



# Optimal Patient Experience Begins with Data-Driven Care



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# Introduction



A great patient experience connects clinical excellence with outcomes. It connects efficiency, quality, behaviors, and mission with caregiver experience and engagement. The patient experience relies on teamwork, communication, shared decision making, empathy, compassion, and human connection. It is also influenced by dignity, respect, and humanistic values, as well as the ability and willingness of clinicians to relate to their patients as people, not as a medical condition or a room number.

**—CHRISTY DEMPSEY  
MSN, MBA, CNOR, CENP, FAAN**

From the neurology department to the NICU, the practice of medicine is changing. There's more recognition that patient experience is intrinsically related to outcomes, and providing patients with quality care is foundational to achieving better outcomes. Patients are also increasingly interested and involved in managing their own care, and demand the same levels of personalization they receive from other consumer experiences. This new paradigm requires that providers deliver tightly integrated, responsive, and accessible services—while operating within a highly-regulated environment that's defined by ever-increasing financial and cost pressures.

As a healthcare leader, you're challenged to ensure that your organization has the strategic, cultural, operational, and technological capabilities to meet all of these expectations, and others that are continually emerging. To achieve your mission, and for patient experience to be a core success metric in your organization, you need a strategy that's built on one of your key assets: data.

Data and data-driven insights are essential for improved decision-making, reduction in inefficiency and waste, more affordable care, and empowered patients. Yet, despite the obvious need for data-driven medicine, many organizations have yet to fully realize the potential of their data. In a [recent survey](#) of healthcare executives, only 12% of respondents said that their organization is effectively using data to improve healthcare quality and reduce costs, and 42% report little or no progress.

### **Shift to value-based care puts data in the spotlight**

Historically, the health care industry has relied on a standard, fee-for-service structure. Providers received a single payment for services rendered over a fixed period of time, and high profit margins were the barometer of success. This volume-based approach does little to improve quality, or patient satisfaction. It's no surprise that value-based care, or accountable care, has emerged as a new way to reduce cost, and improve patient experience. With value-based care, providers can manage more patients, create incentives, and increase market share by offering more options.

What does value-based care have to do with data? In a value-based care system, healthcare organizations require a solid data analytics infrastructure in order to learn from the data where to invest and expand, and most importantly, how to improve the patient experience—inclusive of cost, quality, performance, and outcomes.

Times of rapid change are never easy, and often require a deep transformational shift to create an environment that is conducive to success. Prioritizing data analytics as part of your strategic plan is a necessary first step in that transformation.

# Improving Patient Experience with Data Technology



By leveraging big data, we can create a vision of health care that is more preventative, predictive, personalized, and precise.

—LLOYD MINOR, MD  
DEAN OF STANFORD SCHOOL OF MEDICINE

As a healthcare organization, a culture of continuous improvement is synonymous with mission. And to fulfill that mission, there needs to be an understanding across the entire organization of how data informs the care continuum—and, ultimately, shapes the patient experience.

## Re-imagining the patient experience

A recent [Stanford Medicine report](#) revealed that 55% of physicians surveyed acknowledged symptoms of burnout: exhaustion, cynicism, feeling of reduced effectiveness. Burnout, according to the report, decidedly influences quality of care, patient safety, turnover, and patient satisfaction. Further, the AMA notes that clinicians spend about half their time in administration, data entry, and documentation, and only 33 percent of the day face-to-face with patients.

These statistics are sobering, and don't tell the story of a positive patient experience. If first-line providers are experiencing burnout, the patient experience is obviously compromised. By leveraging your existing data, it's possible to alleviate some of the administrative burden that contributes to burnout. Using artificial intelligence and machine learning algorithms, clinicians can reduce time spent on record-keeping, and go even further—using granular data insights to help with diagnoses, treatment plans, and predicting future disease.

