THE RELATION OF MEDICARE INPATIENT ONE DAY STAYS TO MANAGED CARE PENETRATION, BY STATE

THESIS

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PREFACE

I wish to thank those who so generously gave their time to support the development of this research. Specifically, I am indebted to Dr. Michael Nowicki, who chaired my thesis committee and encouraged me to consider the thesis option. Drs. Oren Renick and Jim Summers also supported my efforts and provided valuable input to the final product. I am very grateful to the Texas Medical Foundation, which allowed access to data and personnel in other states so that this research could be conducted. Lastly, without the boundless support of my husband I could not have completed this research. This thesis was submitted to my committee on March 20, 2000.

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INTRODUCTION

The Problem and its Purposes

Healthcare fraud takes billions of dollars away from federally funded healthcare programs. These programs, particularly Medicare and Medicaid, provide essential healthcare services to millions of elderly, low-income, and disabled Americans. Most healthcare professionals provide honest treatment to patients and submit bills in accordance with guidelines; however, there are others who commit fraud. Fraud takes place in many settings and in many forms, such as unbundling of charges, miscoding of diagnoses and/or procedures, waiver of copayments and deductibles (which is illegal for government-sponsored programs), billing for services not rendered, false diagnosis, falsifying of medical records, billing for phantom drugs, billing for services performed by a less qualified person, and inflating the number of visits. Other types of healthcare fraud schemes can include cost reporting fraud, kickbacks, billing for equipment never provided, drug diversion, and inflated medical bills to inflate the basis for a claim (King, 1999).

The purpose of this research is to determine if there is a relationship between the rate of one day lengths of stay and managed care penetration. It is felt that, because of the controls managed care imposes on healthcare providers, only those patients who are in need of inpatient hospitalization would be admitted, thereby decreasing the overall number of one day lengths of stay and ultimately decreasing the one day length of stay

rate. A one day length of stay occurs when a patient is admitted to a healthcare facility as an inpatient and is discharged either on the same day as admission or on the day after admission. The one day length of stay rate is calculated by dividing the total number of one day lengths of stay for a time period by the total number of discharges during that time period.

National health care expenditures totaled $1.1 trillion in 1998, a 5.6 percent increase from 1997, according to the Health Care Financing Administration's (HCFA) annual National Health Expenditures report (Alego, 2000). The HCFA is the largest single purchaser of health care in the world with expenditures of approximately $310 billion. Medicare and Medicaid outlays represented 34.2 cents of every dollar of health care spent in the United States in 1998. In view of Medicare's 39 million beneficiaries, 860 million claims processed and paid annually, complex reimbursement rules, and decentralized operations, the Medicare program is inherently at high risk for payment errors (FY 1998 Financial Statement Audit Health Care Financing Administration, 1999).

The federal government has been estimating the inappropriate use of funds for several years. A 1997 audit by the Office of the Inspector General (OIG) of 8,048 fee-for-service Medicare claims found that 1,907 claims did not comply with Medicare laws and regulations. By projecting these sample results, they estimated that fiscal year (FY) 1997 net overpayments totaled about $20.3 billion nationwide, or 11 percent of total Medicare fee-for-service benefit payments. This was a decrease from the estimate of $23.2 billion for 1996. The improper payments primarily resulted from provider billings for services that were medically unnecessary, insufficiently documented, noncovered, or incorrectly coded. These improper payments could range from inadvertent mistakes to

outright fraud and abuse. Table 1 depicts the types of errors and provider claims included in the $20.3 billion improper payment estimate for FY 1997. Physician and inpatient prospective payment system (PPS) comprise over half of these improper payments. Most of these errors fell into four general categories:

1. Documentation errors, including insufficient documentation, documents not provided due to extenuating circumstances, and no documentation;
2. Lack of medical necessity;
3. Incorrect coding; and
4. Noncovered/unallowable services.

The majority of improper payments were based on documentation issues and on medically unnecessary or noncovered services.

