abuse (CMS, 2019).

Audits may be initiated via whistleblowers, irregular billing patterns of providers, or extrapolation or other statistical sampling methods (Vega, 2018; Shay, 2016). If an overpayment is identified during any audit or investigation, the SMA is required to initiate efforts to recoup the overpayment and return the federal share.

Overpayments

Under Medicaid, overpayments may occur in a variety of ways with fraud the most prevalent, and this presents a significant burden on federal and state funding (Stowell et al., 2018). Fraud occurs when a provider knowingly and intentionally commits an act that would result in an increased financial benefit (Joudaki et al., 2016). In some instances, an unintentional act may turn into fraud (Mata, 2016). If a provider fails to report the overpayment in a timely manner, it could be potentially investigated as a fraudulent act (Shay, 2016). Incidences of fraud may include upcoding, unbundling, drug diversion, overtly billing for services not rendered, and treating patients other than the actual persons who are recipients of Medicaid (CMS, 2016). Fraud can be committed by any type of provider involved in the provision of healthcare services (Joudaki et al., 2016).

Identified overpayments may also contribute to errors occurring in data processing and medical reviews (CMS, 2019). The CMS has developed codes to represent all data processing and medical review codes respectively. These codes encompass all errors identified in audits that providers can make which may result in overpayment and/or identification of fraud such as unbundling and medically

unnecessary services. Errors include those attributed to provider billing claims for ineligible beneficiaries (Blasé & Yelowitx, 2019).

The CMS also produces annual Medicaid reports which indicate the number of errors identified in samples selected for analysis, totaled overpayments, and projected nationwide overpayments for each error category. A 2015 Medicaid audit report assessing over 1,000 patient records in over five states indicated that half the records analyzed lead to overpayments from accounting and billing errors (CMS, 2015). The CMS also identifies sources of overpayments and prevalence of errors by provider, as well as reasons for overpayments, but does not address statistical associations between provider type and rationale for overpayments.

Fraud

In 2018, 1,109 providers and healthcare agencies were convicted of Medicaid fraud (OIG, 2018). Trends over a 5-year period demonstrate that 73% of all investigations conducted by MCFUs result in fraud and consequences for providers such as exclusion from participating in the program (OIG, 2018). Fraud remains a burgeoning issue in terms of public healthcare funding (van Capelleveen et al., 2016).

Improper Billing Practices

Upcoding. The CMS (2016) said upcoding is one of the most prevalent forms of Medicaid fraud among providers. Upcoding occurs when providers submit claims using a code which results in more profitable reimbursement as related to services provided (Thornton et al., 2015). A nationwide sampling of claims revealed \$6,073.35 in improper payments due to procedure coding errors with a projected overall improper payment for

this category in the amount of \$67.92 million dollars (CMS, 2018). Procedure coding errors include any claim submission for a procedure that was not billed appropriately by the provider and may be an indicator of an overpayment and upcoding (CMS, 2019; Grant-Kels et al., 2016).

Other Improper Billing Practices

According to the CMS (2016), providers may bill for unnecessary services or services that were not rendered to patients. Knopf (2019) reported that Acadia Healthcare Company fraudulently received over \$8.5 million dollars by billing Medicaid for tests that were not needed or used. The actions of Acadia Health Company resulted in over \$2.1 being depleted from West Virginia state funds allocated for Medicaid, with the remainder representing a decrease in federal funding for Medicaid. Moreover, the CMS (2019) projected a \$0.37 million-dollar loss in Medicaid funds to due medically unnecessary procedure errors committed by providers in 2019.

Providers also engage in a process called unbundling, which results in overpayments and fraud (Woodworth et al., 2018). Unbundling occurs when providers bill Medicaid or other insurance for services separately when one payment for the procedure should be received (Stowell et al., 2018). Unbundling is one of the most prevalent unnecessary procedures, along with improper coding (Thornton et al., 2015).

Drug Diversion. Drug diversion also represents one of categories the CMS has identified as a contributor to fraud and consequent overpayments. Drug diversion occurs when prescriptions are used illegally by those for whom they were intended for, nor for prescribed reasons (Keast et al., 2015).

