



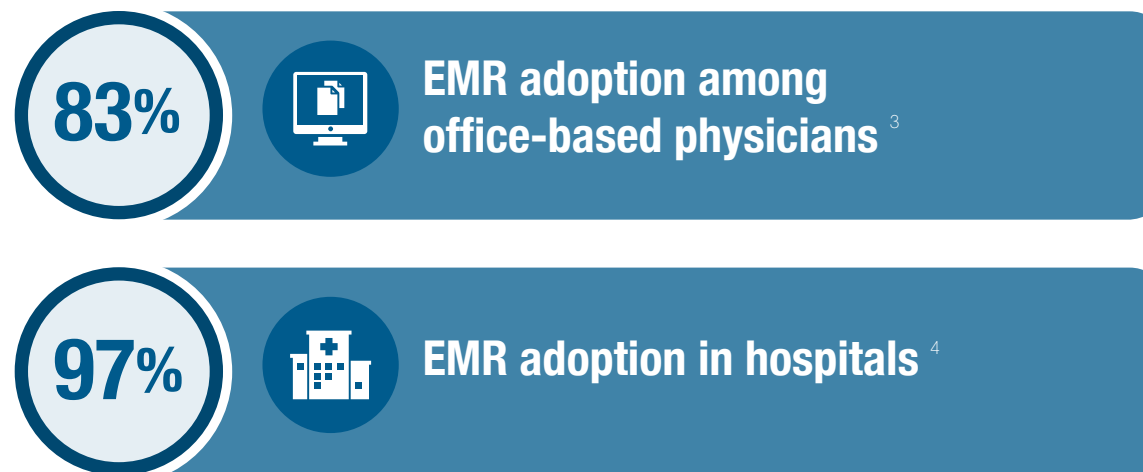
Achieving Interoperability:

Charting the Course for a
More Connected Future

Interoperability: Where we've been, where we need to go

Technology trends are moving faster than ever. Eight years ago, no one had heard of an iPad, and now almost half of adults in the US own at least one tablet.¹ Smartphones transitioned from being a luxury item to an indispensable accessory in just the last five years.²

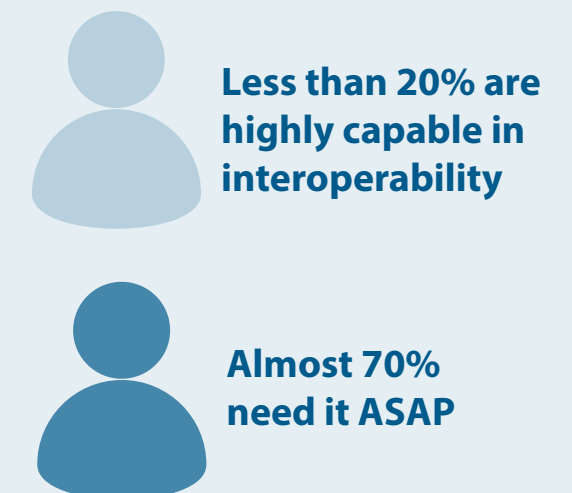
In the healthcare industry, it's much the same. In 2009, the HITECH act gave healthcare organizations a roadmap for creating a health IT ecosystem in which health information could be readily exchanged. In just under eight years, healthcare technology has taken several big steps along that journey. Electronic prescriptions, lab results and claims are used by nearly all providers, and EMR adoption is widespread:



The need for change

Many healthcare leaders see urgency increasing while readiness stays flat. A 2015 survey of senior financial executives found that less than 20 percent rated their organizations highly capable in the area of interoperability. Yet nearly 70 percent rated interoperability as their most urgent business need for the next three years, with real-time data access close behind.⁵