Table 1

Types of Errors Resulting in Improper Payments for FY 1997, in millions

Type of Provider	Lack of medical necessity	Insufficient documen-tation	Incorrect coding	Other	Total	Percentage of improper payments
Physician	$376	$2,415	$1,698	$1,416	$5,905	29.11%
Inpatient PPS*	2,319	460	1,001	281	4,061	20.02%
HHA**	2,484	68	-	1	2,553	12.59%
Outpatient	435	1,478	8	36	1,957	9.65%
DME***	100	80	218	1,541	1,939	9.56%
Other	1,766	702	50	1,349	3,867	19.07%

Total	$7,480	$5,203	$2,975	$4,624	$20,282	100.00%
Percentage of Improper Payments	36.88%	25.65%	14.67%	22.80%	100.00%	

*PPS = Prospective Payment System

**HHA = Home Health Agency

***DME = Durable Medical Equipment

As a result of this information, the OIG recommended that HCFA develop a system to focus on payment errors and implement corrective actions to reduce improper payments (Office of the Inspector General, 1997). The HCFA began a campaign to identify and eliminate these improper payments through various avenues. The estimated amount of payment error in 1998 was $12.6 billion, a decrease from the 1997 estimate of $20.3 billion and the 1996 estimate of $23.2 billion. This decline was attributed to several factors:

- The Medicare Integrity Program, under HCFA's direction, provided resources to expand contractor safeguard activities, including increased medical reviews, audits, and provider education.
- Fraud and abuse initiatives:
  - Operation Restore Trust emphasized review of home health claims
  - The Health Insurance Portability and Accountability Act provided HCFA and OIG with funding for Medicare payment safeguards
  - The Health Care Fraud and Abuse Control Program
- HCFA and OIG outreach efforts and corrective actions.

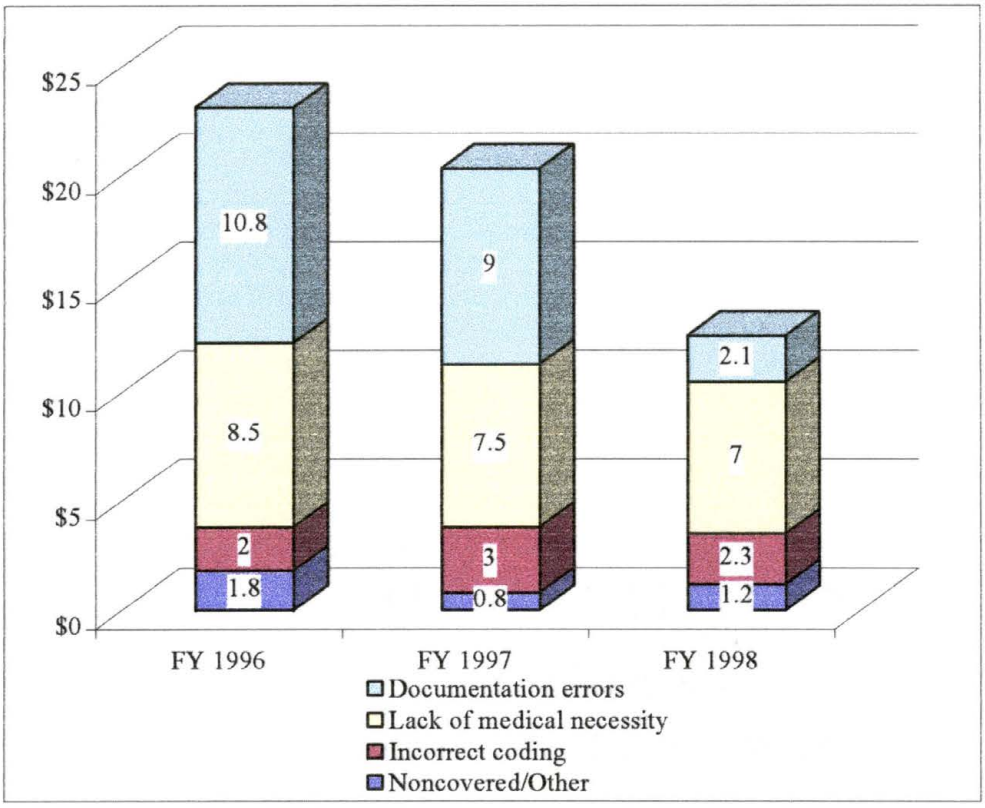

Figure 1.

