

Transforming Data into Actionable Insights via Analytics and Digital Strategy



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From the Desk of Lynda Rowe:

With the advent of the 21st Century Cures Act, COVID-19, and the proliferation of digital data, giving patients digital access to resources and care at their healthcare organizations is at top of CIOs' priority lists. Providing seamless access to all the digital assets of an organization has changed the architecture and deployment of IT systems. And as such, forward-leaning organizations are creating their Digital Front Door strategy to provide an easy way to engage patients and members.



Lynda Rowe
Senior Advisor,
Value-Based Markets,
InterSystems

Michael Marchant from UC Davis, IDC Analyst Mutaz Shegawi, and I had the opportunity to present at HIMSS 2021 on the topic of how organizations can create a Digital Front Door. Mutaz defined the concept of a Digital Front door as, "All the touch points where providers and payers can digitally interact with patients or members to drive better access, engagement, and experiences across the service continuum." He noted that the emergence of the concept is a convergence of the following IT catalysts: Health IT Evolution, Digital Era Challenges, Next-Gen Emergence, and Intelligence in Action. Alongside these top-of-mind topics for healthcare organizations was the rapid pivot to virtual care because of the COVID-19 pandemic.

Michael followed Mutaz with an overview of how UC Davis has been building their Digital Front Door strategy since 2019, when the 21st Century Cures act led ONC and CMS to unveil parallel interoperability rules. Michael and his team realized that the digital assets of his organizations resided in many different systems, not just the EHR. He provided his vision for the future of how data would be accessed from outside of UC Davis by the 4 Ps: Patients, Providers, Payers and Partners. This set the foundation for using HealthShare, IRIS for Health, and API Manager as the key components of his Digital Front door. The benefits are that anyone coming from the outside, can access data they need, irrespective of its source system. During the Q&A session with Michael and myself, he also noted that APIs will proliferate our ecosystems, and organizations will need the tools to scale as the demand continues to increase. Michael is confident that UC Davis is well-positioned to provide data to patients and collaborate with provider and payer partners using APIs and HL7 FHIR®.

In this issue of HealthShare Connections, we share how our new HealthShare Analytics Solution can help organizations unlock insights to deliver better, more efficient care to patients. We also go over the key takeaways from the SMITH Consortium roundtable highlighted in the last issue, and share how customers like Greater Houston Health Connect and Hunterdon Healthcare are leveraging HealthShare to turn data into decisions, make information available to clinicians, and more. We also highlight our recent coverage in a Chilmark report, and share two new articles published in partnership with IDC and Gartner. Additionally, we give a brief overview of what to look forward to during the InterSystems Virtual Summit, starting on October 26.

The digital front door is a way to allow patients, providers and payers to access the digital assets of a healthcare organization. It provides a means to enhance patient and member engagement, giving healthcare consumers access to services as well as their data—empowering to have more control over their health and care.

Independent Report Ranks InterSystems Top-of-Class for Health Data Infrastructure

Chilmark Research Rates InterSystems as 1st in Product Capabilities and Market Execution

Great work earns good grades, and an independent analyst firm recently gave InterSystems straight A's for its healthcare data infrastructure services.

Chilmark Research's unsolicited review of enterprise health data management and analytics resources from 14 different vendors placed InterSystems at the top because of our wide variety of integrative solutions and vast healthcare experience.

The report comes at a time when the health data market is still adjusting to a stream of new data-sharing requirements brought on by the 21st Century Cures Act. Amid this change, analysts expect the healthcare integration infrastructure market to experience a 14% compound annual growth rate over the next five years, with an emphasis on managing and unlocking value from provider data.

But how can healthcare organizations choose the right vendor to excel in a field that's simultaneously booming and in flux?

InterSystems received an "A" for product categories and an "A-" for market execution, making us the only competitor to earn the top score under each column.

Analyzing InterSystems HealthShare and IRIS for Health, Chilmark hailed our broad portfolio of vendor-agnostic, developer-focused capabilities. They noted the strong presence of InterSystems in the health information exchange (HIE) market and our HealthShare CMS Solution Pack, which helps payers and providers attain compliant integration.

