

# Harnessing the Full Power of Data Analytics: A Holistic Approach to Cost Containment

By Gary Call, M.D., HMS Chief Medical Officer

The healthcare industry has entered a tumultuous new age filled with changing regulations and new opportunities for growth. Payment reform, an expanding population of insured individuals, and a renewed focus on value-based payments have undoubtedly shifted the healthcare landscape in new and innovative ways.

But change comes at a cost, and in the United States, with a new wave of sicker individuals accessing medical care, healthcare costs have reached an all-time high. In 2015, [national health expenditures](#) in the U.S. reached \$3.2 trillion, representing a 5.5% annual growth rate and accounting for 17.8% of the gross domestic product (GDP).

That growth isn't expected to slow down anytime soon. The Centers for Medicare and Medicaid Services, or CMS, estimates that between now and 2025, health spending will grow an average rate of 5.8% annually, exceeding 20% of GDP by 2025.

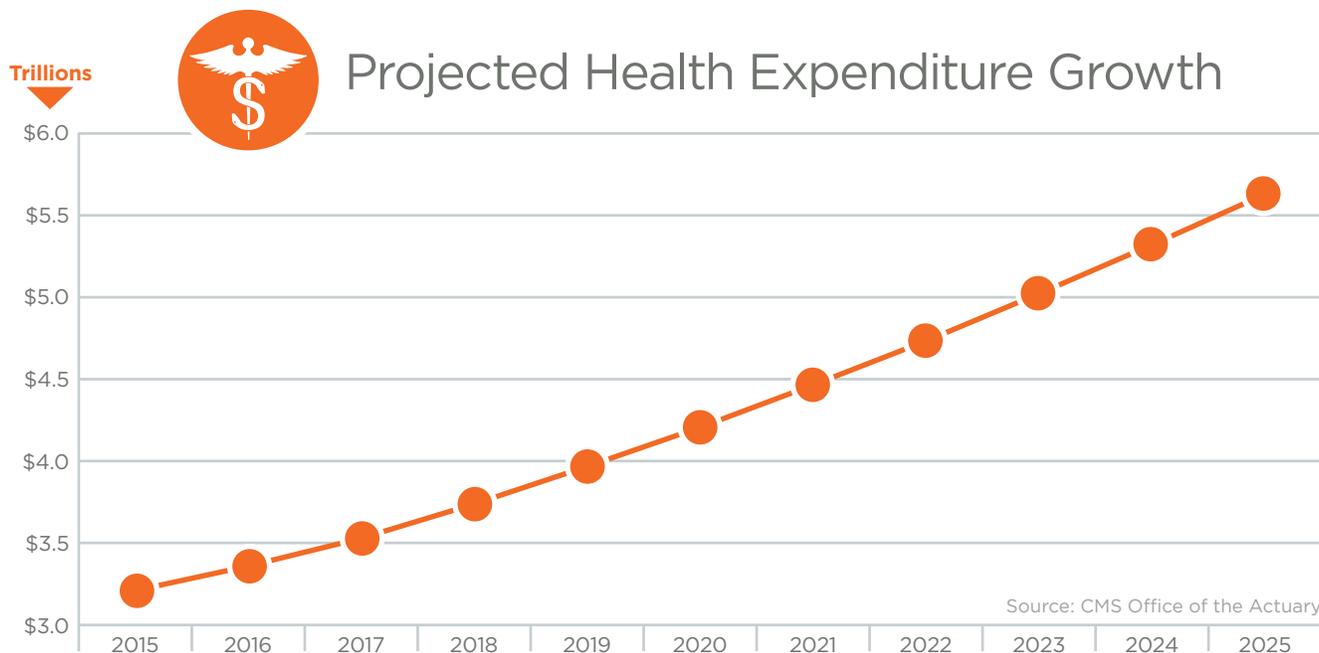
Unfortunately, healthcare expenditures are also accompanied by a tremendous amount of fraud, waste, and abuse. According to estimates [published](#) in the *Journal of the American Medical Association*, wasteful spending throughout the entire U.S. healthcare system adds up to anywhere from \$558 billion to \$910 billion each year, representing nearly one-third of total expenditures. A large portion of waste is linked to improper payments within government-run healthcare programs like Medicare and Medicaid, but wasteful spending throughout the industry can also be associated with overtreatment, fraud and abuse, administrative inefficiencies, and overpricing.

As healthcare costs have steadily increased, so has the ability to acquire, maintain, and analyze large quantities of data. [According to IBM](#), 2.5 quintillion bytes of data are created each day across the globe, encapsulating anything from Amazon transactions to Instagram posts.

Most of this data is still relatively new — IBM estimates that 90% of the data in the world has been collected over the past two

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years. But the volume of data is [projected to rise](#) precipitously over the next decade, from 4.4 zettabytes in 2013 to 44 zettabytes in 2020.

