

The Anatomy of a Medicaid Fraud

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I. Introduction

To Find Fraud, Follow the Money

Viewed as a national economy, U.S. healthcare is over \$3 trillion strong, and the fifth largest economy in the world, just below Germany and above United Kingdom. Any large market segment is vulnerable to fraud and abuse and U.S. healthcare is no exception (HHS-DOJ, Johns Hopkins, Geruso et al., 2020). There are many contributing factors to fraud and abuse, but the main catalyst in healthcare is the lack of transparency and the resulting complexity in the industry. Particularly noteworthy is a new type of fraud that has emerged in Medicaid, that is challenging to detect, and seems to frustrate fail-safe rules that are in place. Undetected fraud is particularly pernicious because the losses compound and impoverish society further.

ACA Planted the Seeds for a \$100 Billion Fraud

Our discovery of fraud was serendipitous. We had developed a patented healthcare forecasting tool, called CareMaps, to study the spread and treatment for chronic diseases and cancer. When analyzing 2014 Medicaid data in one state, we found that the Affordable Care Act (ACA) unwittingly planted the seeds of fraud and abuse and they have exploded into national losses in excess of \$100 billion. Without corrective action, the fraud lingers, siphoning more taxpayer money and bursting budgets.

Use Models to Sniff for Fraud

Fraud is often buried under volumes of data, hidden well and challenge detection. When there are multiple reasons for cost increases, even data mining does not help. The advanced data modeling in CareMaps brings anomalies and patterns to the surface and reveals underlying causes. Use of CareMaps led to the discovery of the fraud and the eventual recovery of over \$500 million in one state over a four-year period. This type of forensic data modeling (or as we call them, Digital Forensics) is an exciting new way to prospectively identify and mitigate the scourge of fraud. There should be no doubt about it: Fraud hurts all stakeholders except those who commit them. Allowing fraud to continue eventually kill a program. Efficient fraud detection tools are a lifeline for many of these large government programs. To understand the origin of healthcare fraud, and why it has escaped notice until now, and to develop possible remedies to avoid them in the future, a deeper understanding of U.S. healthcare is needed.

II. Background

Fundamentals of a Managed Care Program

Traditionally, medical services in the U.S. were rendered in exchange for a fee, and this is the so called “fee for service” model (FFS). While it is easy to figure out who was charging the most and the least, cost reduction efforts were stymied because low-cost providers offered unnecessary services to earn more fees. There was a general feeling that FFS was practicing “disease care” and fixing real and imagined problems, rather than “health care,” which is maintaining health of people proactively. In response, Government programs like Medicare and Medicaid (which together account for about \$1.2 trillion in annual total costs) opted to pay insurers a fixed monthly fee, called a premium or a “capitated payment,” for providing all necessary care to each enrollee. These were called risk contracts. Should total costs come below premium, insurers were allowed to retain them as profits. The hope was that the efficient financial management of insurers would identify low-cost providers and also weed out unnecessary and high-cost services, thus lowering cost of healthcare. But if costs exceeded premiums, then insurers had to bear the risk and absorb losses.

Clever and Fail-Safe Rules

Recognizing that unscrupulous insurers could increase their profits by withholding services or charge high premiums without reason, “medical” costs incurred had to meet a minimum percentage of the premium, called medical loss ratio (MLR). For Medicaid, MLR is 85%, meaning medical costs incurred to care for enrollees must be at least 85% of the premium paid (CMS MLR). If medical expenditures are less than 85% of premium paid, then there is “overpayment” to the insurer, and if greater than 85% there is underpayment to the insurer. Usually, the end of year MLR audit calculates overpayments and recovers them from insurers. If there is underpayment, then insurers have to absorb losses and hope for a compensating premium increase the following year.

Premiums Must be Just Right

At the heart of the entire program is the premium. If the premium is too high, insurers will profit mightily. If the premium is low, the Government will pay less, but insurers may be unwilling to participate and cause the entire care delivery system to fail. Finding the right balance is critically important for both parties.