InterSystems also received high marks for our lasting commitment to meeting and exceeding HL7 FHIR[®] standards, a cornerstone of healthcare interoperability. The report praised InterSystems for our role as "an early supporter and active participant in the development" of those standards — who remains committed to forging partnerships that contribute to the growth and evolution of FHIR.

Finally, our long history in healthcare and consistently strong focus on supporting developers and integrators bolstered the ratings. But this belief in collaboration for the benefit of healthcare organizations, patients, and developers is no surprise. After all, what good is health data if it isn't accessible when and where you need it?

[Download the full report here.](#)

Analysts Discuss Why Payers Should Choose InterSystems

Two recent analyst publications highlighted InterSystems HealthShare and its benefits for payers.

IDC Research Director Jeff Rivkin assesses the InterSystems HealthShare suite of products as a foundation for a “Member-360” data platform. Government regulations on data sharing with members have created the need for such a platform, as payers have traditionally put member data into silos only for transaction processing purposes. The report highlights some of our achievements like our extensive work with the CMS Interoperability Rules, HealthShare as the “engine” for 11 state HIEs, connecting 75% of U.S. hospitals, and more. [Read the full article here.](#)

A Gartner newsletter by Mandi Bishop, Vice President Analyst, Healthcare, and Rohan Sinha, Associate Principal Analyst, Life Sciences, analyzed and underscored the importance of Clinical Data Integration (CDI). The first piece outlines CDI as a complex Value Chain and not a single process, noting the importance of partners who work with your organization to deliver clean, healthy data. Another article focuses on how InterSystems implements the capabilities in the CDI Value Chain, from consent to deployment. Having collaborated with payers during the past 7 years, InterSystems has helped payers successfully close gaps in care and enhance HEDIS reporting, medication reconciliation, and payer-provider data sharing by integrating clinical, claims and other member-centric data into their overall enterprise data architectures. [Learn more by reading the full newsletter.](#)

THE ABILITY TO ATOMIZE, AGGREGATE, DEDUPLICATE, AND NORMALIZE DATA TO CREATE A CLEAN, ACTIONABLE HEALTH RECORD CLEARLY IS AND HAS BEEN A FOCUS OF INTERSYSTEMS.

Real-time Insights, Integrated into Your Workflows: Introducing the HealthShare Analytics Solution

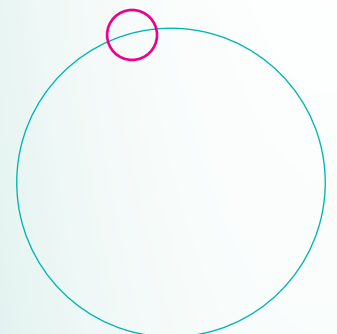
Timely, Actionable Insights to Make Better Decisions Without the Complexity or Cost

Unhealthy data hurts the enterprise, costing organizations roughly **\$12.8 million every year** and **consuming 80% of data scientists' time**, researchers have found. That's why a unified care record, like the kind created through InterSystems HealthShare®, is vital for healthcare organizations to obtain clean information when it matters most. But did you know that HealthShare can also form the foundation of your analytics strategy?

To help your organization make the most of its data, we spoke with Dr. Fred Azar, Healthcare Analytics and AI Business Development Executive at InterSystems and a longtime industry leader who's worked with IBM Watson, Philips, and Siemens. Dr. Azar's mission is to ensure customers' unmet analytics needs are addressed, and spread the benefits of the [InterSystems HealthShare Analytics Solution \(HAS\)](#), a new tool with capabilities to take your data strategy to the next level.



Fred Azar, MD
Analytics Business
Development
Executive,
InterSystems





What is HAS?

HAS is a cohesive, end-to-end, scalable analytics solution that enables providers, payers, life sciences, and medical device organizations to fill any gap. HAS generates and delivers actionable insights at scale and in real time from aggregated data, with less complexity and cost.

What problems does HAS solve?

Healthcare institutions often struggle to make actionable, timely decisions because of significant issues with massive investments in data warehouses, huge data latency problems, and data duplication.

