



# SUTHERLAND SPOTLIGHT: **TURNING YOUR ABUNDANCE OF DATA INTO VALUABLE HEALTHCARE INSIGHTS**

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## The Rise of Big Data: Getting Beyond the Hype

Data talk is everywhere these days, and for very good reason. More data is available today than ever before, and the healthcare industry is no exception. Thanks to the expanding use of health records and an explosion of new technologies from wearable fitness tracking devices to exercise and heart rate monitoring apps, new data is being generated each day. And this is a very good thing because new payment models and regulatory requirements designed to contain costs and improve outcomes depend on access to verifiable data delivered in a timely fashion. It's also incredibly necessary; an estimated \$210 billion is wasted each year because of unnecessary care.<sup>1</sup>

But while the volume of data is growing exponentially and the sources that collect and distribute data continue to proliferate, barriers to the effective use of data remain. Health plans and providers alike lack both the technical infrastructure and the high number of skilled personnel needed to work with existing data while accommodating the new data that is becoming available. What may be even more troubling is that much of the data already in existence is not being effectively translated into actionable information that can improve health and lower costs.

So, can data and analytics transform the healthcare industry to provide better care for more people and in a more cost-efficient manner? The answer is yes. The trick is figuring out how.

## Too Much of a Good Thing?

As the volume of data, the sources of data, and the potential improvement in outcomes that data can produce have increased, so too have the number of organizations promising to translate that data into actionable information. Too often, however, what is returned in the form of reports still requires extensive interpretation. Complicating matters further, the data provided to produce those reports is frequently incomplete or inconsistent and is rarely current.

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<sup>1</sup><https://www.pri.org/stories/2012-09-06/us-health-care-wastes-750-billion-each-year-institute-medicine-says>

Thus, players on the health plan and provider side, from direct care providers and medical directors to chief financial officers and chief medical officers, often have no choice but to base vital decisions about utilization and compliance on insufficient information, despite the fact they are overloaded with data. Alternatively, those decisions are often delayed due to internal resources overanalyzing the data contained in the report. Unfortunately, the data being overanalyzed often isn't translated into true, actionable information and usually requires multiple reviews before it can be treated as helpful. Each of those reviews means added time and money, resulting in delays in much needed action.

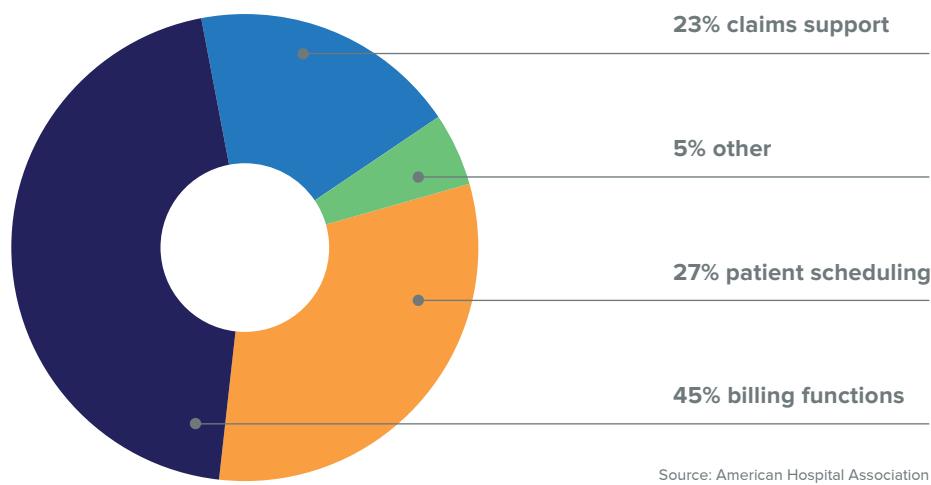
The problem that ultimately faces the healthcare industry is not one of too little data. The problem is quite the opposite: too much data and too little capacity to transform that data into actionable information. Being able to quickly extract actionable information from the large amounts of data currently available will be the "change agent" the healthcare industry needs moving forward.

## Not Enough of the Right Thing

An impressive amount of data is available today from claims and other data sets: everything from membership, pharmacy, and lab data, to data from health records. But too much information is still lost in the "text" and "notes" as unstructured data. Thus, an estimated \$130 billion is lost annually through service delivery inefficiencies, and an additional \$55 billion is wasted each year on missed prevention opportunities. Actionable information has the potential to drastically transform these figures.<sup>2</sup>

Similarly, electronic health records (EHRs) have failed to meet their promise. The U.S. has done a great job of converting paper medical records into electronic formats. But in too many cases, those formats are simply digitized versions of the original paper records; they are not a true repository of accessible, interactive health data.

