



Driving value with data and AI: A guide for healthcare and life sciences



Data in healthcare and life sciences, including hospital systems, medical facilities, pharmaceuticals, medtech, research centers and more, can mean the difference between life and death. The critical care and services these organizations provide are all fueled by data, helping to ensure the right decisions are made for patient safety and to expedite new life saving treatments. However, as digital transformation in healthcare and life sciences grows and AI technologies gain increasing demand, the importance of data continues to amplify.

Amplification of laws, regulations and the need for trust are also brought to the forefront. HIPAA, GxP, IDMP and more have all been put in place in order to protect not only the data organizations hold, but also the measures required to ensure the safety of drugs and therapies. This reporting is not possible without critical data. And, outside of healthcare and life sciences specific regulations, data laws like GDPR and CCPA still play an important role in data privacy and protection, giving patients and consumers an additional layer of control.

Keeping up with data laws and other challenges has now been intensified with the increased demand for artificial intelligence

(AI) and generative AI (GenAI) applications and services. Both technologies have numerous uses in healthcare and life sciences including enhanced patient portal agents, automation of repetitive tasks and more. Even traditional analytical models are having a renaissance with the need for faster and better outcomes across business units. With this demand however, there is a widening divide between what healthcare organizations aspire to achieve with data and AI and what they are capable of. This discrepancy can lead to risky initiatives lacking a unified governance foundation.

While these problems seem disconnected, they boil down to one thing: governance fragmentation. Control, visibility and even meaning are tied to specific systems, sources and even compute platforms. And fragmentation extends to your people, as technical solutions aren't accessible to the stakeholders who need to create policies, steward and use the data.

The organizations that overcome these challenges to build a solid foundation for data governance will accelerate and strengthen every data and AI use case — without the risk.

Understanding your “why” first

Both data governance and AI governance can effectively address the growing challenges healthcare and life sciences organizations face, but fully understanding the “why” behind these or any programs, is crucial for success. The essence of any program extends beyond just governance, it’s about value. Governance is the “how”; it determines the way initiatives are managed, the rules of engagement and guidelines that are set up to ensure they are executed well. However, the ‘why’, the reason you embark on these endeavours in the first place, is inextricably tied to the value they bring to your organization and the citizens you serve. This value is not just in terms of dollars spent or saved, but also in the form of benefits to stakeholders – time savings, advancing treatments or drug therapies, increases in patient care and others. Any initiative, be it data governance or otherwise, is a value-driven endeavor.

Without a clear understanding of the expected value of your implemented solution, there will inevitably be resistance from stakeholders, lack of user engagement and low adoption of the program. To ensure success and realize the expected value, there are several things that need to be accomplished.

- **Gain buy-in from stakeholders and decision-makers:** Their support and understanding can significantly influence the success of a project
- **Communicate value clearly and often to all stakeholders:** This helps create transparency and fosters a sense of shared purpose, including the KPIs and ROI they can expect
- **Prioritize use cases and develop a long-term roadmap:** This helps plan for the right resources early and helps you adjust on the fly as needed
- **Continuously track value and adoption:** Evaluating the effectiveness of the project as you go helps you make necessary adjustments

Defining value

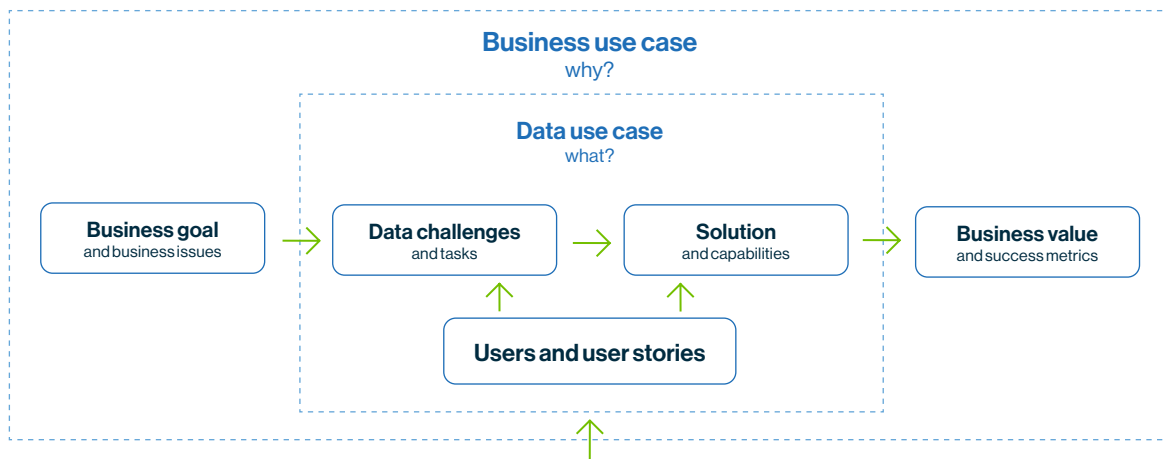
Defining your “why” can seem daunting at first. Determining what success looks like for yourself and various stakeholders can be tricky if alignment with stakeholders isn’t established early. However, with a set of simple, repeatable steps, determining the value you’ll receive from data, AI or any other technology project is a straightforward process.