Estimated Improper Payments by Type of Error (in billions)

Figure 1 illustrates the reduction in improper payments by the major error categories (documentation errors, lack of medical necessity, coding, and noncovered/other services) from 1996 to 1998. The lack of medical necessity was the highest error category during 1998 and the second highest for both fiscal years 1996 and 1997. As noted in Figure 2, the lack of medical necessity in inpatient prospective payment systems (PPS) has been significant in all three years. This error category covers situations where the medical records contained insufficient documentation to allow the medical review staff to make an informed decision that the medical services received

were not medically necessary (FY 1998 Financial Statement Audit Health Care Financing Administration, 1999).

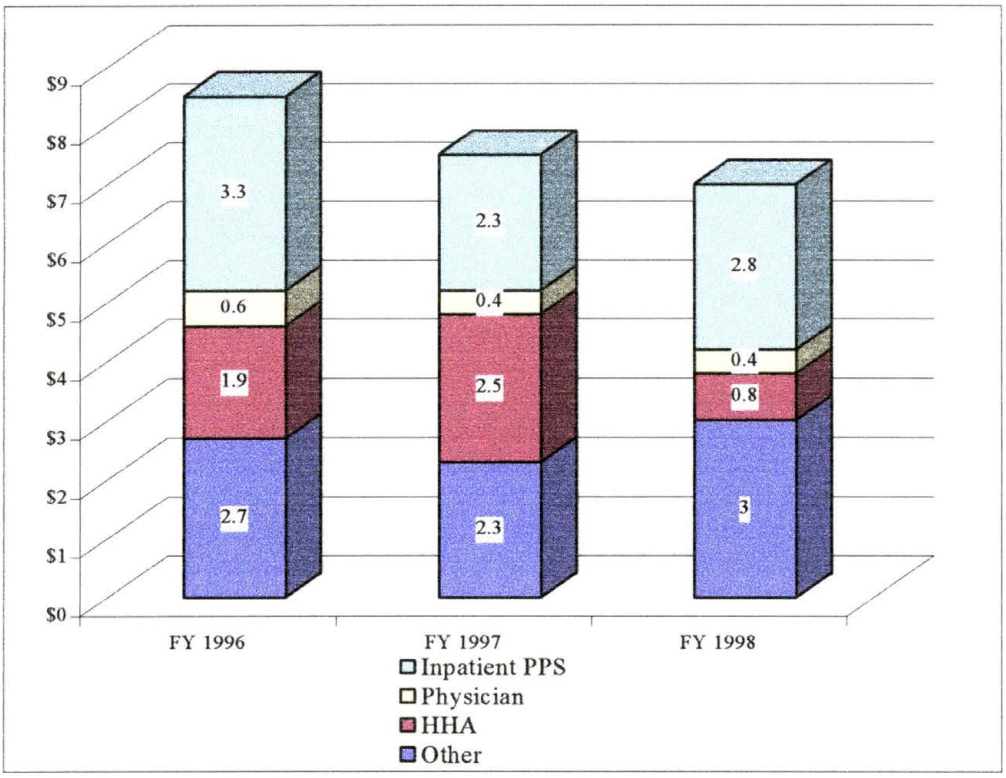

Figure 2.

Errors due to Lack of Medical Necessity by Provider Types (in billions)

One day lengths of stay could also fall into this category of "lack of medical necessity." According to Medicare claims data for Texas during FY 1998, the one day length of stay rate was 8.01 percent (excluding deaths and transfers). A one day length of stay is a potential utilization issue for healthcare facilities. It could indicate that patients are being admitted as inpatients when not medically necessary. It could also indicate abuse of the DRG payment system if hospitals are admitting patients for one day to receive the full DRG payment, or premature patient discharge. A one day stay could also be tied to an outpatient observation stay.

Managed care plans focus on utilization issues with healthcare providers, thereby reducing unnecessary admissions and services and forcing providers to examine the efficiency in which they deliver care. As a result, providers have reduced the resources expended on patients, and lengths of stay have decreased. A Johns Hopkins study of 704,861 operations in Maryland found that managed care decreased overall surgical volume as well as inpatient days and average length of stay for patients who receive surgery in hospitals. There was a 4.3 percent decline in surgeries, a 19.9 percent decline in the number of patient days, and a 16.3 percent decrease in the average length of stay (Managed Care, 1997). Managed care utilizes systems to control hospital admissions and procedures (such as preauthorization) which impact the utilization of hospital resources on patients.

