Is Your Organization Ready for Digital Health and AI?

THE GLOBAL DIGITAL HEALTH MARKET IS PROJECTED TO REACH USD 995 BILLION BY 2032[1]

Five Key Data Management Questions for MedTech Leaders

Digital Health Opportunities Abound. Is Your Company Ready?

The healthcare world is awash in data—medical device data, electronic patient records, public-health surveillance data, clinical data, wearable data, and more. By transforming this wealth of data into meaningful and actionable information MedTech companies can move up the value chain and gain a competitive advantage.

Digital health represents a massive business opportunity for MedTech companies. The global digital health market is projected to reach USD 995 billion by 2032, growing at a CAGR of over 13% from 2024 to 2032. Healthcare equipment manufacturers, software vendors, and service providers are all looking to tap into this large and growing market.

Digital health poses a variety of data management challenges for development teams. Interoperability barriers, scalability constraints, and data privacy concerns can hinder development efforts and impede revenues.

Is your organization prepared? Do you have the right development platforms, frameworks, and tools in place? This paper poses five key data management questions to help you assess your organization's readiness. It explains how a **digital health development platform** can help you streamline development efforts and accelerate investment returns. Digital health development platforms provide all the building blocks and tools you need to manage healthcare data and deliver differentiated solutions—quickly, efficiently, and cost-effectively.

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Creative data technology

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[1] *Facts and Factors Digital Health Market Size, Share, Growth Analysis Report, May 2024*

Question 1: Does Your Digital Health Strategy Include Interoperability, Data Governance, and Analytics?

Digital health solutions access, manage, and analyze confidential healthcare data from disparate systems. Does your digital health strategy address interoperability, data governance, and analytics? How will you support a wide range of diverse healthcare systems? How will you safeguard protected health information (PHI)? How will you analyze large datasets?

You can use a digital health development platform to connect to disparate systems and break down interoperability barriers. Leading digital health development platforms provide built-in connectors to streamline application development and integration efforts, and accelerate customer deployments.

Digital health development platforms help you improve governance and ensure compliance with data privacy regulations like HIPAA, HITECH, and GDPR by tightly controlling access to PHI and encrypting data-at-rest and data-in-transit. And some platforms include built-in analytics frameworks that let you efficiently analyze healthcare data. You can increase differentiation by delivering value-added solutions that transform raw data into valuable insights.

Question 2: Can you Seamlessly Connect Device and Clinical Data From EHR Systems and Other Healthcare Information Systems?

Integration issues can delay product launches, hamper customer deployments, and impair business results. Do you have a strategy for interconnecting divergent systems and interworking dissimilar healthcare protocols and data formats?

Digital health development platforms support a variety of data formats and standards such as HL7® FHIR®, HL7® v2, C-CDA, and IHE. Leading platforms provide built-in data transformations for common healthcare data standards and graphical user interfaces to help you simplify integration efforts and free up technical resources to work on other tasks.

Some include enterprise-class FHIR servers and other utilities for efficiently managing FHIR data and developing FHIR applications. FHIR is an international interoperability standard for accessing and exchanging electronic healthcare information. Unlike previous standards, FHIR lets you easily build innovative applications that incorporate diverse healthcare data from different sources.

Question 3: Can you Easily Consume and Aggregate Data in Any Format in Real-Time, at Scale?

Digital health solutions typically gather and process high volumes of real-time data from multiple sources. Data management platform capacity constraints and scalability limitations can degrade application performance and impact critical functionality. Can your solutions meet stringent digital health price-performance and scalability requirements? Can you easily aggregate and act upon large, diverse datasets, in real-time, in a scalable manner?

Digital health development platforms let you efficiently and cost-effectively consume and aggregate diverse, real-time health data, at scale. Many are delivered as cloud-hosted services for ultimate agility and economics. A cloud deployment model can help you accelerate time-to-market and improve product margins by avoiding up-front capital equipment expenses, reducing ongoing infrastructure operations cost and complexity, and closely align recurring expenses with evolving business demands and capacity requirements.

Question 4: Do you Have One Information System That Can Supply Unified Data From all Sources?

Digital health application data is often scattered across multiple systems and stored in different formats. Is a fragmented data architecture holding you back? Do you have a single information store that can supply unified data from all sources?

