



SolutionsHub eBook:
**A Guide to Data
Management in
Healthcare**

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by HENRY SCHEIN®

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Introduction



Data management is vital in most every industry today, and the healthcare industry is no different. However, the type of data being managed in this industry is of a particularly sensitive nature, containing not only individual's identifying information but also details of their health status.

In this eBook, we explore data management in the healthcare industry, including how it is defined and what aspects are included, why this is so important, the challenges practices face, steps to implement, and best practices for optimization. Let's get started.

What is data management?



Data management in the healthcare industry refers to the process of collecting, storing, organizing, analyzing, and securing data related to administrative operations, research, patient care, and other healthcare activities. There are several practices and activities involved in this process, all with the goal of ensuring that healthcare data is accessible, accurate, secure, and used effectively to improve patient outcomes and drive operational efficiencies.

Some key aspects of healthcare data management include:

- **Data collection:** Gathering data from a variety of sources such as electronic health records (EHRs), medical devices, imaging studies, lab tests, administrative systems, and patient-generated health data.
- **Data storage:** Securely storing healthcare data in electronic systems such as data warehouses, databases, and cloud-based platforms, making sure to stay compliant with regulations and data retention policies.
- **Data integration:** Integrating data from different sources and formats to create a comprehensive record of patient health information so that providers can make informed decisions and deliver coordinated care.
- **Data quality management:** Ensuring the completeness, accuracy, consistency, and timeliness of data using processes such as data validation, cleansing, and ongoing monitoring.
- **Data security:** Using robust security measures and access controls to protect healthcare data from unauthorized access, cyberattacks, and breaches, as well as safeguarding patient privacy through HIPAA compliance.
- **Data governance:** Ensuring data integrity and regulatory compliance by establishing policies, standards, and procedures for managing healthcare data, such as data stewardship, ownership, and accountability mechanisms.
- **Data analytics:** Using advanced analytics techniques, including predictive modeling, machine learning, and data visualization to gain insights from healthcare data, identifying patterns, trends, and opportunities for improvement.
- **Data lifecycle management:** Managing the entire lifecycle of data, from collection to disposal and everything in between, in a systemic and compliant way, adhering to legal requirements and data retention policies.
- **Interoperability:** Supporting continuity of care, collaborative research efforts, and care coordination by ensuring the seamless exchange of data between different platforms, stakeholders, and systems.
- **Patient engagement:** Involving patients in the management of their health data by providing them with access to their medical records and helping them to engage in shared decision-making, using technology such as mobile health apps and patient portals to improve communication and collaboration between patients and providers.

Why is data management important in healthcare?

Data management is essential in healthcare for a variety of reasons. First, having efficient access to patient information, such as medical history, allergies, medications, and test results, allows providers to appropriately diagnose conditions and decide on effective treatment, improving patient care and safety.

Next, effective data management allows for automation of tasks such as appointment scheduling, billing, and claims processing, enhancing the efficiency of a practice's workflow as well as the productivity of staff. Additionally, using data to analyze clinical outcomes, population health trends, and the utilization of resources helps to identify areas for improvement and guide resource allocation and strategic planning.

Solid data management is necessary for interoperability, allowing for shared access to patient data, which enables care teams to effectively collaborate and make sure that patients receive integrated, comprehensive care. Finally, managing data well allows for technology such as patient portals and mobile health apps to be used, empowering patients to take an active role in their healthcare decision-making process, leading to greater treatment adherence and improved health outcomes.

Essentially, data management helps to optimize patient care, enhance operational efficiency, foster innovation, and ensure regulatory compliance. Effectively managing healthcare data enables organizations to improve outcomes, reduce costs, and deliver high-quality healthcare.



What are the challenges related to data management in healthcare?

Healthcare organizations can face a number of challenges with regard to data management. One such challenge is related to data security and privacy. Healthcare data is highly sensitive and subject to regulations such as HIPAA. As the healthcare industry has become a more common target for cyber criminals, protecting patient privacy and ensuring data security against cyberattacks, breaches, and unauthorized access has become more of a challenge for healthcare organizations.

Data fragmentation and silos are another challenge. Healthcare data is often kept in different systems and formats across a variety of departments, organizations, and specialties. A lack of interoperability and common data standards leads to data fragmentation and silos, hindering the integration of data and the capacity for comprehensive patient care.