Once you solve these problems, imagine what's possible. You can consolidate and harmonize data at tremendous scale from disparate sources, which enables you to control your data while collaborating across all functions in and outside your walls. Your entire organization gains access to the same high-quality, clean, validated source of truth, updated in real time. And if you need to build applications, we can operationalize analytics, AI, and machine learning, including through:

- Real-time predictive and prescriptive model execution
- Notification delivery
- Direct integration into EHR workflows

How are HealthShare customers leveraging HAS?

As an example, to meet federal demands for improved care among at-risk populations, one large health system launched a diabetes wellness program. The organization previously relied on an Excel-based approach to enrolling target patients, but it yielded low results. Using InterSystems technology, the health system can now identify patients who meet enrollment criteria when they come to the emergency department, immediately notifying care teams. With this strategy, the provider captured 6 in 7 patients who fit their criteria, driving wellness program adoption from 15% up to 85%.

Another InterSystems customer is using HAS to help clinicians meet incentives for value-based care, decreased workloads, and cost. The health system raised post-discharge follow-ups by 150% and cut readmission costs by 300%.

Why are you excited about HAS?

Our customers are not just doing analytics for the sake of it – they are doing it to change the business for the better and improve patient outcomes. The area where we perhaps differentiate ourselves the most is with our capabilities to deliver workflow-integrated insights in real time, which means we can inform the right person at the right time with the right actionable insight.

Want to learn how the [HealthShare Analytics Solution](#) can optimize your organization? [Contact Dr. Fred Azar today.](#)

InterSystems Introduces HealthShare Message Transformation Service as Part of the Amazon HealthLake Launch

Cloud-based, On-Demand Message Transformation for Amazon HealthLake

Recently, we announced the availability of InterSystems HealthShare Message Transformation Service. Developed for use with Amazon HealthLake, the on-demand service enables healthcare providers, payers, and pharmaceutical companies to convert their existing data formats to FHIR standards to populate Amazon HealthLake and extract the most value from their data.

Making it Easier to Analyze Health Data at Scale

Amazon HealthLake is a HIPAA-eligible service designed to store, transform, query, and analyze health data at scale. Using the HealthLake APIs, organizations can easily store health data already in the HL7® FHIR® industry standard in a secure data lake in the cloud. But, many healthcare systems, labs, and pharmacies still have most of their data in non-FHIR formats such as HL7 V2 – impeding interoperability and the ability to derive full value from their data.

AWS selected InterSystems as one of the Amazon HealthLake Connector Partners to develop and introduce complementary products to coincide with the launch of Amazon HealthLake. Solutions such as InterSystems HealthShare Message Transformation Service, which is part of the InterSystems HealthShare suite of products, enable users to fully leverage products such as Amazon HealthLake to derive meaningful insights from their data, like examining trends such as disease progression at the individual or population health level over time, spotting opportunities for early intervention, and delivering personalized medicine.

“As an Advanced Technology Partner of AWS – and having achieved the AWS Healthcare ISV Competency Designation – InterSystems continues to assert our position as a leader in interoperability and healthcare customer success,” said Don Woodlock, Head of Healthcare Solutions for InterSystems. “We welcome opportunities like these that encourage and enable interoperability for healthcare organizations looking to get the most out of their data.”

Transforming EHR Data to FHIR for Advanced Analytics and Decision Support

“With the use of the HealthShare Message Transformation Service by InterSystems and Amazon HealthLake, we will be able to access and transform molecular profile data from the EHR into FHIR to run advanced analytics and algorithms, providing clinical decision support to assist oncologists with personalized cancer treatment options,” said Philippe Faurie, Vice President of Professional Services at CureMatch™, Inc. a San Diego-based digital health company focused on personalized medicine and combination therapy in oncology.”

As the first official software-as-a-service (SaaS) offering from InterSystems, HealthShare Message Transformation Service promotes interoperability by making health data conversion more easily and securely accessible. It is delivered in an automated, single interface, making it easy to manage, consume, and scale.