The healthcare industry needs to more effectively extract data from all data sources, including health records. This can be done either by using more categorical labels, using natural language processing, or by leveraging alternative methods to mine key information from inpatient and outpatient progress notes. The importance of potent, targeted data extractions can't be overstated; this is an industry-wide problem with high-stakes, bottom-line results. Yet valuable data and dollars are wasted every day. In fact, recent surveys show the most commonly requested EHR functions are:



As the diagram indicates, the healthcare industry continues to leverage data for data's sake rather than for better care delivery. EHRs, so ripe with promise, are being utilized as a glorified billing and scheduling platform rather than as a tool to improve quality and lower the cost of care. While the records themselves have been digitized, the data they contain isn't functional enough to enable providers to take the right action. The growth in EHR adoption is certainly something to be lauded, but the focus of the industry needs to pivot from the short-term tactic of EHR adoption to the long-term goal of improving the health of a population.

<sup>2</sup> Ibid. <https://www.pri.org/stories/2012-09-06/us-health-care-wastes-750-billion-each-year-institute-medicine-says>

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Interoperability must also be addressed if the goal of quality improvement is to be realized. To truly reach the promise of big data, we need the right data at the right time. And that data must be accessible to all providers. This means EHRs need the capacity to access data from care delivered in other settings and at other times. Unfortunately, this is often not the case. In fact, more than 50% of EHR systems do not work together. For the healthcare industry to become truly “value-driven,” interoperability must also be a primary focus.

Fortunately, several emerging best practices have the potential to speed effective data extraction, increase interoperability, and transform operations.

## Emerging Best Practices

We see three emerging and interrelated ‘best practices’ that are pivotal to the process of transforming data into actionable insights for decision makers:

1. Agile Analytics
2. Design Thinking
3. Rapid Prototyping

The below section quickly looks at each, since all have the potential to drastically and rapidly change the healthcare landscape as a growing number of players prepare to harness the power of analytics. In fact, 80% of providers are considering clinical analytics as a means of helping prevent medical errors.<sup>3</sup>

### Agile Analytics

To keep up with the pace of change in healthcare while accommodating the growing number of available data streams, the process of identifying necessary data, excluding irrelevant data, and incorporating new data must be ongoing and iterative. The traditional approach to health analytics usually entails a carefully crafted hypothesis, diligently designed experiments, comprehensive data collection requirements, and the lengthy study of retrospective data. However, the practical realities and economic pressures of delivering low-cost, high-value healthcare require a new approach. Agile analytics is that approach.

Coined by author Ken Collier after the 1990s software development movement’s popular “Agile Manifesto,” the term “agile analytics” refers to a solution development lifecycle that emphasizes:

- Individuals and interactions over processes and tools.
- Actionable insights over comprehensive documentation.
- End-user collaboration over contract negotiation.
- Adapting to change over following a plan.

Simply stated, these principles enable teams to self-organize and function in the most dynamic environments with “fluid” business requirements. A structure of short (usually two-week) sprint-and-reveal cycles allow teams to create increments of work, capture empirical feedback, and iterate frequently. Agile analytics in healthcare will reduce the “loop length” in finding actionable insights, resulting in faster time-to-market and improving the likelihood of successful care outcomes.

### Design Thinking

The transformative process of design thinking is based on the notion that “products aren’t complex, humans are.” Specifically intended to delight users, design thinking attempts to find elegant solutions to problems by clearly identifying the “real problem” that needs to be solved. This sounds much easier than it is. However, it is too often the case that analytic solutions fail to add value because they set out to solve the wrong problem or look at the problem from the wrong angle.

<sup>3</sup>Ibid. <https://www.pri.org/stories/2012-09-06/us-health-care-wastes-750-billion-each-year-institute-medicine-says>

Once the real problem has been identified, the next step in design thinking is to imagine all possible solutions. The word “all” is emphasized here to push teams out of their comfort zones. It’s not enough to think “out of the box.” Teams must believe there is no box. This step is enhanced by diverse perspectives presented by players with the freedom to postulate what might seem to be outlandish and impractical ideas without fear of judgement. It’s worth noting that some of today’s most successful ideas were once considered “outlandish” and “impractical” by conventional thinkers.

The final step in the design thinking process is to experiment until the most elegant solution emerges. This causes a natural evolution in which ideas compete in the real world, quickly narrowing the list of potential ideas until only the fittest solutions survive. This is a key step in creating processes and solutions that are truly transformational, which will lead you to our third best practice: rapid prototyping.