As these storage terms are relatively new, for some [perspective](#), five exabytes of data equals all of the words ever spoken by mankind. A zettabyte is approximately 1,000 exabytes. A yottabyte is approximately 1,000 zettabytes, and can be compared to the size of the entire Internet.

**Without a holistic, coordinated approach to cost containment and claims analysis, health payers end up underutilizing the data they have collected, ultimately missing out on important cost containment strategies.**

Healthcare data makes up a large and increasingly influential portion of the data that exists in the world today. The Institute for Health Technology Transformation [estimated](#) that in 2011 the healthcare industry had reached 150 exabytes of data and would soon house zettabytes and even yottabytes.

Meanwhile, data storage costs have decreased significantly, allowing healthcare organizations to collect and store large data sets at a relatively small expense. The sheer volume of data collected by healthcare organizations throughout the U.S. presents an opportunity that is both daunting and advantageous. Healthcare payers, in particular, possess the ability to use vast troves of data to help contain unnecessary medical costs and improve payment efficiency and accuracy.

The ability to collect, access, and examine medical claims is a significant benefit to private insurers, but organizations often struggle to manage and effectively analyze massive quantities of data on their own. Instead, most payers enlist the help of partnering organizations better equipped to understand the complexities of various data sets and develop meaningful solutions to cost containment.

Unfortunately, that approach can become disjointed and fragmented, particularly as insurers contract with multiple vendors to fulfill one task, leading to increased administrative costs and more complex oversight of vendor partnerships. In the end, without a holistic, coordinated approach to cost containment and claims analysis, health payers end up underutilizing

the data they have collected, ultimately missing out on important cost containment strategies.

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#### **Large data sets offer the key ingredient to payment integrity**

There's no question that data availability and analytics have changed the game when it comes to coordinating benefits, as well as allowing payers to conduct thorough and accurate claims reviews and identifying previously unnoticed improper payments. But no matter how sophisticated or complex, review programs and algorithms are only as good as the data that is fed into them.

The availability of large data sets around eligibility is particularly important when it comes to cost avoidance and coordination of benefits. Accessing large, robust swaths of data provides payers the first opportunity to prevent an inappropriate payment from going out the door. Eligibility activities are critical for those payers overseeing government plans — particularly state Medicaid payers and Medicaid managed care plans representing the “payer of last resort.” By incorporating multiple payer eligibility data sets from both private insurance and government programs spanning several geographical areas, one can quickly and accurately develop matching algorithms and determine the proper payer for healthcare claims.

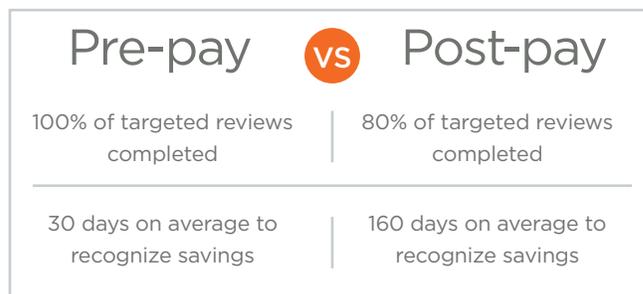
Targeting has become the cornerstone for effective data analysis, particularly when it comes to medical claims review activities. Essentially, the more data points you can feed into an algorithm or an analytics engine, the more statistically valid that result becomes. That's why effective cost containment is best performed by partnering organizations that can use several large data sets and analytics — both from private payers and government health plans — to come up with targeted interventions. These types of algorithms derived from various data sets and sources offer

a more complete picture and produce more valuable cost containment interventions.

Unfortunately, many medical claims reviews or fraud, waste, and abuse detection mechanisms are heavily retrospective, which creates a multitude of complications for every party involved in the transaction. Providers are quick to report dissatisfaction since clawing back claims payments after the fact can negatively impact booked revenue. For the payer, the administrative costs of “pay-and-chase” activities can add up quickly, often minimizing the overpayment that is collected in the end.

That's where a targeted, reliable pre-pay claims review can make a substantial impact. Using large data sets and expert, proven analytical algorithms allows for maximum overpayment identification using a minimum number of claims. Integrating fraud, waste, and abuse activities provides another layer of cost containment by effectively identifying abnormal trends and billing patterns.

The impact is noticeable. An HMS study of a large national health plan found that a targeted pre-pay claims review led to 67% fewer calls and complaints compared to traditional post-pay programs. Better provider cooperation regarding medical records submission allowed for 100% of targeted reviews to be completed, compared to an average of 80% for post-pay reviews. Ultimately, better targeting analytics allowed for fewer reviews and a faster turnaround, with pre-pay reviews requiring just 30 days on average to recognize savings, compared to 160 days in the post-pay approach.