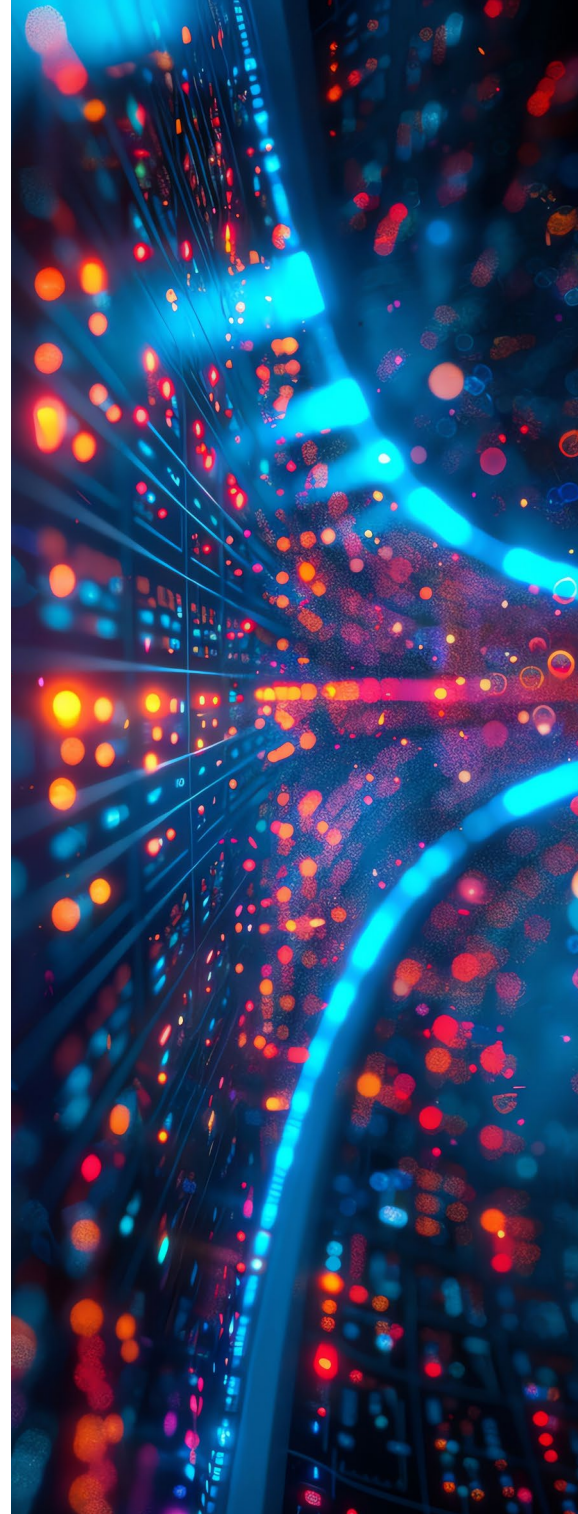
Another challenge is data quality issues. Maintaining completeness, accuracy, and consistency among healthcare data can be challenging due to issues such as data entry errors, variations in documentation standards, and inconsistent coding practices. Poor data quality can compromise patient safety, clinical decision-making, and analytics outcomes.

Data governance and compliance is another challenge. It can be difficult for organizations to establish robust data governance frameworks and ensure compliance with regulatory requirements. It requires careful planning and execution to balance the need for data access with privacy, defining data ownership and stewardship responsibilities, and regulatory compliance.

Workforce skills and training among staff can also prove challenging. Healthcare professionals often don't receive adequate training in data management, analytics, and information technology. Organizations, then, have to bridge this gap in knowledge with workforce education and training programs.

Another challenge relates to patient consent and data sharing. Organizations must obtain patient consent for data sharing and secondary use of health information, particularly to maintain trust, transparency, and the ethical use of healthcare data. It can be challenging, though, to navigate addressing patient concerns, navigating consent processes, and ensuring compliance with legal and ethical guidelines.

Finally, financial constraints and resource allocation can be a challenge. Competing priorities and budget constraints can be challenging for healthcare organizations trying to implement and maintain robust data management infrastructures and initiatives. It can be hard to secure the funding required for these projects and demonstrate a return on investment (ROI).