Kickbacks. Kickbacks also lead to considerable strain on both state and federal Medicaid dollars and are regarded as a type of healthcare fraud (OIG, n.d.). According to Favre et al. (2020), the federal anti-kickback statute prevents any providers from engaging in actions such as recommending a service or product to a patient from which they may benefit financially. The OIG (2020) said Oklahoma City Hospital was fined \$72.3 million dollars for kickbacks involving patient referrals to healthcare organizations in which they derived financial benefits.

Provider Types

A provider type may be considered any individual or institution involved in the provision of services to Medicaid beneficiaries (CMS, 2020). Services include primary care as provided by primary care physicians, emergency and other acute care services provided in a hospital, dental services, outpatient services, nursing facilities, and care provided in the home. Many providers belong to managed care organizations (MCOs) which bear the responsibility of maintaining a pool of varying providers that administer services to their enrollees who are covered by Medicaid (Bell et al., 2018).

According to the CMS (2019), providers must abide by state regulations to participate in Medicaid through a screening process. Requirements for entry to participate may vary from state to state, as states have the power to set their own requirements for participation. Moreover, providers are required to be fingerprinted and have their site visited and approved as appropriate for participation by the state. Additionally, existing providers participating in the Medicaid program are judged to be low or high-risk dependent on issues such as whether any previous overpayment exceeds \$1,500.

Despite Medicaid expansion, providers have been historically hesitant to participate in Medicaid due to low reimbursement rates (Spaulding, 2015). As such, providers operate within financial constraints with Medicaid as the primary payer and commit acts such as unbundling and upcoding due to increased payer incentives (Schonberger et al., 2016). Low reimbursement rates also compromise health outcomes, with providers delivering subpar care to Medicaid beneficiaries (Chalmers & Compton, 2017). Sonchak (2015) said increased reimbursement leads to better outcomes in prenatal care. Thus, provider overpayments are a direct consequence of seeking higher reimbursement rates (Fang & Gong, 2017; Shay, 2016)

Definitions

Audit: Sampling process to identify incidences of overpayments in Medicaid billing claim submissions (Goldin, 2017).

Drug Diversion: The act in which providers illegally prescribe or provide medication to an individual it was not intended for (Keast et al., 2015).

Improper Billing: Billing Medicaid inappropriately for including unnecessary services or services not actually rendered (Thornton et al., 2015).

Improper Payment: Any overpayment or underpayment identified in sampling Medicaid billing claims (CMS, 2020).

Medicaid: Federal and state funded program to provide health insurance for individuals with low income and children with state eligibility expansions to individuals at under 138% of the federal poverty threshold (Kobayashi et al., 2019).

Overpayments: Any payment made to a Medicaid provider in excess that is attributed to fraud or other billing errors (Shay, 2016).

Payment Error Measurement Rate (PERM): Medicaid program designed to identify payment errors which lead to overpayments (CMS, 2019).

Provider Type: Any institution or individual involved in the provision of services to Medicaid beneficiaries (CMS, 2020).

State Medicaid Agency (SMA): State organizations which handle the administration of Medicaid programs and are responsible for ensuring provider billing compliance (CMS, 2019).

Unbundling: Deconstructing services to maximize reimbursement for claims that are paid under a single payment methodology (Stowell et al., 2018).

Unified Program Integrity Contractors (UPICs): Individuals charged with conducting Medicaid audits and investigations to identify overpayments (CMS, 2019).

Upcoding: Billing for codes which lead to a higher reimbursement but do not reflect services provided (Thornton et al., 2015).

Assumptions

A major assumption in this study was that NYS OMIG audit reports were a credible source of the data. This assumption was necessary so that the study accurately reflects outcomes as observed in data analysis.

Scope and Delimitations

This study involves all existing Medicaid audits for provider overpayments in NYS from the NYS OMIG. The study only includes final audits where an overpayment

was identified. Although the CMS provides aggregates nationwide level data on random samples to identify overpayments and prevalence of provider errors, the study does not include this data since it does not demonstrate which errors are specific to the type of provider. As such, only NYS OMIG Medicaid audits were used since they included data involving all variables as they relate to a specific type of provider.

Significance of the Study and Social Change

As Medicaid is one the largest providers of healthcare funding in the US (Chernof, 2019), overpayments heighten the economic burden of healthcare provision and increase the portion of the GDP attributed to the sector (CMS, 2019). Consistent strains on Medicaid funding also impact beneficiaries' access to care, which in turn may lead to adverse effects on the health of those in need. While methods are being implemented for change, a targeted approach to protecting Medicaid funding may be warranted). This study will contribute by addressing resources which may be targeted to prevent overpayments. It could potentially result in policies to support best practices in Medicaid billing.