#### **Overcoming a fragmented approach to cost containment**

As the quantity of data keeps growing alongside the healthcare industry's reliance on analytics, payer organizations frequently find themselves

overwhelmed with the sheer amount of data at their fingertips. Many have enhanced their data collection efforts, but due to a lack of experience or resources, much of that data is left languishing in warehouses. Often, insurers simply don't have the analytics expertise or the personnel to make use of the data they have so rigorously collected and stored.

Instead, healthcare payers often turn their data over to partnering organizations to manage various medical cost containment functions including cost avoidance and coordination of benefits; utilization management; population health; claims review; and fraud, waste, and abuse detection.

In an effort to get the most out of the data they've collected, healthcare organizations often contract with several different vendors at once to perform these various cost containment job duties. In some cases, for example, a health insurer might use three or four vendors to perform multiple claims review functions. Others attempt to take these activities on in-house, typically with limited internal data sets.

What remains is a fragmented approach to cost containment that not only adds administrative burden, but limits efficiency. Rather than managing one vendor that can perform multiple cost containment functions, payers are left juggling multiple vendors with disparate contracts, negotiating various rates, and overseeing separate job responsibilities.

This fragmented approach raises several concerns. First, allowing multiple vendors to access numerous claims databases leaves payers more vulnerable to a security breach. Cost containment analyses often require an exchange of sensitive data that needs to be handled securely. Utilizing multiple vendors creates more potential opportunities for a breach.

Second, the administrative burden on health payers can be onerous. Each additional cost containment vendor is accompanied by additional regulatory and business oversight, as well as the complicated task of ensuring that multiple vendors are not duplicating efforts. Ultimately, managing one vendor to perform multiple job functions is infinitely easier and less expensive than hiring several vendors at once.

Finally, and perhaps most importantly, using a single vendor to perform multiple cost containment functions allows for better insight into medical claims submission patterns from multiple geographical areas and multiple providers. For example, a vendor that can perform claims review and fraud, waste, and abuse detection can draw on insights from each function to inform overall cost containment solutions. Similarly, coordination of benefits provides access to a large data set, which can be used to supplement the payer's claims data in designing and validating targeting algorithms used for ongoing claims reviews.

Ultimately, vendor consolidation means less data is left unused, and fewer costs are devoted towards managing multiple partners.

### **Adopting a holistic approach to cost containment**

While data may represent the key to effective cost containment, opportunities to successfully use that data can be easily squandered without the right approach. A disjointed methodology that mismanages claims data can lead to even more unnecessary costs and far fewer solutions.

Adopting a holistic approach to cost containment relies on the ability to look at the overall picture rather than the smaller, individual pieces.

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It's true that the various cost containment functions — cost avoidance, claims reviews, fraud detection, coordination of benefits, and utilization reviews — are individually important. Each rely on refined algorithms that can break down large quantities of data into actionable insights.

But sequestering those cost containment tasks provides healthcare payers with just a small piece of the picture — like studying an individual puzzle piece. On its own, that puzzle piece offers very little context. Once it's placed next to hundreds of other pieces, a clearer picture emerges. Similarly, allowing a single vendor with access to multiple claims databases to perform various cost containment functions, allows each one to feed off another. This leads to improved claims processing and integrated payment recovery mechanisms.

The right partner organization will have the ability to oversee multiple cost containment solutions while accessing various claims databases in

order to refine targeted analytics. This approach furthers the ultimate goal of eliminating the pay-and-chase approach to claims management, and instituting reliable predictive modeling that can quickly identify billing abnormalities and trends and highlight improper payments.

With healthcare payments steadily rising each year and becoming increasingly complex amid the transition towards value-based payments, the approach that healthcare insurers take to managing claims and identifying unnecessary costs is perhaps more important than ever before. In the 21<sup>st</sup> century, identifying those costs often means wading through vast troves of data with partners that are equipped with sophisticated data analytics. Payers adopting a holistic and synergistic approach to cost containment will find themselves better positioned to appropriately manage claims data and identify potential vulnerabilities that cut into their company's bottom line. ●

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#### **Gary Call, M.D., HMS Chief Medical Officer**

HMS's Chief Medical Officer, Gary Call, M.D., has more than 25 years' experience in medical practice and managed care. He previously served as vice president of clinical programs for Molina Healthcare, and was a partner at Hidden Valley Family Medicine. Dr. Call received his medical degree from the University of Washington School of Medicine and completed his family medicine residency at the University of Utah. He is a board certified family physician.

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HMS provides the broadest range of cost containment solutions in healthcare to help payers and accountable care organizations improve performance. Using innovative and time-tested technology and analytics, we prevent and recover improper payments related to fraud, waste, and abuse. As a result of our services, customers recoup billions of dollars every year and save billions more through the prevention of erroneous payments.