Better Outcomes at Lower Cost

“Healthcare and life sciences organizations are increasingly looking to use health data more effectively to enable better health care outcomes by revealing relationships in data, discovering trends, and making precise predictions. However, the cost and operational complexity of this work is prohibitive to many organizations,” said Dr. Taha Kass-Hout, Director of Machine Learning at AWS. “With InterSystems as an Amazon HealthLake Connector Partner, customers who do not already have data in the FHIR format can leverage their offerings, such as InterSystems HealthShare Message Transformation Service, to translate legacy clinical data (e.g., HL7, CSV, CCA) and move it to Amazon HealthLake as standardized FHIR records. Amazon HealthLake enables customers to easily apply advanced analytics, making it easier for researchers and practitioners to collaborate and accelerate breakthroughs in treatments, discover health trends, and deliver a better experience and care for patients.”



Amazon HealthLake

HIPAA-eligible service that transforms data using specialized ML models to identify trends and make predictions

InterSystems HealthShare Message Transformation Service is available via a consumption-based model, allowing organizations of any size or specialization to take advantage of the service and scale their use as needs fluctuate. This collaboration represents a deepening of the relationship between InterSystems and AWS, which includes the availability of [InterSystems IRIS data platform on AWS Quick Start](#). InterSystems is also collaborating with AWS on their AWS for Health initiative, helping accelerate Health IT initiatives and simplify interoperability for healthcare organizations.

[Read the full press release here.](#)

Join Us for InterSystems Virtual Summit: Innovations in Data, October 26 – October 29, 2021

The digital revolution has left us awash in data. Now how can we turn it into actionable knowledge, insight, and value?

[Join us for our second InterSystems Virtual Summit](#) to get answers to this question and more like it. Learn about our vision for data innovation, including:

- Why healthy data is essential to enabling better insights from data
- How a smart data fabric, powered by the right data platform, can give you greater visibility into your enterprise
- How cloud-based, smart data services can ignite your data strategy
- How forward-thinking organizations are getting value from data using analytics
- How InterSystems technologies can increase your performance, optimize your cloud strategy, and leverage your usage of resources.

We'll be joined by thought leaders and customers from around the world to help you make better sense of your data and inspire you to achieve more. Join us for keynotes, roadmaps, focus sessions, and technical coaching sessions.

German Expert Panel: Leveraging a Digital Strategy to Achieve Better Healthcare

Turn Data into Information that Provides Insights and Enables Critical Decisions

With recent innovations like electronic patient records, digital health applications, telemedicine, and new legislation, the digital transformation of health care in Germany is speeding up. Healthcare organizations need a future-proof, digital data management strategy that can create added value for users in hospitals and medical practices, and for patients via interoperability. At the same time, this data must be shared efficiently without compromising security.

On March 25, 2021, industry insiders from medicine, hospital IT, industry and consulting discussed the challenges and opportunities through the online expert panel How to Leverage Digital Strategy on the Path to Better Healthcare, co-organized by InterSystems Germany.

The key point was that a powerful digital strategy must include at least three levels:

- First, individual medical facilities, where the aim is to invest in the digitization of the inpatient sector in a smart and future-proof manner.
- Second, the specific level of care, with service providers and patients digitally networked together to make medical care in a region faster, better, and more convenient for everyone involved.
- Third, digital strategy must have a nationwide scope that outlines general guidelines for technology, data protection and security, and ultimately, interoperability.

Below is a recap of other key discussion points.

Need for Digitization in Care Delivery Organizations

The COVID-19 pandemic has made it clear how important it is to react quickly and flexibly to changing healthcare framework conditions. Digital networking in the form of telematics infrastructure, comprehensive patient tools such as electronic patient records, the Internet of Medical Things, mobile sensors, etc. is becoming more and more the focus of decision-makers and users in healthcare organizations, as well as patient management and the need to aggregate and provide high-quality data for research. For hospital IT, building a practical bridge between short-term, agile solutions for data-driven processes and a long-term strategy for standardized data management is critical.

Digitization Strategy at the Facility Level

Hospitals and clinics face many short-term tactical issues, and should try to classify them strategically in the long term. Clinic management must support the digital strategy and view IT as a strategic success factor that can enable new business models in the future.