The first step in successfully driving initiative value is identifying use cases and business goals that align with your organization’s larger goals. Many healthcare and life sciences organizations want to improve operational efficiency, patient safety and ensure regulatory compliance. A clear understanding of the specific use cases, whether it be these or others, provides insight into the real-world applications of the project.

These use cases, linked with the broader goals of your organizations, serve as a guidepost in project planning and execution. In parallel, you need to clarify the expected business/patient outcomes, understand unique data challenges that might arise, identify user needs and determine the capabilities required to address them. This holistic analysis ensures that the project is well-tailored to address specific issues and deliver tangible results.

Technology should never be your business goal. For example, ‘data governance’ is not a business goal. Rather it is the ‘how’ to reach your business goal of enhanced resource optimization.

Business value chain



Explain the tangible value for the organization and the practical benefits for specific personas. Identify target teams and users, tailor enablement plans and calculate created value. Monitor the generated value, drive adoption of the use case and create benchmarks.

Next, it’s time to calculate tangible return on investment (ROI) for your identified business use cases. By using industry benchmarks for comparison, this calculation provides a concrete estimate of the expected returns. Calculating ROI justifies allocating resources to the project and helps secure stakeholder buy-in and alignment. Once you calculate the ROI, you can prioritize use cases based on returns and level of effort.

It’s important to understand that not all use cases carry the same weight; some may require more resources but yield higher returns, while others may be easier to implement but offer less value. Prioritization helps in strategizing the project execution and ensures that efforts are directed towards use cases that offer the most value, thus effectively driving the project towards its objectives.

Sample healthcare and life sciences outcomes and the initiatives that support them

Healthcare and life sciences companies have a tremendous number of data and AI use cases. However, when planning or executing use cases, five distinct outcomes rise to the top. All of these use cases are important to creating better patient outcomes, driving efficiency and improving safety.

Collibra helps solve healthcare and life sciences challenges and needs



Improve operational efficiency

- Resource utilization optimization
- Workflow automation
- Predictive maintenance



Enhance patient engagement

- Personalized patient communication
- Patient feedback analysis
- Patient portal utilization
- Popular health initiatives



Ensure regulatory compliance

- Regulatory compliance for AI, HIPAA, False Claims Act, more
- Audit trail management
- Data sharing, access, privacy and security management
- Data privacy and security



Enhance patient outcomes

- Patient 360 views
- Treatment efficiency and efficacy analysis
- Patient support programs



Improve patient safety

- Adverse event monitoring
- Medication error prevention
- Infection control



Accelerate drug discovery and development

- R&D collaboration
- Pharmacovigilance
- Precision targeting
- Regulatory filings optimization



Optimize clinical trials

- Clinical trial data management
- Adaptive trials
- Patient recruitment analytics



Enhance intellectual property management

- IP portfolio analysis
- Research data protection
- IP licensing optimization

Outcome: Enhance patient engagement

Enhancing patient engagement in healthcare is critical for long-term success and improved health outcomes. Building a trusted and collaborative relationship between providers and patients helps encourage active participation in decision making and treatment plan options, boosting favorable outcomes. Providing educational resources, implementing easy-to-access online portals, mobile apps, and AI agents for scheduling and document access, and promoting open communication with healthcare professionals are great methods to encourage patient engagement. With the proper patient engagement, healthcare and hospital systems can help increase patient satisfaction, reduce readmittance and build healthier communities.