Research Gaps

Based on the literature review, empirical research on statistical associations in terms of overpayments and Medicaid dollars is largely nonexistent. Due to the lack of existing research indicating relationships among the variables in this study, my intent was to conduct this research which addresses statistical associations between overpayments and Medicaid when aiding SMA-concentrated efforts to promote provider compliance and preserve state Medicaid funding.

Summary

Section 1 included a literature review related to variables which are pivotal and provide a foundation for the study. Legislation pertinent to Medicaid billing, audits, and overpayments were also explored. The problem of Medicaid overpayments was underscored as it related to the theoretical IAD framework. This study was justified based on the magnitude of the identified problem. This section also addressed gaps in the research topic and how this study will contribute. Section 2 includes the methodology employed for data acquisition and analysis in the study.

Section 2: Research Design and Data Collection

Introduction

The purpose of this quantitative study is to determine if there is any relationship between provider type, reasons cited for overpayments, and Medicaid overpayment amounts. In this section, I outline the research design selected for the study and rationale for its selection. This section also includes details regarding data sampling and analysis procedures for variables within the study. Lastly, in this section, I highlight any threats to the validity of the study and ethical considerations for acquiring and analyzing data.

Research Design and Rationale

For this study, I chose a quantitative cross-sectional research design as it was most appropriate for determining if any association exists between study variables. The independent variable in this study was the provider type with the dependent variables being overpayment amounts and types of errors which influence overpayment amounts. Both dependent variables are presumed to be contingent on provider type. The quantitative cross-sectional research design was also suitable for this study because data were captured at a single point in time. Moreover, a cross-sectional research design is also useful for finding associations between variables.

Cross-sectional studies have been used widely in healthcare administration to investigate financial resources and how they are used and/or employed ineffectively. This cross-sectional study did not present any financial resources constraints, but considerable time was required to accumulate data since it was not available as a data set. Data were

downloaded individually with additional time needed to extract information relevant to variables being studied.

Methodology

Population, Sampling, and Sampling Procedures

The sample population for this study were providers identified in Medicaid audits conducted by the NYS OMIG. The NYS OMIG conducts annual audits to identify overpayment amounts by provider type and cites reasons for errors. Sample data is readily available on the NYS OMIG website, and each audit was downloaded individually. Once audits were downloaded, data were extracted from audits for each variable. Using an Excel file, categories were created for each provider type, which included types of errors cited for overpayment and overpayment amounts. The sample only included providers who administered healthcare services during the period between 2019 and 2020. Providers were physicians, hospitals, and dentists, and included those involved in long-term care, home care, nursing, pharmacy, medical equipment, transportation, and multi-type facilities.

Power Analysis

I used the G*Power analysis calculator to determine the sample size required for the study. Creswell (2018) recommended using previous studies as a reference for estimating the size of the correlation; however, since no other research has involved variables in this study, I used G*Power's *a priori* small effect size for generating an adequate sample which supports a more representative account of the study population.

The analysis also involved using the common alpha and beta values of 0.05 and .80, respectively.

A separate power analysis was conducted to test each hypothesis within the study. To test RQ1 and RQ2, a G*Power a priori cross-tabulation analysis indicated a required sample size of 1091 (see Table 1). However, the number of cases in the data set (682) was determined to be less than recommended in the G*Power analysis for a small effect size.

Table 1

*G*Power Cross-Tabulation Analysis for RQ1 and RQ2*

Input parameters		Output parameters	
Effect Size w	0.10	Noncentrality parameter λ	10.9100000
α err prob	0.05	Critical χ^2	7.8147279
Power (1- β err prob)	0.80	Total Sample size	1091
Df	53	Actual power	0.8002982

Research Questions and Hypotheses

RQ1: Based on NYS OMIG overpayment audits, is there a statistically significant relationship between provider type and Medicaid overpayment amounts?

H₀₁: Based on NYS OMIG overpayment audits, there is no statistically significant association between provider type and Medicaid overpayment amounts.

H_{a1}: Based on NYS OMIG overpayment audits, there is a statistically significant association between provider type and Medicaid overpayment amounts.