A second study by KPMG Peat Marwick looked at 11.7 million patients in 3,700 acute care hospitals. The study produced the following key findings:

- Hospital costs in high managed care markets were approximately 19 percent below hospital costs in low managed care markets;
- Costs in hospitals with high levels of managed care are approximately 11 percent below the national average and 19 percent below hospitals in low managed care markets;
- Patient stays are shorter in high managed care markets: 6.32 percent less than the national average and almost 12 percent shorter than patient stays in medium managed care markets; and
- Hospital costs increased approximately 1.44 percent nationwide versus 5.59 percent in the prior year; costs actually decreased in the high managed care market as a group

(KPMG Peat Marwick, 1996).

Managed care has impacted the growth of spending for healthcare. In 1980, California's per capita spending was 17 percent above the national average. By 1993, the per capita spending equaled the national average. It was noted that for every 10-percentage-point increase in the HMO enrollment rate, the growth of health spending fell by 0.5 percentage points per year. Increases in HMO enrollment cause spending on hospital care to fall even more. While HMOs have no significant effect on the number of admissions per person, they have reduced hospital spending. This reduction is mostly attributed to a reduction in the length of stay (Cutler and Sheiner, no date).

These statistics have led to a change in the way hospitals admit and care for patients. Forced to analyze their costs and cut where they can, hospitals must respond to the pressure of decreased reimbursement. A quote found in a managed care journal from a hospital executive to his board aptly describes the situation:

> "I asked, 'Why do you want me to bring down the number of bed days used? Most of your business is probably managed care and you're still reimbursed on a per-diem basis.' The board said, 'Yes, but our contracted rate right now is so low with the HMOs (health maintenance organizations) that it barely covers our costs. We don't want these people to be here any longer than they have to be, even though we're being reimbursed on a per-diem basis'" (Diamond, 2000).

The United States government has also attempted to get in on the action to decrease healthcare cost increases. In 1997 Congress passed the Balanced Budget Act which made many changes in the Medicare program by including a section entitled

Medicare+Choice. Medicare+Choice made new health plan options available to Medicare beneficiaries as an alternative to the original Medicare program, which was fee-for-service insurance coverage. However, after contracting with HCFA to accept Medicare patients, some managed care companies did not find Medicare managed care to be profitable and discontinued their contracts with HCFA. In August of 1998, three health plans pulled out of rural Medicare and Medicaid HMO markets because of major financial losses due to escalating pharmacy costs, higher medical costs for northeastern Medicare HMOs, and low reimbursement rates (Noble, 1998). The General Accounting Office (GAO) found that payments were not the only reason that health plans leave Medicare. According to a recent GAO report, payment levels were one factor; however, withdrawals may have resulted from plans determining that they are not competitive in certain areas (Cohen, 1999).

HCFA has been encouraged to decrease the amount spent in improper payments to health care providers. Because of the success of the managed care industry in decreasing inefficiencies in healthcare, it is a potential partner for HCFA in this campaign. If there is an inverse relationship between the percentage of one day lengths of stay and managed care penetration, HCFA may want to consider working more collaboratively with the managed care industry because of the effect it has on length of stay and utilization issues. The purpose of this research is to determine if there is a relationship between one day lengths of stay and managed care penetration. **Therefore, is hypothesized that the one day length of stay rate for Medicare beneficiaries is lower in states with high managed care penetration. Specifically, it is hypothesized**

that the one day length of stay rate for Medicare beneficiaries is lower in states with high Medicare HMO enrollment (as a percentage of the Medicare population).

Significance of the Problem

As outlined previously, the estimated amount of improper Medicare payments due to lack of medical necessity is $7 billion in FY 1998. Of this, an estimated $2.8 billion occurs in inpatient PPS facilities. One day lengths of stay have been identified as a potential contributor of the misuse of Medicare funds in the lack of medical necessity category for inpatient PPS facilities. In Texas, 8.01 percent of all Medicare discharges are one day lengths of stay.

Definition of Terms

A one day length of stay occurs when a patient is admitted to a health care organization as an inpatient and is discharged on either the same day or the following day. For the purposes of this study, patients who died or were transferred to another level of care were not included in the rate.

Managed care is a system that combines the financing and delivery of health services to members who are enrolled in a specific type of healthcare plan. The term "managed care" generally refers to the prepaid health care sector (e.g., health maintenance organizations) where care is provided under a fixed budget and costs are therein capable of being "managed". Increasingly, the term is being used to include preferred provider organizations and even forms of indemnity insurance coverage that incorporate preadmission certification and other utilization controls (American Medical Specialty Organization, Inc., 1999).