Are Third Party Actuaries Truly Neutral?

To keep it fair, the Federal Government require each state to engage neutral, third-party national actuarial companies to calculate Medicaid premiums. Actuaries use sophisticated models based on prior medical costs to forecast future needs, and thus arrive at reasonable premiums. Of course, these are estimates, and they could be wrong. So, they are validated at year-end through mandated audits. The presence of either overpayments or underpayments suggests that the actuarial model used to calculate the premiums is defective.

Accept Insurer Estimates of Medical Costs

There is no money changing hands during an office visit in managed care since payments are made in the form of premiums and in advance. But the Federal Government require insurers to submit claims for every enrollee encounter with a care provider, with the coded details of services rendered, as well as an estimate of how much it would have cost had it been a fee for service visit. The estimate provided by insurers for each enrollee encounter is referred to as “medical cost” and used in MLR calculations. To avoid insurer complaints that medical costs were underestimated, the Federal Government require the use of insurer-submitted estimates in MLR calculations.

III. The Perfect Storm

Increased Advance Payments to Reduce Risk of Insurers

Under ACA, the financial qualification to become a Medicaid benefit recipient was relaxed and resulted in millions of new enrollees, many of whom had no prior health coverage. Actuarial calculations of premiums rely on records of prior medical needs and with no such records the estimated premiums for the expansion enrollees could be wrong. In managed care programs if premiums are underpaid, then the insurer has to absorb the losses and the Federal Government feared that the increased risk of underpaid premiums from flawed actuarial calculations would discourage insurers from accepting expansion enrollees. Further, if money allocated from premiums ran out, then there could be disruptions in service too. To guard against these dual risks, premium amounts were increased and paid in advance, rather than delay reimbursing insurers for overages until year-end. Since Medicaid statutes classify retention of overpayments as fraud and subject to triple penalties, the Federal Government expected to use the mandated year-end audit to painlessly recover overpayments from insurers.

Flood of Expansion Enrollees Increase Medicaid Costs

Thirty-five states in the nation opted to expand (Healthinsurance.org) their Medicaid programs. Millions of new lives with potentially latent medical needs were enrolled. Health systems were overburdened. Even initial office visits to assess the health of new expansion enrollees were delayed. Financial management was a challenge because prior year costs could not be used as a yard stick. So, expected cost increases materialized and states were not alarmed.

IV. What Can Digital Forensics Reveal about Medicaid Fraud?

CareMaps Forecast—Spotting Anomalous Patterns in Data

Data mining is an over-used term that implies searching for hidden features but usually refers to mundane accomplishments like finding the largest and smallest quantities and their frequencies. A more powerful tool is “modeling,” to study the cause and effect of processes and forecasting the time evolution of a system. CareMaps is the tool we developed for forecasting. Chronic diseases and cancer are the high-cost drivers in populations and forecasting growth of these diseases can lead to calculations of their treatment costs, resulting in better estimates of total healthcare costs.

Accurately Gauge Health Status of Enrollees

Critical to a forecasting model is segmenting the population into health states with increasing severity, so that time evolution can then be captured in terms of transitions from lower severity health states to those with higher severity. The very first step in our analysis was to quantify the health status of the expansion population.

We segmented the population in multiple ways, according to disease type and severity, and compared them with prior year data. We see in Figure 1, that the profile of 2014 enrollees were not appreciably different from those in prior years.