Digital health development platforms make it easy to collect, harmonize, and store diverse data from different systems. You can create cohesive, unified data records that improve data quality and consistency, and provide a consolidated, holistic view of digital health information. Unified data records enhance the efficiency, accuracy, and effectiveness of digital health solutions and lay the foundation for advanced analytics, artificial intelligence (AI), and machine learning (ML).

Question 5: Is Your Data AI-Ready?

Many MedTech companies are looking to AI and ML to fuel the next wave of business growth. AI can be used to automate medical diagnoses, personalize treatment plans, accelerate drug discoveries, assist surgeons—the possibilities are only limited by one's imagination.

AI has the potential to transform healthcare, but data management and integration challenges can impede AI development efforts, stall healthcare AI projects, and hamper AI investment returns. Many AI applications leverage data from diverse sources such as EHR systems, smart medical devices, hospital scheduling and billing systems, and public health databases. Data redundancies, inconsistencies, and gaps can impact data quality and integrity, and impair healthcare AI initiatives.

Whether you are building an AI-powered healthcare application or deploying one, data that is accessible, reliable, and accurate is critical to success. You can use a digital health development platform to efficiently gather, unify, and clean vast amounts of disparate healthcare data from diverse sources to prepare it for analysis or machine learning.

Generate Additional Revenue Streams From Your Data

Digital health development platforms make it easy to collect and manage data, and then derive business value from that data. This can open up new opportunities and improve business performance by introducing subscription-based, data-driven services that generate predictable, recurring revenue streams. For example, a lab management software provider found they could monetize operational data by offering a benchmark data subscription.

InterSystems Has the Products, Experience, and Expertise you Need to Succeed

When evaluating a digital health development platform, picking the right vendor is just as important as picking the right product. InterSystems has the knowledge, experience, and tools to help you overcome the most complex healthcare data integration challenges. InterSystems is a leader in healthcare data technology and standards-based interoperability.
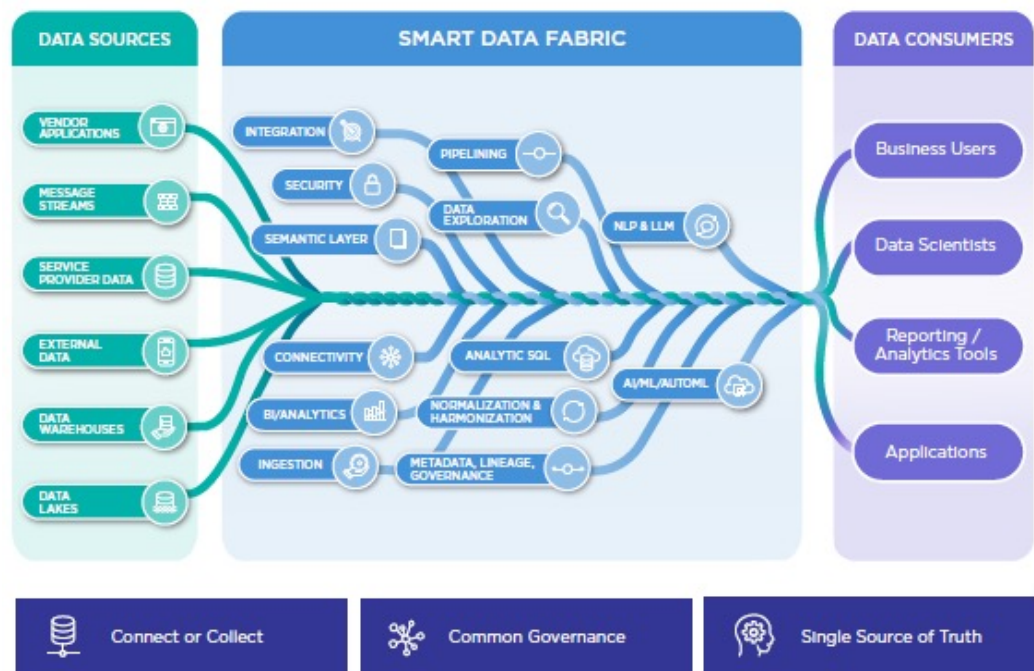
From the earliest days of health IT, the industry has relied on and grown with InterSystems. We support a wide range of global and national healthcare information protocols and standards, and we continuously evolve our products to keep pace with change.