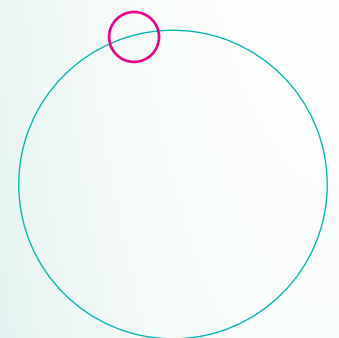
If an organization wants to achieve true interoperability and data-driven process improvements, then it is important to work from the data backend perspective. In doing so, it quickly recognizes the value of a unified platform: a uniform data repository that can be accessed in a standardized, interoperable manner. All applications bring their data into this platform, which aggregates the data and makes it usable and reliable. This standardized, interoperable granular repository is ultimately the input parameter for any process, present or future.


Effective Healthcare Digitization Use Cases

There are several best practices for the agile digitization of health care, which have been accelerated by the COVID-19 pandemic. In terms of regional coordination efforts, for example, the Ministry of Health in Veneto, Italy, the Dubai region in the United Arab Emirates and the county of Lincolnshire in England have stood out. All leverage InterSystems solutions to access granular data and gain insights into infection dynamics, development of hotspots, areas that need additional beds or ventilators, and, perhaps most importantly today, where to distribute vaccines.

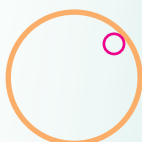
Digitization Landscape in Germany

There is no question that investing in platforms for the digital management of medical data can improve care structures in Germany. A clear example of a corresponding use case is provided by the purely digital electronic diabetes records that the German Diabetes Society designed together with InterSystems and is currently implementing. The plan is to create a data pool through this program to provide a





THE HIE USED HEALTHSHARE TO SUPPORT PUBLIC HEALTH DEPARTMENTS ACROSS THE REGION, ENSURING THAT EVEN THE SMALLEST COMMUNITIES COULD PERFORM PIVOTAL CASE INVESTIGATIONS AND CONTACT TRACING.



basis to optimize care for people with diabetes in the future and that prevention, care and research will go hand in hand.

In Germany, the goal is that in 5 years, 80% of medical data will be available in high quality form for population care and for medical research, while maintaining the associated safety requirements. If Germany can achieve this goal, the health system will have taken a large step forward—the course has been set, it is now time to act.

From Public Health to Point of Care: How Greater Houston Healthconnect Turns Healthy Data into Better Decisions

With a coverage area that spans 75 Texas counties, 40 Louisiana parishes, and more than 15 million patients, Greater Houston Healthconnect (GHH) is one of the largest health information exchanges (HIEs) in the United States. Such a broad network means there's never a shortage of data.

“But we don't receive healthy data from any of those sources,” says Nick Bonvino, the HIE's chief executive. For Bonvino and GHH, turning the network's bountiful information into healthy data — data that's normalized, deduplicated, complete, usable, and useful — is about delivering critical insights from the public health level all the way to the point of care.

The task is never more important — or more difficult — than during a still-raging pandemic. When COVID-19 first hit U.S. shores, GHH leveraged its interoperable network, powered by InterSystems HealthShare®, to monitor symptoms and complexes before the condition even had a diagnosis code. The HIE used HealthShare to support public health departments across the region, ensuring that even the smallest communities could perform pivotal case investigations and contact tracing. Since then, Bonvino and GHH have launched a public-private collaborative, led by the University of Texas School of Public Health, to take that surveillance a step further and push toward two goals: better COVID-19 research and a unified patient record at the point of care.

Since the partnership's inception, the HIE's technology has organized and analyzed clinical data from an initial cohort of 10,000 patients, a number that has blossomed to more than 1 million.

The spread of additional cases and new variants also created the need to derive insights from this new data. Thanks to HealthShare, that data is transportable into researchers' and clinicians' native environments, where they're using it to make informed decisions about how to handle the pandemic's latest challenges and prepare for whatever comes next. The unified care record also enabled researchers and public health workers alike to follow COVID-positive patients' journeys through the healthcare system, including clinical encounters, hospitalizations, and outcomes.