Figure 1

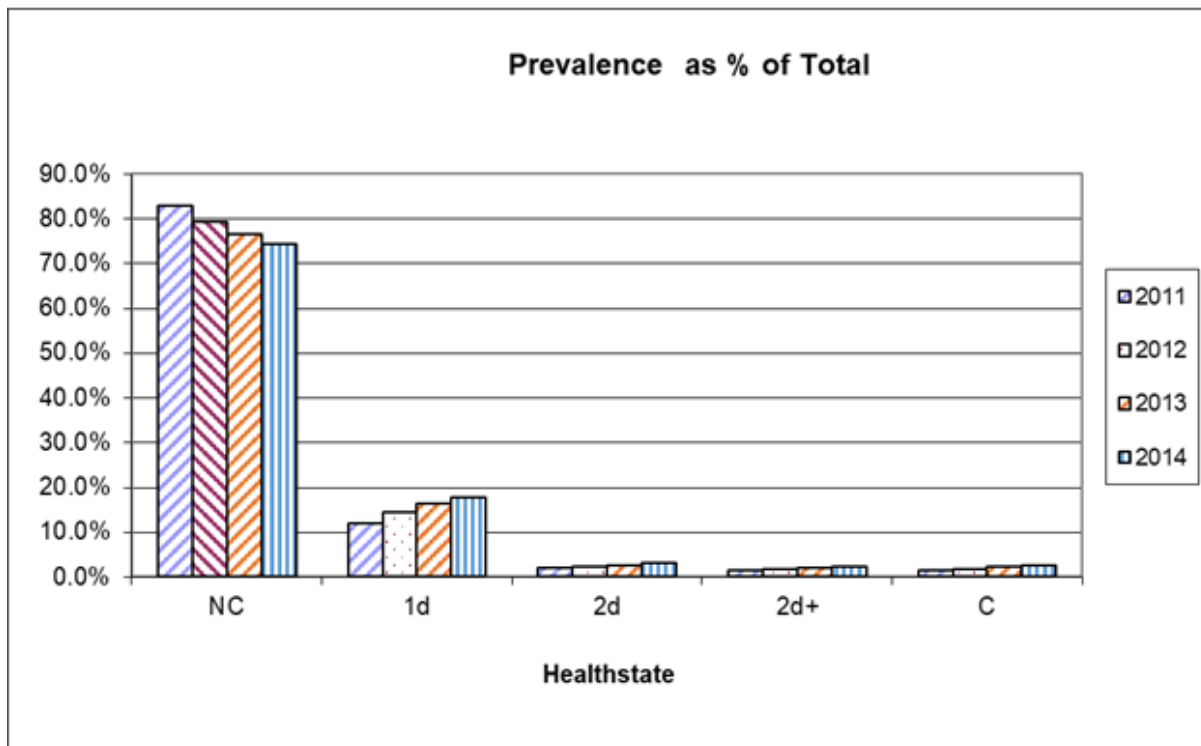


Figure 1: Here is distribution of enrollees for the years 2010–2014, segmented according to the health status: NC (with no chronic condition), 1d (with one chronic condition), 2d (with two chronic conditions), 2d+ (with more than two chronic conditions) and C (with Cancer) for the four years 2011 through 2014. Notice that 2014 distribution is not very different from prior year values. There is a drop in those with no diseases with the passage of every year, but nothing significant.

Notice how the distribution of people with and without diseases follow the same pattern during 2011–2014. If there were more sick new enrollees, there would be a large spike in the other bar graphs. There is a small increase in the sick population annually (which is normal), reflecting the aging of the population by a year, and the vulnerability of older folks to chronic conditions.

In short, the assumption that 2014 enrollees were sicker seemed to be wrong. This wrong assumption also meant that the increased premiums paid for expansion enrollees may not have been warranted.

Cost Forecasts Were Wrong

Since 85% of premium went to cover medical costs and knowing the health status of every enrollee, it was possible to attribute premiums to treatment costs for various health states. We used the simplest segmentation of the population into those with and without chronic diseases and those with cancer. We used 2013 data to project changes in populations, and while the forecasts of populations in the health segments were good, the cost projections were completely off the mark. The use of 2013 premiums was the source of discrepancy.

Adopting CareMaps' patented segmentation of populations, we show in Figure 2, the variation in treatments costs for different health states for 2013 and 2014 based on the premiums. The population is segmented into three groups initially: C (Cancer), NC (with no chronic condition), CD (with one or more chronic conditions), and then CD is split into two further subgroups: 1d (with one chronic condition) and 1d+ (with more than one chronic condition).