To bring data-driven solutions into the mainstream, and re-imagine the patient experience, data needs to be accessible. Healthcare leaders need to make data interoperability an organizational priority, and eliminate the data silos that prevent data from being queried holistically. Interoperability is fundamental: with access to all of their patients' medical history, providers can make more informed care decisions. While progress is being made, a [2017 study](#) notes that less than 30 percent of US hospitals were able to meet the four interoperability metrics—data integration, reception, distribution, and funding. However, as the Fast Healthcare Interoperability Resource (FHIR) standard continues to gain traction, healthcare organizations will be able to exchange data from disparate systems readily.

## From data to insight

Organizations that aspire to use data insights to improve the patient experience need to prioritize data accessibility. And once data silos are eliminated, you need to be able to explore the data to gain a deeper understanding. After all, your data is only as valuable as the insights it provides.

Data-driven healthcare organizations understand that investing in a technology platform that supports robust data analytics is not just a trend—it's smart business. In fact, modern data analytics platforms, unlike solutions of the past, are designed to be compatible with legacy systems, which allow you to leverage your existing investments, and at the same time, accelerate time-to-value for your new technology investment.

## The future of patient experience

Forward-looking healthcare leaders are planning for a new normal where patient access to services is seamless and intuitive, and care delivery incorporates insights from disparate data that's been given new meaning using machine learning algorithms.

Artificial intelligence and machine learning will also make it possible for data from wearables, smart phones, and virtual assistants to be used for patient care. Patient risk scoring will be based on richer, more detailed data, including behavioral, environmental, and patient-reported data. As a result, patient diagnoses will be more precise, and emerging health issues will be easier to detect.

## DATAPPOINTS

Did you know?

**90%** of the US's \$3.3 trillion annual healthcare spend is on people with chronic conditions.

According to **one estimate**, AI could help reduce US health care costs by **\$150 billion** by 2026.

## Descriptive, predictive, and prescriptive analytics

What's in a name? It's a question worth exploring when it comes to healthcare data because depending on the goals of your data initiative, and how you're measuring patient experience KPIs, you will be focusing on either descriptive, predictive, or prescriptive analytics—and perhaps all three.

**Descriptive analytics** are the historical record of what has already occurred. This is the majority of all healthcare data, and includes claims data, clinical documentation, patient surveys, and lab tests. It's report-based, and offers no trend or forecast analysis.

**Predictive analytics** uses descriptive data to forecast future events. To conduct predictive analysis, an organization needs true interoperability, and more data than what's found in electronic medical records (EMRs).

**Prescriptive analytics** relies heavily on machine learning algorithms to indicate what course of action will yield the most significant benefit when a predicted event occurs. Prescriptive analytics in healthcare tends to be a more mature initiative, with **a number of barriers to adoption**: lack of skilled employees, regulatory issues, and too much data.

## Providence St. Joseph Health: data-driven success at scale

Healthcare leaders recognize that robust, integrated data analytics solutions are achieving wins for their patients, and their organizations. At Providence, data analytics are an integral part of improving patient care, delivering affordable treatment, and providing a better overall healthcare experience.

Providence created the chief medical analytics officer role, led by Ari Robicsek, MD, to manage a system-level clinical analytics team that builds and implements Tableau dashboards and other analytics tools for system-wide clinician use. The team includes people with working knowledge of the specific needs of clinicians: physicians who oversee cost of care versus outcomes of care measurement and tool development; nurses who translate between the clinical, analytics, and technical teams to ensure the analytics work and results are relevant to all clinicians; and biostats staff with deep, healthcare-related, data analytics experience. Regional and hospital-specific analytics teams exist in addition to this central analytics team, resolving local problems.



It's somewhat unusual to have a physician full-time in a role of directing analytics. And I would argue in healthcare that's a really useful thing.