RQ2: Based on NYS OMIG overpayment audits, is there a statistically significant association between provider type and error reasons cited for overpayment?

H_02 : Based on NYS OMIG overpayment audits, there is no statistically significant association between provider type and error reasons cited for overpayment.

H_a2 : Based on the NYS OMIG overpayment audits, there is a statistically significant association between provider type and error reasons cited for overpayment.

Operationalization

In this section, I describe main variables which were operationalized in the study.

Provider Type

This refers to the nine different types of providers included in the study that are responsible for providing clinical services to patients.

Overpayment Amounts

This variable refers to an excess dollar figure identified after auditing provider types.

Reasons Cited for Overpayments

Any provider error resulting in an overpayment as defined by the CMS or identified in Medicaid audits (CMS, 2020).

Data Analysis Plan

After obtaining Institutional Review Board (IRB) permission to collect data (IRB approval number 11-16-20-0603359), audits were downloaded from the OIG website and information was entered into an Excel file. Data were analyzed using Statistical Package for the Social Sciences (SPSS), with a cross-tabulation analysis for RQ1 and RQ2. For cross-tabulation, I used a chi-square test for significance and also reported effect size using Phi and Cramer's V measures of association.

Threats to Validity

Threats to External Validity

A threat to validity in this study was availability of secondary data for this study. NYS OMIG audit data becomes unavailable as more recent data is added to the website. As such, the timing of data collection may have affected my ability to gain a large sample size as indicated in G*Power analyses, which could have potentially affected generalizability of study results. Availability and quantity of new data may minimize this threat to external validity.

Threats to Internal Validity

A threat to internal validity was that data for providers may change pending an appeal of the final audit. If a provider appeals an audit, and it is identified that the overpayment amount was incorrect, or there was a determination made where the provider is not liable for the overpayment, then this will affect outcomes of the study as overpayment amounts, providers, and reasons cited for overpayment can no longer be included in the study. However, the nature of the cross-sectional design can mitigate this issue, since data were collected and examined at a single point in time.

Ethical Procedures

The names of providers and their identifying information was not disclosed. All identifying information was removed and providers were classified according to type of services they provided. The IRB approval number for this study is 11-16-20-0603359.

Summary

This section described the design and methods involving data collection. Secondary data from the NYS OMIG audits were collected and filtered in order to compile information related to the study. Research questions were analyzed using a cross-tabulation and chi-square test for independence with Phi and Cramer's V measures of association. Section 3 includes findings of data analysis.

Section 3: Presentation of the Results and Findings

The purpose of this study was to determine if there was any relationship between provider type, reasons cited for overpayments, and Medicaid overpayment amounts in NYS. The impetus for this study was the vast growth in the amount of Medicaid overpayments that have been identified and consequential implications on Medicaid funding and impact on beneficiaries. Elinor Ostrom's institutional and analysis development framework served as the theoretical foundation for the study because of its widespread use as a health policy analysis framework based on its ability to influence healthcare policies and outcomes on an operational level of health services provision. Findings from this study may allow relevant stakeholders and Medicaid agencies to identify root causes of Medicaid overpayments and implement ways to allocate Medicaid funds more effectively.

For the study, I used cross-tabulation and a chi-square test for independence with Phi and Cramer's V measures of association as the main statistical method for data analysis. This method enabled comparison of means of categorical variables within the study and identification of whether there was any statistical significance.

To test for statistical significance between providers and overpayment amounts, providers were separated by respective categories, which included physicians, dentists, long-term care, hospital, multi-type facilities, home care, nursing, and an all-other category for any other providers. The dependent variables overpayment amount and error reasons cited for overpayments were converted to categorical variables by splitting into high and low levels based on the median. To test for statistical significance between

providers and reasons cited for overpayments, reasons identified were categorized by type into the following groups: missing/improper/insufficient documentation, improper billing and coding reimbursement for ineligible services and/or providers, failure to meet meaningful use requirements, and ineligible enrollees.

The study was guided by the following research questions and hypotheses:

RQ1: Based on NYS OMIG overpayment audits, is there a statistically significant relationship between provider type and Medicaid overpayment amounts?

H₀₁: Based on NYS OMIG overpayment audits, there is no statistically significant association between provider type and Medicaid overpayment amounts.