Segmented in this manner, clearly the 2014 premiums were about 20% higher than in 2013.

Figure 2

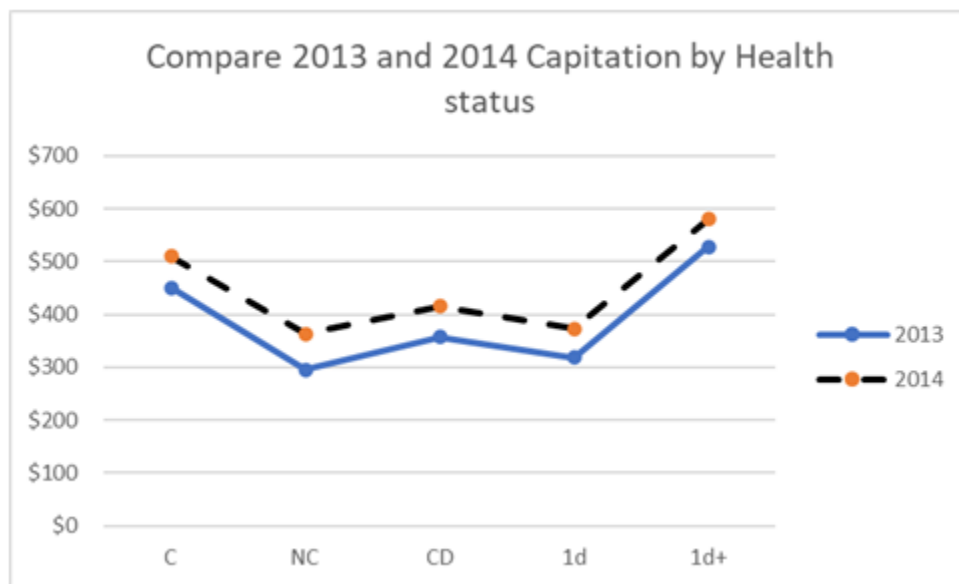


Figure 2: Capitation costs for enrollees belonging to C (Cancer), NC (with no chronic condition), CD (with one or more chronic conditions), 1d (with one chronic condition), and 1d+ (with more than one chronic condition) for the two years 2013 and 2014. Notice that 2014 cap costs are uniformly high.

Figure 2 shows the increase in treatment costs per enrollee for all health status. Even if the enrollees had worse chronic diseases and cancer in 2014, there was no reason the costs of the treatment for healthy people (without any of those diseases) increased by almost 20%. We expected total treatment costs would increase because the number of enrollees increased. But the increase in cost of treatment per enrollee, especially for the healthy enrollees, was unexpected.

These are just hints of some abuse and possible flaws in the actuarial models used.

Convert Premiums to Costs of Treatment in Various Counties

Crucial to CareMaps is the ability to convert premiums charged to treatment costs of various chronic conditions and cancer. From claims data we are then able to map treatment costs and this amount is shown for 33 numbered counties in Figure 3 below. Not only did premiums vary from county to county for people with similar medical needs, in many counties numbered 3, 6, 9, 14, 15, 20, 23, 24, 30, and 32, healthy people (with no chronic conditions marked as a gray bar) paid more premium than the ones with a chronic disease (marked with a red bar). An actuarial model that estimates a higher premium for healthy people is clearly flawed and results in larger payments to insurers.

