

# Utilizing Digital Transformation to Enable Better Health Outcomes



# In This Guide

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Digital innovation has the ability to transform any business, and the healthcare industry is no different. The integration of digital technology can improve clinical practices to better, more accurately serve patients, but it can also help optimize operational decision making. Digital transformation goes beyond investment in technology. It can involve meaningful changes in organizational culture and employee engagement. In this guide, we will outline how digital transformation can make monumental changes in healthcare systems—both within clinical practice and outside patient care in operational strategies.

## The Impact of Digital Transformation in Clinical Decision Making

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Digital transformation can greatly enhance clinical decision making by providing healthcare providers with access to real-time patient data, advanced analytics, and innovative technologies, leading to improved patient outcomes and increased efficiency in the delivery of care. Here are four examples:

### 01

#### Precision medicine

One of the primary ways digital transformation is impacting clinical decision making is through the increased use of precision medicine (or personalized medicine). Although the practice of precision medicine has been long used, new technology advancements have allowed doctors and researchers to more accurately predict which treatment methods and prevention strategies will work for a particular disease affecting a specific individual. This greatly contrasts the outdated “one-size-fits-all” approach, in which treatment and prevention approaches were developed for the average person and there was limited consideration for differences between individuals.

## 02

### Health Sensors and Trackers

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Another way digital transformation has changed clinical practice is through the introduction of more advanced monitoring via health sensors and trackers. These sensors and trackers are IoT or smart devices worn in direct contact with the body. They can track and monitor various vital signs such as heart rate, blood pressure, and oxygen levels through connected health applications. These devices are being adopted by healthcare providers worldwide as they can help to prevent diseases and monitor various medical conditions (diabetes, sleep disorders, and lung diseases like asthma).

## 03

### AI Diagnosis

Similar to the use of precision medicine, artificial intelligence (AI) algorithms are increasingly being used to diagnose patients and help make the best decisions when it comes to healthcare. AI can give doctors and researchers further confidence in diagnosis and treatment plans. AI is also being used in healthcare systems globally for things like drug discovery, understanding patient data, automation workflows for healthcare applications, digital diagnostics, imaging, and more.

## 04

### Digital Therapeutics

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Lastly, digital transformation has enhanced the types of treatments physicians can prescribe to include smartphone applications and digital technologies called digital therapeutics. These treatments deliver medical interventions directly to patients using evidence-based, clinically evaluated software to treat, manage, and prevent a broad spectrum of diseases and disorders.

# Impact of Digital Transformation in Operational Decision Making

Digital transformation in healthcare has transformed operational decision making by providing healthcare organizations with real-time patient data, advanced analytics tools, and innovative technologies, enabling more informed and efficient decision making and ultimately improving patient outcomes. Here are four examples:

## 01

### Patient Flow

The pandemic changed many things globally, however, specifically in the healthcare industry, providers faced a huge influx of patients with limited resources to serve them. As providers strived to adapt to the strain on hospital capacity, two main goals became apparent: evaluating patients' needs accurately and managing hospital resources effectively. Digital transformation helps with these goals by equipping health providers with data-driven operational decision-support systems to provide valuable insights and aid in making triage, admission, and discharge decisions.

## 02

### Staffing

Digital transformation can also help with staffing and capacity. Using analytics, hospital administrators can streamline and reduce errors when making staffing decisions. An example of this is with nurse staffing. Algorithms can predict nurse absenteeism rates and the need for surge staffing to preemptively determine the right number of float nurses to call in. These systems help hospital administrators proactively plan and respond quickly in the moment, which in turn can improve the consistency and predictability of the work schedule.

## 03 Scheduling

Similar to aiding in staffing issues, digital transformation can also be utilized to help healthcare centers schedule everything from appointments for surgical procedures in operating rooms to scans in radiology suites. Digital transformation technology can provide significant advancements to healthcare staffing—not only by better predicting resource needs and effortlessly incorporating last-minute changes/cancellations, but also by optimizing schedules based on the latest research.

## 04

### Supply Chain Management

According to Definitive Healthcare, Medical and surgical supply costs account for over half of total supply expenses—approximately 57% in 2020 and growing. Between 2016 and 2020, total supply costs increased by 5% on average each year. As of 2020, average total supply costs are \$30 million per hospital.

Even though these supplies account for a huge sum of their budgets, few efforts to improve supply chain and inventory management occur. In industries that have already adopted digital transformation solutions for their supply chain issues, the technology has shown a 50% reduction in process costs and a 20% increase in revenue. The healthcare industry is no different. By automating the process of collecting data, ordering, reconciling, and paying for medical, surgical, and pharmaceutical supplies, hospitals should be able to greatly reduce supply chain and inventory management-related costs.



**\$30.3 million**

Average Total Supply Costs  
among analyzed hospitals\*

Total Hospital Supply Costs  
2014-2018 Average and Median



# Impact of Digital Transformation on Insurance and Reimbursement

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Overall, digital transformation has had a significant impact on the medical insurance and reimbursement industries. Here are six ways:

1. **Improved Access to Care:** Digital technologies have made it easier for patients to access healthcare services and information, allowing them to make informed decisions about their care.
2. **Increased Efficiency in Claims Processing:** Automation and digitalization of processes have made it easier for medical insurance providers to process claims, while increasing the speed and accuracy of claims settlement.
3. **Better Data Management:** Advanced analytics and big data technologies have enabled medical insurance providers to gather, analyze, and make informed decisions based on vast amounts of patient and healthcare provider data.
4. **Personalized Health Coverage:** With the availability of vast amounts of patient data, medical insurance providers can offer more personalized health coverage and services that are better suited to the needs of individual patients.
5. **Improved Fraud Detection:** Advanced analytics and machine learning technologies have made it easier for medical insurance providers to detect and prevent fraudulent activities, reducing the overall cost of healthcare.
6. **Better Coordination of Care:** Digital technologies have made it easier for medical insurance providers and healthcare providers to collaborate and coordinate care, improving the overall quality of care and reducing healthcare costs.

# How Healthcare Organization Can Approach Digital Transformation

Now that we've reviewed some of the ways digital transformation can positively impact healthcare systems, let's look at some steps healthcare systems have taken to embrace digital transformation.

1. **Develop a Digital Strategy:** Start by creating a clear and comprehensive digital strategy that outlines the organization's goals and objectives for digital transformation, as well as the technology, processes, and resources required to achieve those goals.
2. **Embrace Technology:** Invest in the latest technology, such as EHR systems, telemedicine solutions, and big data analytics tools, to automate processes, improve data management, and enhance the delivery of care.
3. **Engage Patients:** Involve patients in the digital transformation process by providing them with easy access to their medical records, offering telemedicine services, and enabling online appointment scheduling.
4. **Foster a Culture of Innovation:** Create a culture that encourages and supports innovation, empowering employees to experiment with new technologies and processes to drive digital transformation forward.
5. **Collaborate with Partners:** Collaborate with healthcare providers, technology vendors, and others to develop and implement digital transformation initiatives that benefit both the organization and its stakeholders.
6. **Continuously Evaluate and Improve:** Regularly evaluate the results of digital transformation initiatives, identify areas for improvement, and make changes as needed to ensure that the organization is making the most of its digital investments.
7. **Invest in Employee Training:** Ensure that employees have the skills and knowledge they need to effectively use digital technologies by providing training and support.

Catalyst UX is one of the leading firms for designing and building medical digital solutions. We work with global leaders and emerging innovators. Want to see other examples of digital transformation at work in healthcare or talk through where you might start? We are happy to set up a 30-minute discussion with a member of our leadership team. Contact us:

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