# **10 Importance of Technology in Healthcare**

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In just a few short years, digital technology has completely changed how we think about and deliver healthcare. According to the Centers for Disease Control and Prevention, telemedicine use among U.S. doctors jumped from just 15.4% in 2019 to 86.5% by 2021. That's a huge shift toward virtual care.

Data from IQVIA shows the same trend. Primary care telehealth visits went from about 1.4 million per quarter in 2018 and 2019 to 35 million in the second quarter of 2020. Virtual visits became essential during the pandemic.

These numbers show that we're not just making small changes. The healthcare system is moving fast. From smartphones in our pockets to smart tools in the operating room, technology is now part of every step in the patient experience.

In this article, we'll look at 10 Importance of Technology in Healthcare.

- Helping doctors give better care
- Giving patients more control
- Making healthcare more efficient
- Supporting public health
- Saving money and protecting data

We'll also talk about why it's so important for healthcare leaders, providers, and patients to work together to get the most out of this digital shift.

## **Key Terms Defined**

Before diving into how technology transforms healthcare, let's first understand the key terms—your quick guide to the tools, trends, and tech shaping modern medicine.

## **Technology in Healthcare**

Integration of digital tools, systems, and devices such as electronic health records (EHRs), artificial intelligence (AI), and telehealth into clinical and administrative processes to improve how care is delivered.

#### **Healthcare Technology Benefits**

The positive impacts of health IT adoption, such as improved outcomes, cost savings, and greater patient engagement.

#### Health IT, digital health transformation, medical technology evolution

Broad shifts in how healthcare data are managed, how patient care is delivered, and how organizations operate through emerging digital innovations.

From saving lives with AI diagnostics to boosting patient engagement via mobile health apps, technology is revolutionizing every facet of care.

**Technology is changing the way we take care of our health.** From online doctor visits to smart machines in hospitals, it's helping doctors, patients, and the whole system work better. Here are 10 reasons why technology is so important in healthcare today.

## 1. Electronic Health Records (EHRs) and Sharing Information

As of 2021, about 88 percent of U.S. office-based physicians use an EHR system, and roughly 78 percent are on a certified platform. At the same time, 96 percent of non-federal acute care hospitals have a certified EHR in place. By 2023, around 70 percent of hospitals were exchanging patient data across all four key interoperability domains.

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#### Why EHRs matter?

- Live updates: Clinicians can see the latest lab results, notes, and scans the moment they are entered.
- **Easy sharing:** Records flow seamlessly among primary care offices, specialists, labs, and pharmacies.
- **Built-in safety alerts:** The system flags things like duplicate tests or potential drug allergies.

#### Why connecting EHR systems is so important?

When information moves with the patient no matter where they go, it cuts down on repeated tests, reduces errors from missing data, and helps every provider make informed decisions together.

## 2. Telemedicine & Remote Consultations

The pandemic brought telemedicine into the spotlight. By 2022, 43% of U.S. adults had used virtual care, with 70% using video visits and 30% using audio-only. Telehealth offers:

- Expanded access for rural or homebound patients.
- Cost savings by cutting out travel time and lost wages.
- Timely care that slashes unnecessary emergency visits.

People Also Ask: What are the benefits of telemedicine for rural communities?

- Expanded Access: Connect with far-away specialists without a day-long trip.
- Lower Costs: No gas, no parking, no time off work.
- **Early Intervention:** Chronic conditions get monitored sooner, reducing hospital admissions by up to 30 % among rural seniors.

## 3. Mobile Health (mHealth) Applications

The global mHealth app market reached **USD 37.5 billion** in 2024 and is on track for **14.8 % CAGR** through 2030. Key features include:

- Chronic disease trackers (e.g., diabetes logs that alert patients and doctors to glucose spikes).
- Secure messaging portals for quick questions and lab results.
- Appointment schedulers that sync with clinic calendars.

Users of chronic-disease apps see **20–30 % better adherence**, leading to fewer acute episodes and hospitalizations.

People Also Ask: Which mobile health apps are most effective?

- MySugr: Lowers A1C by an average of 0.8 points in diabetic users.
- Medisafe: Boosts medication adherence by 88 %.
- Headspace for Healthcare: Lowers anxiety reports by 30 % through guided mindfulness.

## 4. Artificial Intelligence & Machine Learning

Valued at **USD 14.92 billion** in 2024 and projected to hit **USD 110 billion** by 2030, Al is reshaping diagnostics and workflows:

• **Predictive Analytics:** Flags high-risk patients (e.g., sepsis or heart failure) hours before they deteriorate.

- **Imaging Assistance:** Al tools detect anomalies such as tumors or fractures with about 86% accuracy, matching expert radiologists.
- Workflow Automation: Triage imaging studies automatically, freeing specialists for complex cases and halving report turnaround times.

People Also Ask: How is Al transforming diagnostic medicine?

- 1. Enhanced Imaging: Spot subtle abnormalities that humans might miss.
- 2. Predictive Alerts: Use EHR data to forecast adverse events.
- 3. Efficiency Gains: Automate routine tasks so clinicians focus on patient care.