—ARI ROBICSEK, MD  
CHIEF MEDICAL ANALYTICS OFFICER, ST. JOSEPH HEALTH

By collecting data, analyzing it, and sharing it in a more organized way, Providence now makes it easier for doctors to understand what behaviors positively or negatively impact patient care. It is now bending the cost curve downward or keeping it flat across all patient costs and clinical areas for its 51 hospitals, even in the face of inflationary pressures. Across ten clinical conditions, Providence has reduced the cost of care by \$20 million in the first year of these efforts.



# Addressing the Challenges of Data-Driven Care



You need to start with a plan, and that plan has to stem from your leadership—on the clinical side, the business side, and the technical side.

—SANKET SHAH

PROFESSOR OF HEALTH INFOMATICS, UNIVERSITY OF ILLINOIS AT CHICAGO

Healthcare organizations that are serious about implementing a data-driven approach to patient care need to set specific, well-articulated goals that relate to the organization's overall strategic goals. It's also essential that C-suite leaders are data literate, and know the difference between traditional business intelligence reporting and the more complex requirements of predictive and prescriptive analytics.

Learning to become less risk-averse is another component of establishing a data-centric approach to patient care. Because healthcare is, in large part, governed by regulatory requirements, there is a hesitancy to change proven routines that work—so resistance to change is an issue that must be faced head-on. “Adoption is completely tied to workflow,” explains Barry Chaiken, MD, and clinical lead at Tableau. “If a solution fits a clinician workflow and enhances patient care, they will use it.” He goes on to observe, “What each worker does in a provider organization impacts patient care and the patient experience. Scaling analytics to the enterprise allows each staff member to utilize data to perform at their best.”

According to Dr. Chaiken, the power of analytics is so huge, it would be an enormous failure to accept a “good enough” attitude. “Healthcare needs to embrace new tools. There's no room for complacency. The opportunity cost of not doing so is too high.”

## Big data, big questions

On the journey to delivering optimal patient experience, it's important to understand your overarching priorities. According to [Health IT Analytics](#), organizations should ask themselves the following questions, to assess data analytics needs.

- What areas of the organization are in need of support from a data-driven analytics platform? Do we have representatives from each of these areas on our data management team?
- Is there a specific project or use case that will produce a short-term return on investment to build confidence, experience, and demonstrate success?
- What are our upcoming regulatory and financial challenges? How can we use data insights to address them?
- Where do we see our organization in five years? Ten years? Do we want to prioritize growth, cooperative partnerships, patient care quality, or our reputation within the community? What data do we need to achieve those targets?

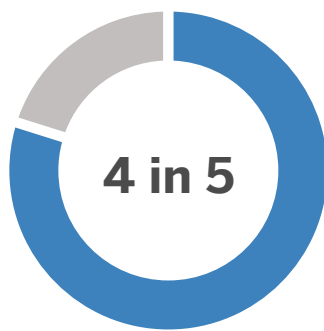
Once an organization begins to move forward with its data initiatives, leadership plays a critical role in communicating the goals, and steering the organization in the desired direction. But the C-suite can't accomplish this in a vacuum. Data needs to be everyone's responsibility, and a core competency across the organization. There needs to be ongoing support for growing a vibrant, dynamic "data brain trust"—a [multi-disciplinary team](#) representing IT, doctors, nurses, operations, administration, and health information management, led by an executive champion.

## Success metrics

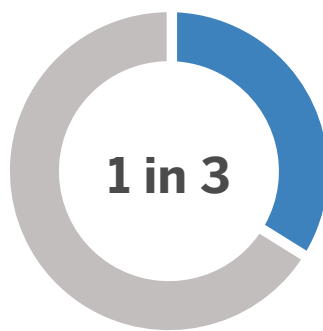
As illustrated in the graphic below, healthcare organizations show significant gaps in their efforts to manage their data strategies. It's difficult to deliver a higher level of patient experience if data management isn't a priority.