Medicare+Choice (also referred to as Medicare managed care plan) is a group of doctors, hospitals, or other health care providers who have agreed to provide care to Medicare beneficiaries in exchange for a fixed amount of money from Medicare each month. Each plan has its own network of hospitals, skilled nursing facilities, doctors, and other healthcare professionals. Services usually must be obtained from the providers and facilities that are part of that plan. There is typically a small copayment for each service rendered. The different types of managed care plans included in Medicare+Choice are HMOs, point of service plans, provider sponsored organizations, and preferred provider organizations (all different variations on managed care) (Health Insurance Counseling Assistance and Referral for the Elderly, 2000).

Fraud is defined as an intentional misrepresentation of fact designed to induce reliance by another (Nowicki, 1999).

Abuse is defined as an unintentional misrepresentation of fact (Nowicki, 1999).

The Health Care Financing Administration (HCFA) is a federal agency within the United States Department of Health and Human Services. HCFA runs the Medicare and Medicaid programs, two national healthcare programs that benefit about 75 million Americans (Health Care Financing Administration, 2000).

The Office of the Inspector General (OIG) promotes economy, efficiency, and effectiveness within the Department of Justice (DOJ). The OIG enforces criminal and civil laws, regulations, and ethical standards within the DOJ by investigating individuals and organizations who allegedly are involved in financial, contractual, or criminal misconduct in DOJ programs and operations (United States Department of Justice, 2000).

A Peer Review Organization (PRO) is an organization that operates under a contract system administered by HCFA, as dictated by federal legislation. The main responsibilities of the PROs are to ensure quality care for Medicare beneficiaries and to protect the federal funds of the Medicare program (Weinmann, 1998).

The Texas Medical Foundation (TMF) was founded in 1971 as a private, nonprofit organization of licensed physicians (MDs and DOs) whose purpose is to promote, develop, define, and encourage the delivery of high quality medical care and health services, while promoting efficient, cost-effective health care. Since 1984, TMF has been the PRO for Texas, reviewing the necessity and quality of medical care provided to Medicare beneficiaries in Texas (Texas Medical Foundation, 2000).

METHOD

Subjects

The subjects in this study are the fifty states in the United States.

Sources of Data

There are several sources of data for this study. One source is claims data from the Medicare claims database for all Medicare discharges in Texas from fiscal year 1998. The total number of claims with one day lengths of stay during 1998 were 679,217 for a statewide rate of 8.01 percent. The PROs throughout the United States provided their one day length of stay rate for FY 1998. Managed care penetration rates were obtained from a website on the internet, as were Medicare HMO enrollment data by state.

Design

This study is a correlational research design. There are two variables being correlated with the states' one day length of stay rate: the statewide managed care penetration rate and the state Medicare HMO enrollment rate.

The one day length of stay rate for Texas was calculated on Medicare claims data for FY 1998. Utilizing the peer review organization standard data processing system, all other PROs were contacted via e-mail and asked to share their one day length of stay rate for FY 1998. The e-mail was sent to designated points of contact at each PRO. The e-mail included specific parameters for calculation of the rate, and requested them to submit their rate by March 10, 2000. Upon receipt of the one day length of stay rates

from the PROs, the state rates were correlated with their respective statewide managed care penetration rate, and the product moment correlation coefficient (Pearson r) was calculated. Similarly, the state rates for one day lengths of stay were correlated with the percentage of Medicare beneficiaries enrolled in Medicare+Choice for the state. Again, the product moment correlation coefficient (Pearson r) was calculated.

RESULTS

One day length of stay rates were received from PROs for 22 states (see Table 2). When correlated with the statewide managed care penetration rate, there was a weak relationship (r = 0.305). There may be a weak inverse relationship between one day length of stay rate and Medicare+Choice rate (r = -0.271).