H_{a1}: Based on NYS OMIG overpayment audits, there is a statistically significant association between provider type and Medicaid overpayment amounts.

RQ2: Based on NYS OMIG overpayment audits, is there a statistically significant association between provider type and error reasons cited for overpayment?

H₀₂: Based on NYS OMIG overpayment audits, there is no statistically significant association between provider type and error reasons cited for overpayment.

H_{a2}: Based on NYS OMIG overpayment audits, there is a statistically significant association between provider type and error reasons cited for overpayment.

Data Collection of the Secondary Data Set

The data collection process for this study involved downloading all available final audits from the NYS OMIG for the years 2019 and 2020 at the time of collection. Each audit was examined to determine the type of provider that was being audited, reasons cited for overpayment, and amount of overpayment identified. Audits in which

overpayments were not identified were not used in the study. Data were manually extracted from audits and consolidated in Microsoft Excel with unique identifiers to protect the identity of providers. There were no discrepancies in terms of use of secondary data.

Results

Table 2 indicates the frequency distribution for each provider according to their overpayment amount percentages. Additionally, Tables 3 to 7 depict frequency distributions for variables used in the study according to error reasons cited for overpayments.

Table 2

Frequency Distribution and Chi-Square Results for Overpayment Amount

Variables	Categories	Low		High		N	%
		N	%	N	%		
Provider	Dentist	76	13.9	0	0.0	76	11.1
	Diagnostic and Treatment Center	29	5.3	5	3.6	34	5.0
	Home Care	85	15.6	14	10.2	99	14.5
	Hospital	54	9.9	7	5.1	61	8.9
	Long Term Care	60	11.0	77	56.2	137	20.1
	Multi-Type	96	17.6	16	11.7	112	16.4
	Physician	112	20.6	2	1.5	114	16.7

All Other	33	6.1	16	11.7	49	7.2
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$$\chi^2(7) = 167.08, p < .001, \varphi = 0.50$$

Table 3

Frequency Distribution and Chi-Square Results for Ineligible Enrollees

Variables	Categories	Low		High		N	%
		N	%	N	%		
Provider	Dentist	75	12.3	1	1.4	76	11.1
	Diagnostic and Treatment Center	31	5.1	3	4.3	34	5.0
	Home Care	83	13.6	16	22.9	99	14.5
	Hospital	52	8.5	9	12.9	61	8.9
	Long Term Care	133	21.7	4	5.7	137	20.1
	Multi-Type	95	15.5	17	24.3	112	16.4
	Physician	114	18.6	0	0.0	114	16.7
	All Other	29	4.7	20	28.6	49	7.2

$$\chi^2(7) = 85.42, p < .001, \varphi = 0.35$$

Table 4

Frequency Distribution and Chi-Square Results for Ineligible Services and/or Providers

Variables	Categories	Low		High		N	%
		N	%	N	%		
Provider and Treatment Center Home Care Hospital Long Term Care Multi-Type Physician All Other	Dentist	75	12.1	1	1.7	76	11.1
	Diagnostic	33	5.3	1	1.7	34	5.0
	Home Care	95	15.3	4	6.7	99	14.5
	Hospital	60	9.6	1	1.7	61	8.9
	Long Term Care	136	21.9	1	1.7	137	20.1
	Multi-Type	108	17.4	4	6.7	112	16.4
	Physician	80	12.9	34	56.7	114	16.7
	All Other	35	5.6	14	23.3	49	7.2

$$\chi^2(7) = 115.07, p < .001, \phi = 0.41$$

Table 5

Frequency Distribution and Chi-Square Results for Improper Billing and Coding

Variables	Categories	Low		High		N	%
		N	%	N	%		

Provider	Dentist	76	21.2	0	0.0	76	11.1
	Diagnostic	5	1.4	29	9.0	34	5.0
	and						
	Treatment						
	Center						
	Home Care	21	5.9	78	24.1	99	14.5
	Hospital	18	5.0	43	13.3	61	8.9
	Long Term	133	37.2	4	1.2	137	20.1
	Care						
	Multi-Type	24	6.7	88	27.2	112	16.4
	Physician	53	14.8	61	18.8	114	16.7
	All Other	28	7.8	21	6.5	49	7.2

$$\chi^2(7) = 294.64, p < .001, \phi = 0.66$$

Table 6

Frequency Distribution and Chi-Square Results for Improper or Insufficient Documentation