Whether you work for a medical device manufacturer, a life sciences company, a health IT vendor, a healthcare analytics company or some other MedTech company, InterSystems can help you develop and deliver digital health applications quickly, easily, and cost-effectively. We can help you expand the market for your products, grow your customer base, and increase sales by connecting to more systems and by deriving business value from digital health data.

InterSystems IRIS for Health Streamlines Application Development

InterSystems IRIS for Health™ is a comprehensive, cloud-first digital health development platform that makes it easy to build or enhance MedTech solutions. You can use InterSystems IRIS for Health to efficiently collect, integrate, and control diverse digital health data. The platform provides out-of-the-box connectivity for a wide range of applications, databases, and technologies. It also includes built-in analytics, ML, and generative AI facilities.

InterSystems IRIS for Health provides many of the critical capabilities needed to implement a smart data fabric. Smart data fabrics lay a solid foundation for digital health and healthcare AI initiatives by providing a uniform, extensible, secure, and scalable data architecture. They give you the control and the data processing facilities you need to make your data AI-ready.

DATA SOURCES
- VENDOR APPLICATIONS
- MESSAGE STREAMS
- SERVICE PROVIDER DATA
- EXTERNAL DATA
- DATA WAREHOUSES
- DATA LAKES

SMART DATA FABRIC
- INTEGRATION
- PIPELINING
- SECURITY
- DATA EXPLORATION
- NLP & LLM
- SEMANTIC LAYER
- CONNECTIVITY
- ANALYTIC SQL
- AI/ML/AUTOML
- BI/ANALYTICS
- NORMALIZATION & HARMONIZATION
- INGESTION
- METADATA, LINEAGE, GOVERNANCE

DATA CONSUMERS
- Business Users
- Data Scientists
- Reporting / Analytics Tools
- Applications

Connect or Collect   Common Governance   Single Source of Truth

Smart Data Fabrics Lay the Foundation for Digital Health and AI Initiatives

Equipment Manufacturer Analyzes Device Data at Scale with InterSystems IRIS for Health

A **leading medical device manufacturer** uses InterSystems IRIS for Health to gather and analyze device data at speed and scale. The InterSystems solution transforms device performance data, patient-reported outcomes measures data, and other data into a common FHIR format for straightforward analysis. The solution's built-in analytics repository helps the manufacturer eliminate expense and complexity, and accelerate time-to-market.

InterSystems IRIS for Health's FHIR SQL Builder capability lets the manufacturer's data scientists efficiently query and analyze data from their FHIR repository using familiar SQL analysis tools. The solution enables the manufacturer to provide evidence of device compliance to regulators. It also improves visibility into population health data and helps patients better manage diseases and detect early warning signs. Unlike other approaches, the FHIR SQL Builder does not copy the data; it projects FHIR into SQL tables, which greatly reduces the cost of the solution and makes data available in real time.

Conclusion

Digital health solutions can help you gain a competition edge by transforming raw data into actionable insights. But data management challenges often stand in the way. Digital health development platforms help you break down interoperability barriers, streamline development and integration efforts, accelerate product launches, and improve business results.

With a digital health development platform, you can reach more customers by connecting to more applications and systems. You can boost profit margins by reducing product cost and complexity. You can improve differentiation, by offering unique and compelling solutions. You can create additional revenue streams by introducing data-driven, subscription-based services. And you can lay a solid foundation for AI and ML initiatives.

For More Information

To learn more about InterSystems solutions for MedTech, please visit **InterSystems.com/MedTech**.

About InterSystems

InterSystems, a creative data technology provider, delivers a unified foundation for next-generation applications for healthcare, finance, manufacturing, and supply chain customers in more than 80 countries. Our cloud-first data platforms solve interoperability, speed, and scalability problems for large organizations around the globe to unlock the power of data and allow people to perceive data in imaginative ways. Established in 1978, InterSystems is committed to excellence through its award-winning, 24×7 support for customers and partners in more than 80 countries. Privately held and headquartered in Boston, Massachusetts, InterSystems has 39 offices in 28 countries worldwide. For more information, please visit **InterSystems.com.**