Figure 3

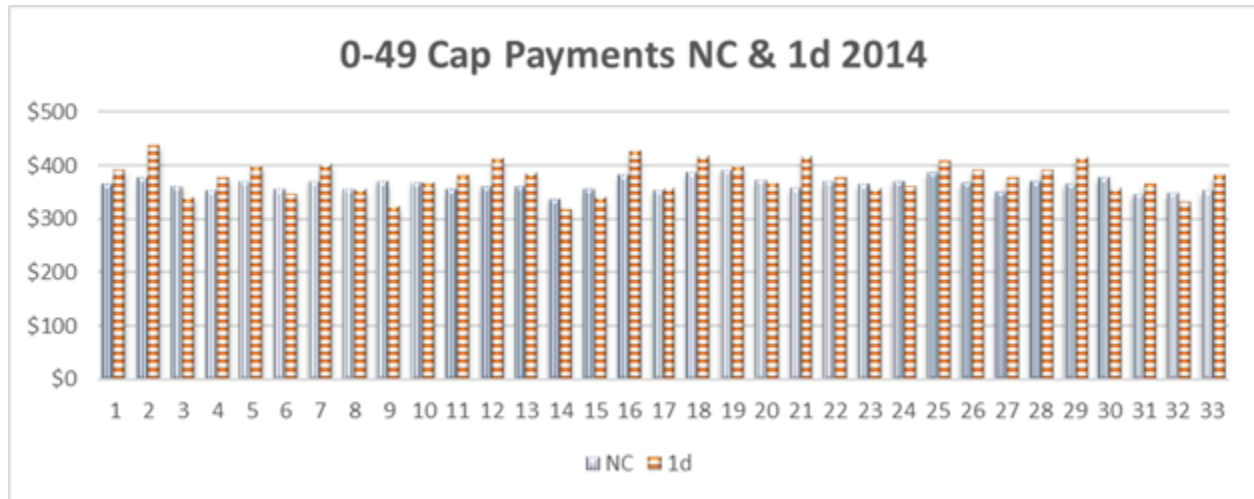


Figure 3: Variations in premium for those with no chronic diseases (NC) and those with one chronic disease (1d) in 33 counties for enrollees in the age group 0–49 for the year 2014. The first bar is for NC (or 0d) and the second for 1d health status. Note that in many counties (numbered 3, 6, 9, 14, 15, 20, 23, 24, 30, and 32) enrollees with no disease paid a higher premium to insurers than someone with a chronic disease.

There are no absolute standards when it comes to comparing costs in healthcare. So, the best base for comparison available is with prior year data or data from neighboring geographical regions. In our case, we found one other baseline for comparison.

Medicare FFS Data for 2012 as Baseline

A second baseline for comparison was available for 2012 when Medicare published its fee for service data by splitting payments according to various chronic conditions. Using CareMaps we can categorize patients according to their chronic conditions and calculate 2012 Medicaid medical costs as the MLR (85% of prevailing premiums) value. This process makes it possible to compare FFS payments with managed care costs in any geographical region.

Medicaid has a reputation for underpaying providers. In states like California, most doctors will not accept Medicaid patients because of the low reimbursement rates in Medicaid. An interesting question to ask was, “How much lower are the Medicaid payments?”

Figures 4 and 5 compare Medicaid payments to Medicare Fee for service payments (for over 65) to two groups: 0–49 age group and the 50–64 age group. Shockingly, Medicaid managed care payments were higher than the FFS Medicare payments, even though the Medicaid patients were younger and healthier than the seniors in Medicare.

