7 Healthcare Technology Trends to Watch in 2024

Technology continues to advance rapidly across industries, but few sectors see more vigorous innovation than healthcare. From artificial intelligence (AI) capabilities to cloud-based systems to advanced devices, new technologies aim to improve patient outcomes, lower costs, and enhance efficiency for medical providers.

As we look at the trends set to shape healthcare in 2024, increasing automation and intelligence and prioritising security and interoperability stand out.

Technology Trends in Healthcare – Top 7 Picks

Here are seven major developments to keep on your industry radar:

1. Acceleration of AI-Driven Drug Discovery

Pharmaceutical researchers are combining AI algorithms and machine learning models to significantly quicken the drug discovery process. These advanced systems can perform tasks like analysing molecular data and screening compound libraries to identify possible medicine candidates in days rather than years.

In 2024, more end-to-end AI platforms will emerge to streamline everything from early-phase drug design to preclinical trials to analysing trial data. Their predictive capabilities will also help determine the safety and efficacy of drugs faster. Leading pharmaceutical companies will continue investing heavily in AI to cut discovery time by up to 50%.

2. Wider Adoption of Portable Medical Records

Electronic health records (EHRs) have become ubiquitous, allowing providers to digitally access patient medical history, diagnose conditions, and prescribe suitable treatments. In 2024, we will see rising adoption of mobile-based EHR access through smartphones and tablets.

Around a third of US hospitals already enable medical professionals to enter health data securely through mobile EHR apps. More intuitive interfaces are allowing doctors and nurses to quickly update records and review information on the go. Patients also prefer having easy access to their own test reports and prescription details via mobile portal integration with hospital EHR ecosystems.

3. Online Coding and Billing Tools

Medical billing and administrative tasks often burden healthcare providers, taking time away from patient care. So, demand is increasing for specialised online tools that simplify documentation, coding, insurance claims filing, revenue tracking, and practice management.

In 2024, more smart software like cloud-based [Med Genius](#) will emerge to provide an intuitive and centralised platform covering everything from ICD-10 and CPT code descriptions to E/M calculators to HCPCS and modifier lookup. Their automated updates, mobile access, and coding recommendations powered by AI save providers significant time.

4. Interoperability and Data Security

Lack of systems integration and data breaches remain key healthcare challenges. In 2024, we will see increased deployment of Fast Healthcare Interoperability Resources (FHIR) standards for smoother cross-platform data sharing between hospital EHRs, clinics, labs, pharmacies, insurers, and public health agencies.

More user-friendly cybersecurity measures, such as multifactor authentication and automated threat response, will also emerge. As medical IoT devices and patient wearables proliferate, securing devices, networks, and data sharing will be critical.

5. Advanced Hospital Management Tools

Managing staff schedules, operating rooms, equipment maintenance, and supply inventory remains very complex in hospitals. Purpose-built AI scheduling programmes and logistics coordination systems will gain popularity for optimising hospital workflows.

In 2024, more hospitals will adopt such smart tools to align staffing with patient demands, assign operating rooms based on urgency, automate equipment servicing and leverage data to track and predict supply needs.

6. Expanding Applications of Robotic Surgery

Robots already assist surgeons in minimally invasive procedures, but wider applications like autonomous suturing are emerging from companies like Johnson & Johnson. Continued development of machine learning algorithms is making robots smarter at adapting techniques based on surgical needs and patient anatomy.

The global surgical robots market is expected to grow multifold in the coming years. As capabilities mature, robotic platforms will become the norm for an expanding range of complex procedures by 2024.

7. Remote Patient Monitoring Devices

Wearables like smartwatches and home-based Internet of Things (IoT) devices that can continuously monitor patient vitals like heart rate, glucose levels, and respiratory function saw expanded adoption during COVID-19. In 2024, more intuitive and connected monitoring systems will emerge.

These will integrate seamlessly with hospital EHR suites to alert physicians to early signs of concern, allowing timely interventions. Demand will rise significantly as populations age and need to manage chronic diseases.

Harnessing the Power of Data Analytics

Among the biggest healthcare technology advancements is the ability to derive value from the vast amounts of patient and medical data being generated. As analytics and business intelligence platforms grow more robust, 2024 will see wider adoption of advanced data analytics capabilities:

1. Clinical Decision Support

Healthcare provider groups will utilise analytics with machine learning models to get treatment recommendations based on analysis of hundreds of thousands of patient cases and outcomes. Such clinical decision support allows doctors to determine the best drug or procedure personalised for each patient.

2. Population Health Insights

Analytics tools are enabling a shift from episodic treatment to preventative care by analysing community health trends and outcomes. Risk models can identify patients prone to conditions like heart disease based on profiles. Providers can then design targeted intervention campaigns to specific vulnerable demographics and neighbourhoods.

3. Accelerated Research

Medical researchers are using big data analytics to draw correlations between medications, therapies, genomic factors and patient response rates from diverse sources like clinical trial records and academic studies. This augments R&D in developing more effective treatments faster through evidence-based analysis.

4. Fraud and Abuse Detection

Government health programmes are leveraging data mining algorithms to audit claims faster and detect fraudulent billing patterns through outliers. This improves efficiency in claims processing and saves taxpayer money lost to abuse.

Sophisticated analytics across clinical, operational and financial data will become integral for enhanced decision-making in patient care, hospital administration, public health policy, medical research and health insurance in 2024.

Conclusion

The pace of healthcare innovation is accelerating, shaped by emerging technologies that aim to improve quality, lower costs, and expand access. As we move towards 2024, the trends of intelligent automation through AI, widespread adoption of mobile health records, advanced hospital systems, robotic surgery and remote monitoring will transform medical experiences for providers and patients.

However, these cutting-edge solutions need to prioritise bulletproof cybersecurity and interoperability to realise their full potential. With data analytics capabilities unlocking personalised and proactive population health insights, the future looks promising for a more efficient and effective healthcare system.

Though challenges remain, continued digital transformation through smart infrastructure and a tech-savvy workforce can lead to better health outcomes.

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