Variables	Categories	Low		High		N	%
		N	%	N	%		
Provider	Dentist	35	6.1	41	38.3	76	11.1
	Diagnostic	29	5.0	5	4.7	34	5.0
	and						

Treatment Center						
Home Care	80	13.9	19	17.8	99	14.5
Hospital	59	10.3	2	1.9	61	8.9
Long Term Care	135	23.5	2	1.9	137	20.1
Multi-Type	101	17.6	11	10.3	112	16.4
Physician	106	18.4	8	7.5	114	16.7
All Other	30	5.2	19	17.8	49	7.2

$\chi^2(7) = 142.25, p < .001, \phi = 0.46$

Table 7

Frequency Distribution and Chi-Square Results for Failure to Meet Meaningful Use Requirements

Variables	Categories	Low		High		N	%
		N	%	N	%		
Provider	Dentist	1	0.2	75	78.9	76	11.1
	Diagnostic and Treatment Center	34	5.8	0	0.0	34	5.0
	Home Care	99	16.9	0	0.0	99	14.5

Hospital	61	10.4	0	0.0	61	8.9
Long Term Care	137	23.3	0	0.0	137	20.1
Multi-Type	112	19.1	0	0.0	112	16.4
Physician	94	16.0	20	21.1	114	16.7
All Other	49	8.3	0	0.0	49	7.2

$\chi^2(7) = 536.21, p < .001, \phi = 0.89$

RQ1 - Results

Using the cross-tabulation technique in SPSS, I analyzed the data using the chi-square test of independence and the Phi and Cramer's V measures of association to report the effect size and determine whether there was any statistical association between provider type and Medicaid overpayment amounts. The chi-square analysis determined that there was a statistically significant association between provider types and Medicaid overpayment amounts, $\chi^2(7) = 167.08, p < .001$ with a large effect size, $\phi = 0.50$. Findings also indicate that 56.2% of overpayments stem from Long Term Care Facilities. Thus, the null hypothesis that there is no statistically significant association between provider type and Medicaid Overpayments amounts was rejected. The hypothesis that there is a statistically significant association between provider type and Medicaid Overpayments amounts was accepted.

RQ2 - Results

Results of the chi-square analysis support H_{a2} given the statistically significant outcome of the test. For all error reasons there was a statistically significant association

by provider type which is depicted in Table 8. Figure 1 depicts the prevalence of error reasons cited for overpayments by provider type. Findings indicate that the most common error reason resulting in an overpayment was a Failure to Meet Meaningful Use Requirements by Dentist providers. Thus, the null hypothesis that there is no statistically significant association between provider type and the error reasons cited for overpayment was rejected. The hypothesis that there is a statistically significant association between provider type and the error reasons cited for overpayment was accepted.

Table 8

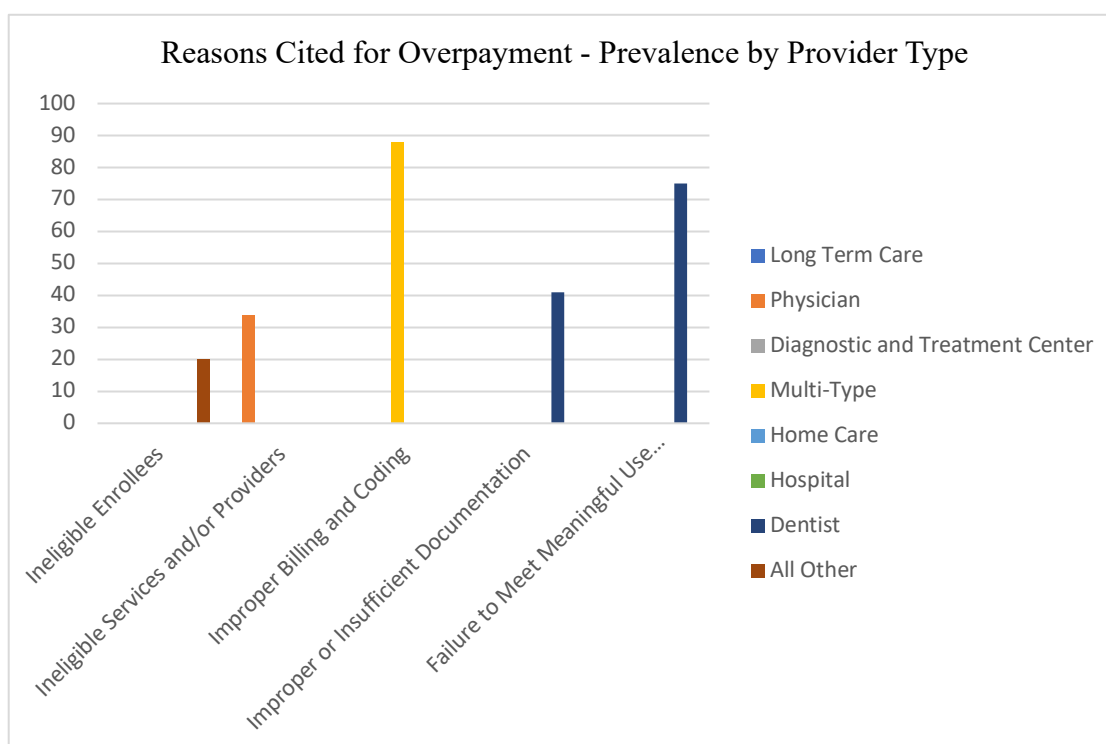
Chi-Square Test of Independence Results with Report of Effect Size by Reason Cited for Overpayment