## Lack of effective data management strategies

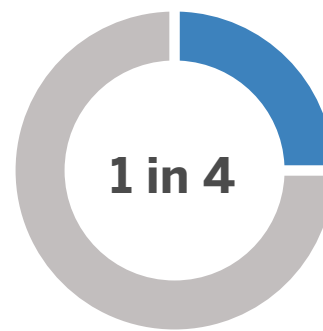
Source: Deloitte



Organizations surveyed do not have an integrated strategy for using analytics



Health systems report that they do not know their organization's total spending on analytics



Health systems report that they do not have a data governance model in place

With a seasoned, cross-functional team in place, you'll be able to address the open questions, and focus on developing strategies for key focus areas, including data quality, governance, privacy, security, and regulatory compliance—in addition to addressing ethics concerns related to AI and patient care.

## A Closer Look: Championing Data Culture

According to Forrester<sup>1</sup>, insights-driven businesses are growing at an average of more than 30% annually and are on track to earn \$1.8 trillion by 2021. That's heady stuff, but the rewards are the result of organization-wide, cultural change. Becoming a data-driven organization is a process, not a destination.

At Tableau, we believe that data and technology need to work in tandem with the people in the organization to begin effecting cultural change. Orchestrating change, and doing it efficiently, requires executive advocacy, agility, data proficiency, and a broad, active community to ensure the mission, goals, and needs of the entire organization are met—in process and technology.

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1. "Insights-Driven Businesses Set The Pace For Global Growth", Forrester Research, Inc., October 19, 2018

## Begin at the beginning

Organizations that develop strong data cultures share common elements around commitment, trust, talent, sharing, and mindset. Healthcare organizations should consider these questions as they strive towards building a data-driven culture and exceptional patient experiences. Are you ready to think, act, and behave differently with data? Get started:

- What is our data strategy as an organization, and if it's undefined or ill-defined, what problems exist where data might help?
- Is leadership advocating to put data front-and-center in clinical care delivery, and business decision-making?
- Is there an understanding of what data exists, and do people trust it?
- How sophisticated is our data management approach, and what resources might improve or help the organization scale with confidence?
- What processes, if any, do we need to refine to ensure there's a strategy for data governance?
- What data capabilities do employees have? Are there gaps in data skills across different levels?
- Are we following analytics best practices, and if not, what organizational standards should be instituted to ensure consistent practices are followed?
- Do we have a broader internal community that is or will commit to getting people excited about data and its potential impact on the org? If not, how can we develop it?
- Do you have change management strategies and executive sponsorship in place to adopt a data-driven mindset?

## Tableau's commitment to data culture—and beyond

As you chart your course to becoming a data-driven organization, it's important to remember that you are not just deploying software—you are driving organizational transformation by prioritizing facts over intuition with data at the center of every conversation. Your decisions should not only give people the right tools, but they must also enable the development of new skills, create new behaviors, encourage participation, and recognize achievements to alter how the organization uses data every day. We feel so strongly about this, we've created a framework called [Tableau Blueprint](#) to help guide you through the process.

# Conclusion

## The future of patient experience is now

In a truly data-driven healthcare organization, the future is already here.

In this new era, data is pervasive, deeply tied to outcomes, and optimal patient experience is delivered on a human scale, informed by actionable data insights. With so much at stake, there's no going back to business as usual.

To learn more about how Tableau can help your organization deliver optimal patient experience with the power of visual analytics, visit our [healthcare analytics page](#).

## Relevant Resources

[How to Build a Data-Driven Organization](#)

[Critical Behaviors of Data-Driven Companies](#)

[How to Nurture a Healthy Data Culture in 3 Steps](#)

[More Than 100,000 Providence Caregivers Improve Care, Reduce Patient Costs with Tableau](#)

Sign up for Tableau's free, two-week free trial [here](#).

Want to learn more? [Contact us](#).

## About Tableau

Tableau helps healthcare organizations become more data-driven. Our platform makes visual analytics intuitive and easy to use, empowering all healthcare leaders, business users, and clinicians to deliver optimal patient experiences and care outcomes.