Table 2

One Day LOS rate, Managed Care Penetration Rate, and Medicare+Choice Rate by State

State	One day LOS rate for FY 1998 (Oct. 1997 – Sept. 1998)	Managed Care Penetration, Statewide, CY 1997*	Medicare Beneficiaries covered by Medicare+Choice, August 1998**
Connecticut	12.76%	37%	19.7%
Delaware	10.67%	43%	0.0%
Florida	11.1%	31%	28.4%
Georgia	11.5%	15%	4.6%
Kansas	11.70%	14%	1.5%
Maine	11.34%	18%	0.2%
Massachusetts	10.9%	43%	22.7%
Michigan	11.57%	25%	3.8%
Minnesota	15.9%	30%	16.8%

Nevada	14.05%	22%	36.2%
New Hampshire	10.78%	31%	8.3%
New Mexico	10.90%	26%	19.2%
New York	8.6%	37%	19.2%
North Dakota	7.7%	3.0%	0.7%
Oklahoma	7.78%	14%	8.4%
Pennsylvania	9.72%	30%	25.5%
Rhode Island	10.18%	38%	34.3%
South Dakota	12.36%	4%	0.0%
Texas	8.01%	17%	15.8%
Utah	15.06%	39%	20.1%
Vermont	10.49%	19%	1.8%
West Virginia	8.15%	11%	2.3%

*Note: Statewide HMO penetration rates were based on enrollment figures reported during 1998 for year-end 1997. Statewide enrollments were obtained directly from state insurance commissions or other authorized reporting agencies for each state.

*Source: Medical Data International, Inc., 2000.

**Source: Health Care Financing Administration, 1998.

DISCUSSION

The results in this study indicate that there is not an inverse relationship between the one day length of stay rate and the level of managed care penetration. In fact, there may be a weak relationship ($r = 0.305$) between the two variables. It is possible that due to managed care's increased pressure on hospitals to decrease lengths of stay that one day lengths of stay have increased as a result. Another possibility is that hospitals, faced with pressures to increase reimbursement, are gaming the Medicare system in a high managed care market by admitting more Medicare patients for one day lengths of stay. This could lead to increased reimbursement from the Medicare program to cover losses to managed care.

The weak inverse correlation ($r = -0.271$) between Medicare+Choice enrollment and one day length of stay rates for Medicare beneficiaries, on the other hand, may indicate that states with a higher proportion of Medicare beneficiaries enrolled in managed care plans have lower one day length of stay rates. The features of managed care plans intended to decrease inappropriate utilization of resources may indeed have an impact on the number of one day lengths of stay for the Medicare population. Older patients tend to require longer amounts of time to recover from illness or surgeries, and as such their lengths of stay tend to be longer (U.S. Department of Health and Human Services, 1997). It is possible that the preadmission screening processes eliminate unnecessary admissions, thereby decreasing one day lengths of stay, while authorized

admissions stay in the hospital for longer amounts of time as required to treat their condition.

Limitations

There are several limitations to this study. The PROs were not required to submit their one day length of stay rate; therefore, there was incomplete reporting of these rates. One day length of stay rates were received for less than fifty percent of the states; therefore, these results may not reflect the actual presence or absence of a relationship between the two variables. It would be beneficial to obtain rates for all fifty states to determine whether a stronger correlation exists.

Another limitation is the possibility that the individual PROs that reported one day length of stay rates may have calculated it in a different manner from other states. Specific instructions regarding inclusions and exclusions were e-mailed to the PROs, but nonetheless these may not have been regarded.

The time periods used for the data do not coincide exactly. The claims data utilized to calculate the one day length of stay rate was for October, 1997 through September, 1998. The managed care penetration rate was calculated as of December, 1997. The Medicare managed care rate was calculated as of August, 1998. However, because managed care may take several months to impact care processes, it is possible that the one day length of stay rates do not reflect the impact of managed care.

Lastly, outpatient claims data were not available. These data would be expected to indicate an increase in the number of patients treated on an outpatient basis, which would further confirm the decrease of occurrences of one day lengths of stay.

CONCLUSION

The results of this study do not indicate a meaningful relationship between one day length of stay rate and managed care penetration or Medicare+Choice enrollment. There are many opportunities to decrease the inappropriate payments from the Medicare program made to healthcare providers. Alternative methods to the traditional retrospective review of medical and billing records need to be sought out. Partnering with other agencies or industries with similar goals is one area that has potential for successfully addressing the inappropriate payment issue. While this research did not show that there was a relationship between managed care penetration and one day lengths of stay, the managed care industry has improved the efficiency of care delivery. Other opportunities for partnering and lessons learned should be explored as an area for further study and research.

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VITA

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