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## 5. Clinical Decision Support Systems (CDSS)

When integrated into EHRs, CDSS cut medication-error rates in half by providing realtime alerts for:

- Drug-drug interactions
- Allergy warnings
- Evidence-based screening reminders

They embed seamlessly into clinician workflows, reinforcing best practices and elevating care standards.

## 6. Robotics & Automation

The surgical robot market was worth **USD 4.31 billion** in 2024 and is set to grow at **9.42** % **CAGR** through 2030. Robotic systems like **da Vinci** offer:

- Enhanced precision that reduces blood loss and speeds recovery.
- Shorter hospital stays that cut about one day per procedure.
- Automated labs and pharmacies capable of processing 5,000+ samples per hour and dispensing medications with minimal human error.

## 7. Big Data Analytics & Population Health Management

Healthcare big-data was **USD 46.80 billion** in 2024, projected to climb to **USD 123.51** billion by 2033. Benefits include:

- **Risk stratification**: Combining claims, EHR, genomic, and social-determinant data to pinpoint at-risk groups.
- **Operational savings**: McKinsey estimates U.S. healthcare could save USD 300– 450 billion annually by optimizing care through analytics.
- **Outbreak tracking**: Real-time dashboards that spot flu or COVID-19 clusters days earlier than traditional methods, enabling faster, targeted responses.

## 8. Wearables & Remote Patient Monitoring (RPM)

Wearable adoption grew from **28–30 % in 2019** to **36.36 % in 2022**, with users generally willing to share data for better care. The market reached **USD 91.21 billion** in 2024, forecast to hit **USD 324.73 billion** by 2032. Continuous monitoring of vitals:

- Detects arrhythmias or hypoglycemic events early.
- Tracks activity and sleep to guide lifestyle interventions.
- Enables remote titration of insulin or blood pressure meds.

## People Also Ask: What role do wearables play in preventive health?

Early warning signs, personalized coaching, and proactive disease management shift care from reactive to preventive, keeping patients healthier longer.

## 9. Cybersecurity & HIPAA-Compliant Solutions

In 2024, data breaches exposed or stole protected health information for over 276 million people, which is about 758,288 records every day. Ninety percent of healthcare organizations had at least one breach, with average costs of \$408 per record and \$9.8 million per incident. Essential safeguards include:

- End-to-end encryption for data at rest and in transit.
- Multi-factor authentication on all provider and patient portals.
- Regular penetration testing to find and fix vulnerabilities.
- Security awareness training to prevent phishing and social engineering.

## People Also Ask: What cybersecurity measures protect patient data?

- Encryption locks data so only authorized users can read it.
- MFA adds a second verification step at login.
- Ongoing testing ensures defenses remain strong.

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## 10. Cost Reduction & Operational Efficiency

Technology drives bottom-line savings and better care:

- Telemedicine follow-up for heart-failure patients cut 30-day readmissions by 45 % (OR 0.55; 95 % CI, 0.44–0.72).
- Pre-COVID analysis of 40,000 <u>Cigna beneficiaries</u> showed telehealth users had 17 % lower costs and 36 % fewer ED visits per 1,000 patients.
- RFID tracking in pharmaceutical supply chains slashes inventory waste by up to 20 %.

People Also Ask: How can hospitals reduce costs with technology?

- 1. Telehealth Programs: Lower readmissions and ED visits.
- 2. Automated Supply Chains: Minimize stockouts and overstocking.

- 3. Energy-Management IoT: Save up to 15 % on utilities.
- 4. Robotic Process Automation (RPA): Speed billing and admin tasks, cutting labor costs by 25 %.

## **Conclusion & Future Outlook**

As we wrap up, let's reflect on how technology is reshaping healthcare today—and glimpse into the future innovations that promise even greater impact.

## Recap of the 10 Key Benefits

- 1. Streamlined EHR access and error reduction
- 2. Enhanced access via telemedicine
- 3. Patient empowerment through mHealth apps
- 4. Early detection with AI diagnostics
- 5. Safer prescribing via CDSS
- 6. Increased precision from robotics
- 7. Data-driven population health management
- 8. Continuous monitoring with wearables
- 9. Robust cybersecurity measures
- 10. Cost savings and operational efficiency

## **Emerging Trends to Watch**

- Blockchain for secure, immutable health records
- Virtual Reality (VR) in pain management and rehabilitation
- Genomics + AI for ultra-personalized medicine
- Voice assistants for hands-free charting and patient triage

As the digital health transformation speeds up, everyone including health systems, payers, policymakers, providers, and patients must work together.

Healthcare leaders should prioritize funding for interoperability, cybersecurity upgrades, AI and machine learning projects, and digital literacy programs.

Providers need to smoothly integrate these tools into daily workflows, and patients should use apps, portals, and wearables to become active partners in their own health.

## What to Do Next?

- For Leaders: Invest in cross-system integration and cybersecurity.
- For Providers: Learn and adopt AI, telehealth, and remote monitoring workflows.
- For Patients: Explore trustworthy mHealth apps, engage in virtual visits, and share wearable data to unlock truly personalized care.

Together, we can harness this technology wave to deliver safer, smarter, and more compassionate healthcare for every patient, every day.



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