Reason Cited for Overpayment	Chi-Square Test of Independence Result with Effect Size	Effect Size
<i>Ineligible Enrollees</i>	$\chi^2(7) = 85.42, p < .001, \varphi = 0.35$	Medium
<i>Ineligible Services and/or Providers</i>	$\chi^2(7) = 115.07, p < .001, \varphi = 0.41$	Medium
<i>Improper Billing and Coding</i>	$\chi^2(7) = 294.64, p < .001, \varphi = 0.66$	Large
<i>Missing, Improper or Insufficient Documentation</i>	$\chi^2(7) = 142.25, p < .001, \varphi = 0.46$	Medium

Failure to Meet Meaningful Use Requirements $\chi^2(7) = 536.21, p < .001, \varphi =$ Large
0.89

Figure 1

Reasons Cited for Overpayment: Prevalence by Provider Type



Summary

In this section, I used cross-tabulation and a chi-square analysis to determine whether there was a statistically significant association between the variables in the study. Phi and Cramer's V measures of association were used in the analysis and to determine the effect size. Results of the analysis indicate a statistically significant association between provider type and overpayments, and provider type and the error reasons cited for overpayments.

To support the cross-tabulation, all variables were coded into categorical variables with values coded for those which were high and low above the median. A frequency distribution analysis determined that error reasons cited for overpayments which were high above the median were prevalent among specific provider types. For the ineligible enrollees category of reasons cited for overpayments, all-other provider types were found to be prevalent in contributing to the error. The all-other category includes laboratory, transportation, pharmacy, durable medical equipment, and nursing providers. For the ineligible services and/or providers' error reason, physicians were found to be most prevalent. The improper billing and coding error reason was prevalent in multi-type facilities. Lastly, the error reasons improper or insufficient documentation and failure to meet meaningful use requirements were prevalent in dentists only.

Results of the study support the null hypotheses that there is a statistically significant relationship between provider type and Medicaid overpayment amounts, and between provider type and the error reasons cited for overpayments. The application to professional practice and implication for social change based on the results of this study are discussed in Section 4.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

The purpose of this study was to determine if there is any relationship between provider type, reasons cited for overpayments, and Medicaid overpayment amounts in NYS. Previous research on the topic has been limited and focused specifically on overpayment reasons such as fraud. Other research has focused on overpayments relating to specific diagnoses and procedures through random and nationwide sampling methods, as well as cross-sectional studies to examine provider patterns for fraudulent behavior. While other research has identified reasons relating to overpayments, little to no research has been conducted to investigate statistical associations between provider type, overpayments, and reasons cited for the overpayments.

For this study, I obtained secondary data from the NYS OMIG for the years 2019 and 2020. Data were Medicaid audits where an overpayment was identified, and reasons cited for the overpayment were evident. I performed a cross tabulation in SPSS using Phi and Cramer's V measures of association to examine relationships between variables. Findings indicate significant associations between provider types and overpayment amounts as well as reasons for overpayment.