Figure 4

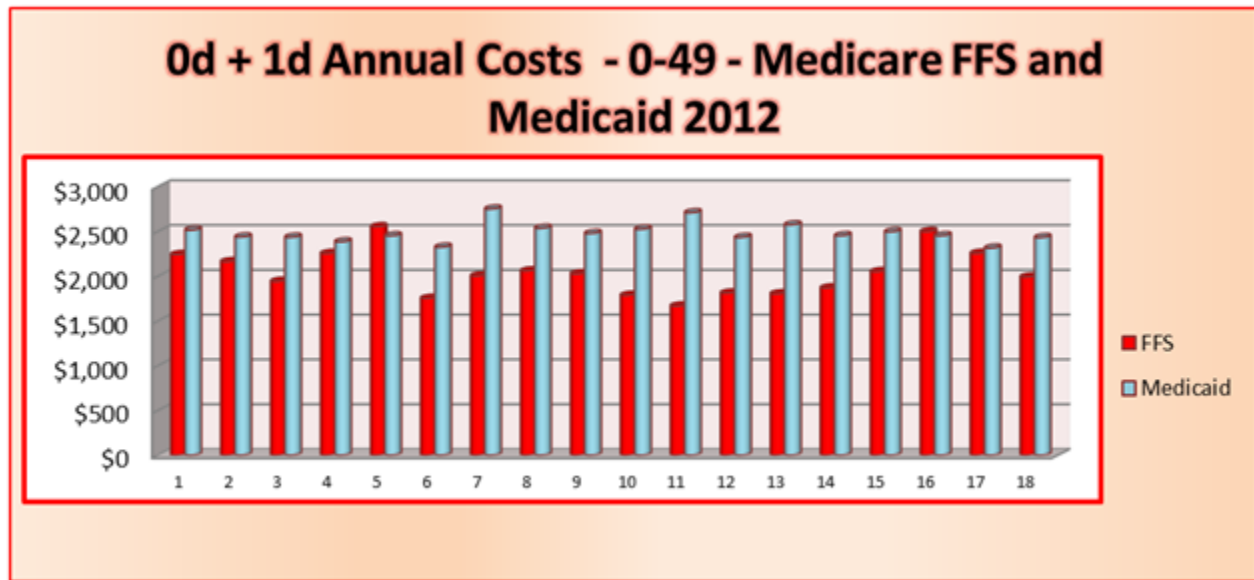


Figure 4: Comparing Medicare FFS (including copayments) to Medicaid managed care for 2012, for the 0–49 age group and those enrollees with NC(or 0d) and 1d. Notice Medicaid payments are higher even though Medicaid enrollees are much younger with better health.

Figure 5

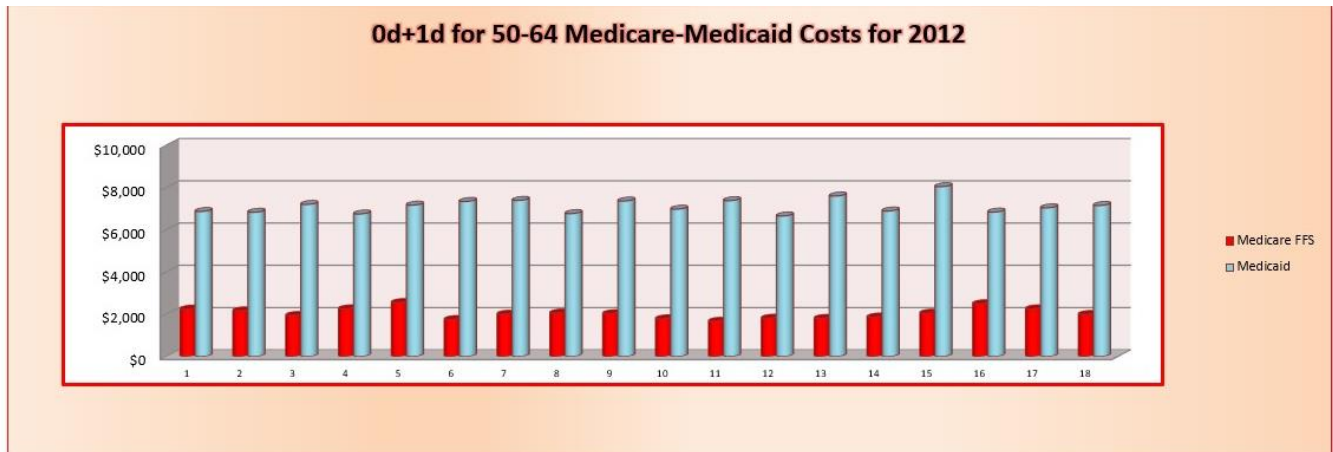


Figure 5: Comparing Medicare FFS (including copayments) to Medicaid managed care for 2012, for the 50–64 age group and those enrollees with NC(or 0d) and 1d. Notice Medicaid payments are much higher than FFS costs for older Medicare enrollees.