Now, by monitoring admission-discharge-transfer feeds averaging 18 per second, Bonvino's team provides a window into COVID-19's geographic and demographic spread across the HIE's expansive coverage area in real time. GHH uses patient matching technology to uniquely identify each individual. Public health experts and specialists in infectious disease, cardiology, pulmonology, hematology, and more tap into dashboards to understand the relationship between COVID-19 infection and other health conditions.

Of course, the work performed by the HIE and its partners isn't merely interesting. Clinicians use their expanded understanding of COVID-19 to guide better decisions at the point of care.

It's only possible, Bonvino notes, with healthy data.

Looking to unlock insights with healthy data? [Contact us today.](#)

Economist Webinars Now On-Demand

Senior Advisor for Value-Based Markets Lynda Rowe joined panelists from the Center for Medicare and Medicaid Innovation, The Boston Consulting Group, and Anthem for a webinar in August on "Health Insurance 2.0: Modernizing the Value Proposition," hosted by The Economist. Listen to this and other Economist webinar sessions sponsored by InterSystems in 2021 by visiting the links below:

- [Health Insurance 2.0: Modernizing the Value Proposition \(Aug 2021\)](#)
- [Achieving the Promise: Analytics and Machine Learning in Healthcare \(June 2021\)](#)
- [Health Data Economy: Vehicles for Discovery \(March 2021\)](#)
- [Future Gazing: Healthcare in 2021 and Beyond \(Feb 2021\)](#)

How HealthShare Helped Forge a Powerful Health System Partnership

When Hunterdon Healthcare joined forces with a larger neighboring health system, they knew they had the opportunity to lower costs and improve care for patients in western New Jersey. The two organizations opened a collaborative radiology imaging center that promised to cut wait times and bring high-quality services to more patients in their shared community.

Achieving that noble goal would be impossible without smooth data exchange — and interoperability was easier said than done. But by taking advantage of HealthShare Patient Index and Unified Care Record, Hunterdon avoided the usual pitfalls that health systems may encounter when they unite, for a single project or a lasting merger.

Sharing data and optimizing workflows throughout one organization can be challenging. Even a one-hospital system like Hunterdon had a web of two electronic health records (EHR) systems and 100 clinical applications across its 60-plus owned and affiliated facilities — complexity that created the risk of duplicate health records and communication breakdowns. Multiply the moving pieces by (at least) two, and Hunterdon's data team knew that aligning its technologies with those of a partner could amplify any risk.

Fortunately, the same technology that helps Hunterdon foster seamless data exchange internally also facilitated its external work.

Years before the collaboration, Hunterdon and its partner of many years, InterSystems, used HealthShare Patient Index to uniquely identify patients between its two different acute and ambulatory EHRs. Each one used a different patient identifier. The move enabled Hunterdon to know each patient who entered the system, regardless of address or name changes.

"WE ARE ABLE TO PASS ORDERS AND SCHEDULING MESSAGES BACK AND FORTH BETWEEN THEIR SYSTEM, OUR CENTRAL SCHEDULING SYSTEM, AND OUR AMBULATORY EHR SYSTEM. THAT WOULD NOT HAVE BEEN POSSIBLE WITHOUT THE MASTER PATIENT INDEX."

Robin Deal
Manager, Data Integration Engineering,
Hunterdon Healthcare



From there, Hunterdon leveraged HealthShare's Unified Care Record to consolidate EHR data, imaging, and other information into a single place that clinicians can access instantly, throughout the whole system.

When it came time for the two health systems to launch their collaborative radiology imaging center, Hunterdon's technologies again proved invaluable. HealthShare enabled the organizations to sync scheduling protocols to maximize efficiency. The data platform also integrated with the unique patient identifiers used in the partner system's EHR, so patients could be sure that their caregivers had the data required for effective clinical decision making.

"We are able to pass orders and scheduling messages back and forth between their system, our central scheduling system, and our ambulatory EHR system," Robin Deal, manager of data integration engineering at Hunterdon Healthcare, explains. "That would not have been possible without the master patient index."

And that's the foundation that every strong healthcare partnership needs.

Learn more about [HealthShare Patient Index](#) and [Unified Care Record](#) here.