10 Steps to Implementing Data Management for Medical Practices



Given the importance of strong data management to successful interoperability, every practice should have a data management process in place. However, it's possible for practices to struggle when it comes to actually implementing that data management. Here are ten steps to follow when implementing or optimizing your data management strategy:

- 1 Assess and plan:** Conduct a thorough assessment of your existing data management systems, processes, and infrastructure. Identify areas for improvement and develop a comprehensive strategy and implementation plan for better data management.
- 2 Establish a data governance framework:** Define clear policies, procedures, and guidelines for managing healthcare data, including access controls, security measures, data ownership, and regulatory compliance. Assign roles and responsibilities for oversight and data stewardship.
- 3 Invest in technology infrastructure:** Make sure the technology in your practice is up to date and able to support efficient data management and interoperability, including your electronic health record (EHR) system, data storage, and networking capabilities. Ensure that all systems are secure, scalable, and compliant with industry standards.
- 4 Data standardization and integration:** Standardize data formats, terminologies, and coding systems to allow for interoperability and data exchange between different systems and stakeholders. Implement data integration solutions to harmonize and consolidate data from different sources.
- 5 Ensure data quality and accuracy:** Implement processes and controls to ensure the completeness, consistency, and accuracy of healthcare data. Establish data validation, cleansing, and quality assurance procedures to help identify and fix errors or discrepancies.
- 6 Enhance security measures and implement backup and disaster recovery plans:** Implement robust security measures to protect healthcare data from cyberattacks, breaches, and unauthorized access. Use encryption, audit trails, access controls, and other security technologies to safeguard patient information. Establish data backup and disaster recovery plans, ensuring the integrity and availability of healthcare data even in the event of natural disasters, system failures, and other emergencies. Regularly test backup procedures and recovery processes to ensure optimal operation.
- 7 Train staff on data management best practices:** Provide training and education to staff on data management best practices, such as data entry, documentation standards, security protocols, and privacy policies. Create a culture of data stewardship and accountability.
- 8 Promote patient engagement and data access:** Engage patients in the management of their own health data by providing access to their health records through secure channels such as patient portals. Educate patients about their rights regarding data privacy and providing consent for data sharing.
- 9 Monitor and evaluate performance:** Continuously monitor and evaluate the performance of data management systems and processes. Get feedback from stakeholders, track key performance indicators (KPIs), and adjust policies and procedures as needed to optimize data management in your organization.
- 10 Stay compliant with regulatory requirements:** Stay up to date on all regulatory requirements, such as HIPAA. Ensure compliance with these standards and guidelines by performing regular audits and assessments of policies and procedures.

5 Data Management Best Practices



When optimizing data management processes in your organization, there are best practices you can implement in order to see greater success. By utilizing these best practices, you can not only make data management more successful, but also more efficient, easing the burden on your staff. Here are five of these best practices:

- 1 Establish clear data governance:** Define a robust data governance framework that outlines responsibilities, policies, and procedures for managing healthcare data. Establishing data ownership, stewardship, accountability, and access controls should be included in this process.
- 2 Prioritize data quality:** Implement controls and processes to maintain the consistency, completeness, accuracy, and timeliness of healthcare data. This process should include data validation and ongoing monitoring to identify and fix errors and discrepancies.
- 3 Adopt interoperability standards:** Embrace interoperability standards and protocols to enable the seamless exchange of healthcare data between different stakeholders, platforms, and systems. This allows for continuity of care, care coordination, and collaboration among healthcare providers.
- 4 Promote data sharing and collaboration:** Encourage collaboration and data sharing between providers, researchers, and other stakeholders to enable innovation, quality improvement, and population health management initiatives. Implement mechanisms for secure data sharing and establish data sharing agreements where appropriate.
- 5 Monitor and audit data usage:** Regularly monitor and audit data usage to detect and prevent misuse, unauthorized access, or data breaches. Conduct regular audits, access reviews, and risk assessments to make sure you are compliant with security policies and regulatory requirements.



Conclusion

Data management is vital to the healthcare industry, particularly as interoperability becomes an ever-larger focus. Healthcare organizations would do well to implement and optimize data management strategies now so as not to be left behind in the future. At Henry Schein SolutionsHub, we pride ourselves in offering technologies that fit in with an organization's data management processes. For more information, visit henryscheinsolutionshub.com.

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