In this section, I discuss interpretations of these findings and the impact and implication on professional and social change.

Interpretation of the Findings

Results of the study include evidence that there are significant associations between provider types, overpayment amounts, and reasons cited for overpayments.

Evidence suggests that the nature of the provider can influence the amount of overpayment identified in audits. Additionally, reasons cited for overpayments appear to be prevalent among specific providers. There is evidence to suggest that dentists or dental providers frequently commit errors involving proper documentation and meeting meaningful use requirements defined by the Health Information Technology for Economic and Clinical Health (HITECH) Act. Under the HITECH Act, providers are required to adopt electronic health record (EHR) systems aimed at improving quality of care (Lite et al., 2020). Failure to develop required EHR systems will result in an overpayment for noncompliance as identified in Medicaid audits.

Results of the study also suggest that improper billing and coding is frequent among multi-type facilities. Improper billing and coding occur for multiple reasons as noted in the literature review and may be accidental or fraud based. Whether accidental or not, providers are mandated to report any incidences of overpayment in a timely manner to reduce the likelihood that it may be considered fraudulent.

Additional evidence in the study indicates that physicians are more likely to receive overpayments for services where they are ineligible to receive payment, or they are ineligible to receive payments for services rendered. For all other providers, evidence suggests that services were rendered to enrollees who were not eligible for services provided.

Limitations of the Study

Limitations for this study include the size of facilities audited for the study. A larger facility may result in higher incidences of overpayment based on the volume of

services it provides. Moreover, NYS OMIG audits are conducted on random facilities throughout the state, which may influence the number of audits available for a given type of provider. Also, the study was conducted solely in facilities in NYS; however, the size of the state and range of provider types are generally applicable to the US.

Recommendations

Recommendations for future studies of this nature include aggregating more data on healthcare facilities as opposed to random audits. The state can develop a repository which houses identified incidences of overpayment by facility type as opposed to random audits. This will allow for a more precise identification and analysis of the root causes of overpayments as well as more effective ways to combat them. It is also recommended that other states employ similar mechanisms to capture overpayment data and identify root causes. Another key recommendation is for Medicaid state agencies to aggregate overpayment data which the CMS can use for data analysis and identification of overpayments as well as root causes nationwide.

Application to Professional Practice

The results of this study and current state of overpayment in the US suggest an urgent need for practitioners to analyze their own institutional data and develop best practices for reducing overpayments. While Medicaid audits are useful in identifying overpayments and reasons thereof, those in professional practices can employ their own methods for preventing and rapidly identifying overpayments. Evidence from the study strongly suggests that promoting compliance in terms of adhering to CMS requirements for billing is warranted. Whether it is through training or a culture of billing and

reimbursement vigilance throughout institutions, best practices can and should be employed by providers and their staff responsible for Medicaid billing.

Implications for Positive Change

With the current economic crisis compounded by the COVID-19 pandemic, there is a sense of urgency to reduce the economic burden of healthcare. Rising healthcare costs which consume a significant portion of the GDP along with healthcare overpayments and overpayment recovery represent substantial costs of healthcare. This study and other studies of this nature will help to develop knowledge required to mitigate healthcare economic issues.

This study adds to a slim body of knowledge regarding how providers influence overpayments and highlighted the imperative for those in the field to exercise measures to combat overpayments. Addressing overpayments will allow federal dollars to be apportioned appropriately and minimize the likelihood that beneficiaries of Medicaid will experience cutbacks or other constraints on their benefits. Moreover, the preservation of federal dollars in healthcare can allow other resources to be funded.

Conclusion

In this study, I examined the amount and root causes of Medicaid overpayments as they relate to varying provider types. Results of the study indicate that there are statistical associations between provider types and overpayment amounts and the reasons errors occurred. Evidence of the study warrants further investigation into incidences of overpayment to combat and reduce their impact on funding Medicaid programs and

ensuring that low-income and other Medicaid beneficiaries can retain their health benefits and continue to address their health needs.

Healthcare providers and administration can work collaboratively to promote compliance in terms of billing and reimbursement requirements from CMS and other relevant agencies. The results of this study can be used to target problem areas and allow providers to conduct their own investigations of root causes of overpayments so that they can be addressed within the respective provider institutions. Addressing overpayments can lead to millions of dollars being preserved and allocated more efficiently for Medicaid recipients.

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