Both age ranges show that in 2012 Medicaid was far more generous in its payments to insurers than Medicare FFS payments. Of course, 2014 paid 20% more, and even allowing for modest increases in Medicare FFS, Medicaid managed care was much more expensive for the nation. We calculated the precise difference in Table 1. If the state opted to use the reimbursement formulae in Medicare FFS programs, the state would have saved over \$118 million in 2012.

Table 1

Age	Medicaid 85% MLR	Medicare FFS incl. 20% Copay	Estimated Savings
0–49	\$840,500,838	\$763,373,964	\$77,126,874
50–64	\$156,218,259	\$115,067,902	\$41,150,357
Total	\$996,719,098	\$878,441,867	\$118,277,231

Table 1: Had the state opted to pay Medicaid the prevailing Medicare FFS rates, then the total savings for the state in 2012 would have been over \$118 million.

Of course, all of this data is just suggestive of insurers being overpaid, and proof emerges only from an MLR calculation.

MLR Calculation Confirms Overpayments to Insurers

As stated earlier, insurers are required to submit details of any and all enrollee encounters with providers in the form of healthcare claims. Even though there is no money changing hands, insurers include, in the claim, an estimate of medical cost for the encounter, i.e., how much the encounter would have cost, had it been procured through a fee for service arrangement.

With the appropriate software, all the claim amounts can be added to arrive at the total medical costs incurred by the insurer. This process is laborious and time consuming. Since the premiums paid also are known, it is possible to check if there is a violation of the MLR limit, when medical costs are less than 85% of premium.

We carried out the MLR calculation and confirmed over \$200 million in overpayments for the year 2014. The Federal False Claims Act is explicit on this point. If overpayments are retained by the insurers, knowingly or unknowingly, then there is fraud, subject to criminal charges as well as triple penalties. This act makes it a federal crime for an organization or person to knowingly file a false claim or make a false record with any federal health care program.

V. Discussion

Mistaken Assumptions Lead to Overpayments

The assumption that expansion enrollees would be sicker and, therefore, warrant a higher premium was wrong. Because they had no prior insurance did not mean that they would have latent illness that would be expensive to treat. The explanation was actually very simple. The Medicaid population is relatively young. Most are below 45 in age. Young people, generally, are healthy and rarely have any latent illness. So, the assumption that they will burden the healthcare system with their unmet medical needs was wrong. In other words, there was no need to pay an extra premium for the expansion enrollees.

For Insurers, “Manna” Was Falling into their Laps

For insurers, without any overt effort they received more revenue and as an advance payment. Collecting the overpayments was not fraud. It was given to them. The temptation to hold on to the overpayment was irresistible. Yet, retention is fraud. Here the commission of fraud is in the omission to repay. Unfortunately, the overpayments in other states have remained hidden.

Poor Management by States

States must share in the blame. Many actuaries are not neutral. They have business relationships with insurers in several other states, giving rise to conflicts of interests. States must, therefore, be wary.

A year-end audit is a good way to verify that the premium calculations were fair, but it requires a different actuary to perform the audit. States seem to forget this need and hire the same actuary—essentially a self-audit. Not surprising, actuaries fail to acknowledge their mistakes.

Actuaries to Blame

There are two serious mistakes that the actuary made, and they are central to the fraud. For reasons unknown, the actuary did not calculate MLRs, as prescribed in the Medicaid statutes by the Federal Government. The statutes clearly point to using equivalent fee for service charges to calculate medical costs and MLRs. The claims from insurers have these estimated FFS medical costs but the actuary did not calculate MLR in that manner. So, it is not surprising that their annual and year-end audit in June 2015 concluded that there were no overpayments.