Patient portal utilization

Data challenges

- **Low adoption due to bad data:** When data is difficult to access or just plain wrong, patients are highly unlikely to engage with online portals, leading to a lack of trust and increased manual work by staff
- **Privacy concerns:** Patients and consumer concern over the privacy and security of their data is at an all time high, with many not wanting to expose sensitive data
- **Data quality:** Varying levels of data quality can lead to inaccurate patient portal information, severely impacting patient trust, understanding and usage

Business outcomes

- **Enhanced patient satisfaction:** Easy-to-use portals that provide immediate access and high-quality data can significantly enhance patient satisfaction and health outcomes, providing greater involvement in their treatments and overall care
- **Strengthened reputation:** Effective patient portals demonstrate healthcare and hospital systems' commitment to patient engagement and creating a first-in-class health system
- **Reduce administrative costs:** The automation of manual, administrative tasks including appointment scheduling and patient communication, can greatly reduce administrative costs, improve productivity and improve employee satisfaction

Outcome: Ensure regulatory compliance

Ensuring regulatory compliance in both healthcare and life sciences is critical not only because it is required by law, but also helps protect patient data and safety. Regulations, like HIPPA, GxP, and IDMP and new AI specific laws are complex and can vary from country to country, but all serve to enhance patient safety, data protection and even ethical considerations. New technology, training and key positions are often needed to maintain documentation, conduct audits and address any identified issues. Regulatory compliance is not just checking a box, it's a fundamental necessity for ensuring safety and upholding the integrity of your organization.

Regulatory compliance

Data challenges

- **No ability to catalog critical data:** The lack of a centralized data catalog can lead to poor data discovery, understanding and access, impacting patient care and compliance with regulations
- **No business and technical lineage:** Without an understanding of data provenance, healthcare and life sciences organizations will find it difficult to spot dependencies, proactively minimize risks and comply with regulations, which could lead to fines and reputational loss
- **Lack of data transparency and access controls:** Laws, like HIPAA, specifically outline openness and transparency principles, requiring organizations to make it clear how patient data is being used and who has access to it in order to comply
- **Limited understanding of the risks:** Limited visibility into data, where it is used and who has access to it opens healthcare and life sciences organizations to incredible risks, including poor AI being developed or large scale data breaches

Business outcomes

- **Reduced reputational risks:** Adherence to regulations helps deliver patient trust and keep you out of the headlines, enhancing your organization's reputation
- **Decreased risks of regulatory fines/penalties:** By ensuring compliance with all laws and regulations, you limit your exposure to stiff financial penalties and lengthy legal battles
- **Decreased audit costs:** Having a well defined workflow with a clearly defined process to demonstrate compliance can severely decrease the time that audits can take, reducing the costs and interruption of day-to-day operations
- **Increased productivity:** With the streamlined, repeatable and efficient compliance processes and standards come productivity gains that help employees focus on core responsibilities and activities

Outcome: Improve operational efficiency

Many healthcare and life sciences organizations are always looking for new ways to increase their operational efficiency. Maximizing resources, including costs, person hours and equipment, while still ensuring patient safety and quality control is vital for profitability. Automation, streamlined workflows, resource utilization optimization, and other projects all help to reduce waste and maximize efficiency. Healthcare and life sciences organizations are leveraging data and AI to exceed patient care expectations and boost staff satisfaction.

Resource utilization optimization

Data challenges

- **Disparate data sources:** Relying on multiple, unrelated data sources, including databases, spreadsheets and other systems, to track the utilization of resources can lead to major inefficiencies stemming from inaccurate data
- **Inconsistent data quality:** Inconsistent and poor data quality can provide poor or misguided insights resulting in ineffective usage of resources across the organization and less than stellar patient care
- **Lack of transparency:** Without the proper insights into resource usage driven by transparent and easy to find data, optimizing those resources becomes nearly impossible, reducing the overall quality of patient care and operational efficiency
- **Inefficient processes:** Overly complex and redundant processes to find, understand and report on data can delay decision making and overburden an already stretched thin workforce

Business outcomes

- **Decrease costs:** By optimizing resources effectively, you can help ensure the well planned use of equipment, facilities and staff to minimize waste and decrease costs
- **Increase confidence in decisions:** The data-driven and well-defined optimization of resources provides enhanced decision-making with reliable, trusted data
- **Increased productivity:** Streamlined resource utilization helps reduce downtime of equipment, facilities and staff for increased patient satisfaction, faster time-to-market and increased profitability

Start delivering value today

Ensuring productivity and efficiency for your data and AI initiatives is key. Collibra is here to help guide you with capabilities and solutions to tackle any use case your organization needs.



To learn more visit collibra.com/healthcare.