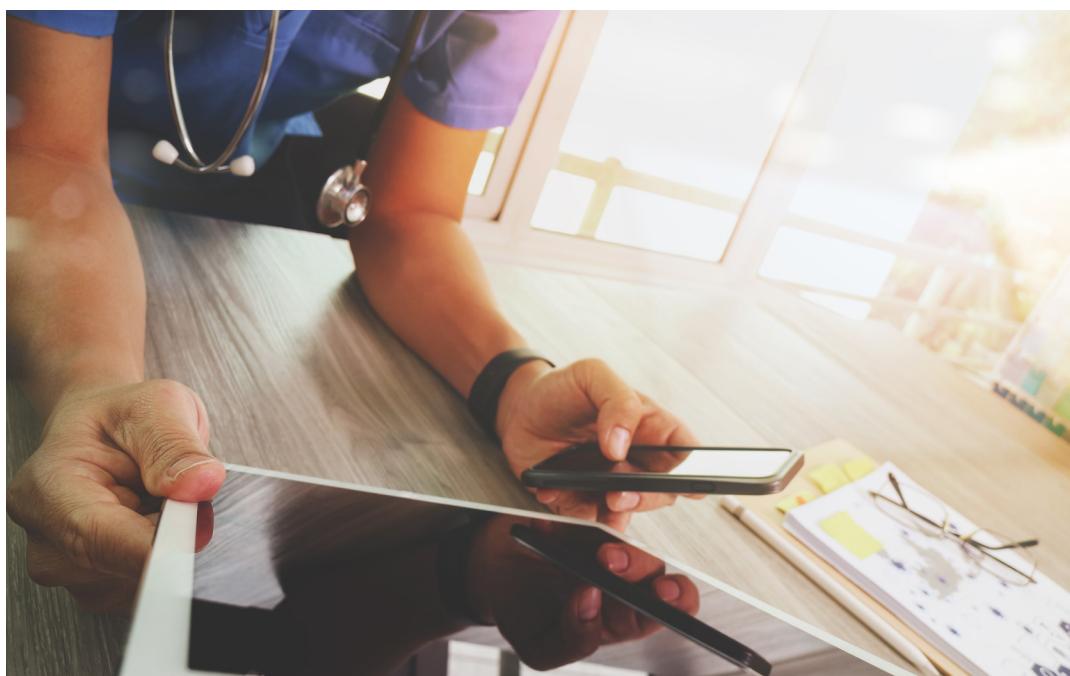
### Rapid Prototyping

Author and renowned innovator Tom Chi captured the essence of rapid prototyping most eloquently in his mantra, “doing is the best kind of thinking.” Rapid prototyping starts by doing, by fabricating something real, and physically interacting with the potential product or solution to learn from empirical, not hypothetical, experience. This helps teams turn great ideas (outputs from design thinking) into great products. Additionally, it minimizes the amount of time wasted in conjecture.

The framework for rapid prototyping requires teams to “**stay in the medium**.” In LEAN parlance, this is known as “**Going to the Gemba**” – a Japanese term for “the real place” or “where the work happens.”<sup>4</sup> Whichever way it is described, the concept is that it’s important to observe people using analytic insights in the real world, at the places where they work. In healthcare, this often means observing solutions as they are used to make diagnostic and treatment decisions.

Lastly, and perhaps most importantly, rapid prototyping reduces the “loop length” – the amount of time between forming a hypothesis and observing a person using the insight to make a decision. This can be challenging, because we often want to observe people using a dashboard or interpreting a report. However, that’s not the end of the loop. The end of the analytics loop is actually the act of making a decision and measuring the result of that decision. This requires that we observe people using real insights, based on real data, in the real world. With healthcare analytics solutions, we can’t fake, simulate, or assume a certain outcome. We must use a solution to know it works.

<sup>4</sup> <https://www.lean.org/LeanPost/Posting.cfm?LeanPostId=65>



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Doing is the best kind of thinking.

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**Tom Chi**

## THE TIME IS NOW TO TRANSFORM YOUR DATA INTO REAL, ACTIONABLE INSIGHT

The first step is to deploy agile analytics. By doing so, stakeholders in the healthcare space gain the ability to:

- Try different initiatives without the time and expense of standing up a division or large team.
- Pull data from various sources, enter this information into a data warehouse, and perform analysis to unlock key insights.
- Combine claims data with other data sources to unlock information that neither health provider nor health plans have ever had access to.

Most importantly, the healthcare industry needs to understand that agile analytics, design thinking, and rapid prototyping are not cost centers. They are investments that offer immediate return. The sooner organizations invest, the more value they will discover.

For more information on how we can help you transform your processes, visit us at [www.sutherlandglobal.com](http://www.sutherlandglobal.com), email us at [sales@sutherlandglobal.com](mailto:sales@sutherlandglobal.com), or call 1-800-388-4557 ext. 6123.



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