To compound their mistake, the actuary used the financial statements filed by the insurers to deduce medical costs for the calculation of MLRs. Financial statements do not (nor do they need to) breakdown costs into medical and non-medical costs, as prescribed by the Federal Government. They have a consolidated entry for costs and trying to extract Medicaid approved medical costs is a mathematically impossible task. There can be huge variation in such estimations of medical costs, and so it is not surprising that their MLR calculations were wrong.

In short, the bad actuarial premium calculations started the long march to fraud. The year-end audit went poorly, partly because of the inherent conflicts of interest. The audit failed to catch the mistakes they had made earlier in the premium calculations that resulted in overpayments. The actuary also failed to follow Federal guidelines on calculating MLRs. The results? The fraud remained hidden.

If overpayments are not corrected, their effects occur in the following years. This problem is because this year's premiums are used to calculate next year's premiums. So, any excesses linger in subsequent year calculations. The Federal Government are aware of this problem and urges the states to recalculate premiums when overpayments are recovered, but states do not seem to follow this guidance. Perhaps the problem is the actuary, unwilling to admit mistakes in premium calculations. Whatever, inaction results in persistence of excess payments. In the case of the state we analyzed, almost four years later our discovery of overpayments was vindicated. In 2019, there was a report that indicated the state recovered over \$500 million in overpayments for the four years, 2014–2017. But there was no mention of recalculation of premiums.

VI. Conclusions

In a report, the Government Accountability Office (GAO) observed that fraud and abuse is recognized to be about 12.9% in Medicaid FFS while the reported fraud and abuse in Medicaid managed care is just 0.3% (GAO-18-291, 2018). GAO attributes this difference, not to better control of fraud and abuse, but to the inability to detect them in managed care.

While CMS (Center for Medicare and Medicaid Services) administers both Medicaid and Medicare, it has relegated Medicaid management largely to the states. But many, especially small states, have trouble managing their multi-billion-dollar Medicaid budgets. They have a very thin staff and often equate the resulting low overhead to efficient management. Unfortunately, without adequate personnel, controls are lacking and fraud and abuse thrive unfettered.

The idea that previously uninsured people may have latent health issues took hold in the private sector when private insurers, under ACA's sponsorship, enrolled many. But these new enrollees were in the 50 plus age range with untreated chronic conditions, and they warranted higher premiums. This logic carried over to Medicaid expansion. Thirty-five states opted for Medicaid expansion, and all of them offered higher premiums. Now we know that the enrollees in Medicaid were younger, so the increase in premiums was unnecessary. But the recovery of overpayments has not happened in any of the other states. Our discovery of overpayments was about 7%, but to arrive at a conservative total for the nation, we assumed 3% for other states, allowing for their better management, and in that case, overpayments awaiting recovery is over \$100 billion. If there is a statute of limitations for the recovery of this fraud, time also may be running out. The ACA related Medicaid expansion fraud described here started in 2014.

At the heart of this fraud and abuse is the lack of transparency in managed healthcare. GAO, the Government watchdog, is aware of this lack of transparency and correctly observes that payment risks are "more complex and difficult to oversee" in managed care. They advocate action (GAO-18-258, 2018), but the agencies responsible seem to be slow to heed the warnings.

Note that the fraud occurred because part of the payments assigned for medical costs were appropriated and then illegally retained by insurers. If insurers had distributed 85% of premium to providers, there would have been no overpayments and no fraudulent actions to report. In that sense, there would have been no fraud if providers were paid more, or insurers voluntarily returned the excess payments. Neither happened.

At a time when the Federal Government are spending trillions of dollars, either through borrowing or expansion of the money supply, it is important to let taxpayers know that the money is well spent. Diligent pursuit of recoveries in Medicaid will send the right message. Inertia, for bureaucratic or other sinister reasons, continues to be a barrier, but when recoveries are made, and if all premiums are recalculated, Medicaid costs should decline appreciably.

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