The readiness gap



Interoperability: Where we've been, where we need to go

What's left to do

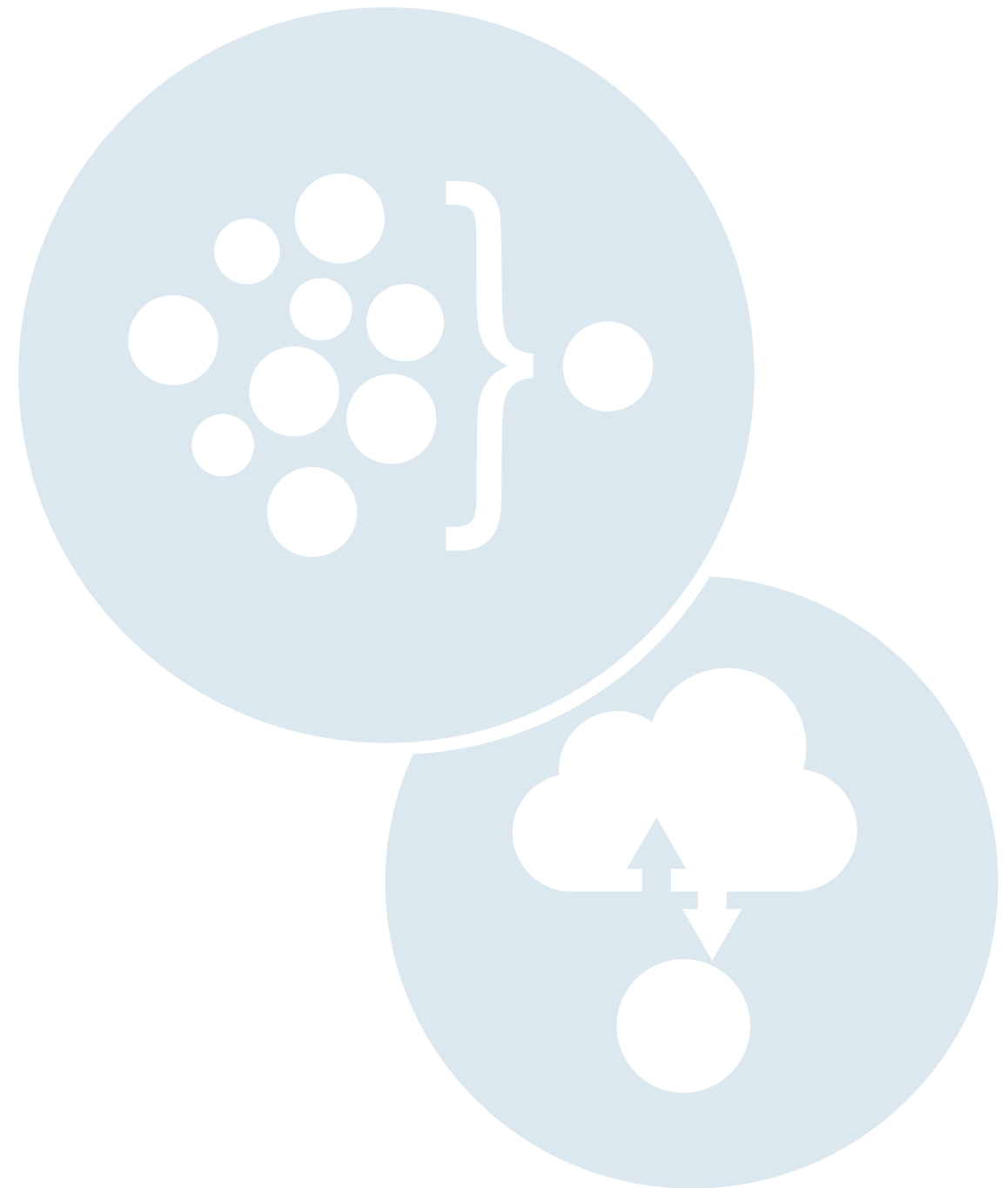
The exponential growth of electronic health data is an important and necessary step. But generating and moving digitized health records is just the beginning. What we need now is data exchange that is truly interoperable, beyond the limitations many providers now experience.

True interoperability is:

- More than conveying giant C-CDA documents from one EMR to another
- More than potential, theoretical connections between systems that are prevented from connecting in practice
- More than combining clinical data with more clinical data

When the conversation around interoperability focuses on big health systems and big vendors, it's not surprising that EMRs become the center of attention. For interoperability to serve the needs of health systems, providers, *and patients*, data must be:

- Flexible, to move beyond silos and combine clinical, financial and operational data
- Retrievable, so clinicians can request and receive specific information in the appropriate format
- Consumable, for easy access whether at the point of care or via a patient portal



Putting people at the center

Just as consumer tech is driving connectivity into the pockets of each unique user, healthcare technology is increasingly focused around the individual.

That's in part because, in a value-based healthcare environment, the individual is at the center. Care quality is defined by a person's wellness, not by episodes of care. Costs are determined by that person's interactions across the continuum of care, not the discrete actions of providers. Achieving person-centered interoperability requires a degree of data exchange that addresses stakeholder needs across the healthcare spectrum.



Patients

An easy flow of information creates opportunities for patient engagement.

- Patients can access a complete and accurate health record at a location—and via the device—of their choosing.
- Information that travels with the patient simplifies coordination of care, to produce better outcomes.



Providers

Providing the right care at the right time requires the right information. Healthcare interoperability is the key to accessing it.

- Relevant, real-time data is available at the point of care to support better care decisions.
- Data from throughout the care network drives performance improvements and influences physician behavior.



Health systems

Robust interoperability helps networks find the relationships between care quality and cost.

- Complete data identifies patients with gaps in care, for timely intervention.
- Aggregated information can lead to new insights for high-risk populations.

The destination: Person-centered interoperability

Much of the journey so far has been focused on data and technology. As the dialogue around interoperability evolves, we need to translate the conversation around data liquidity into person-centered terms.

Flexible data → A single, trustworthy source of information

The average person has seven providers—more for sicker patients who drive higher costs. Without interoperable data, this patient has seven portals and seven logins and has to track which healthcare information or lab result is in which portal. And each of those providers is seeing only part of the picture. Duplicate orders and gaps in care are the natural result.

When data is shared in an interoperable system, a complete health picture follows the person wherever care is delivered, from the specialist, to the pharmacy, to the hospital, to the primary care provider.

Retrievable data → The right information at the right time

Acquiring, aggregating, parsing and normalizing data are crucial technology needs, but they serve a human end: using information to improve a person's health.

A person-centered solution ensures that clinicians provide care based on information that is complete, accurate, and relevant. Sometimes a C-CDA document creates a Goldilocks paradox: too much and too little information at the same time. Combing through a 45-page text document isn't a practical solution at the point of care. But if the technology used to acquire the C-CDA document cannot parse it into discrete data elements, the specific data fields a clinician needs will be empty, as if no data was received at all.

A just-right solution can acquire and parse data into usable portions, even data from outside of your health system.

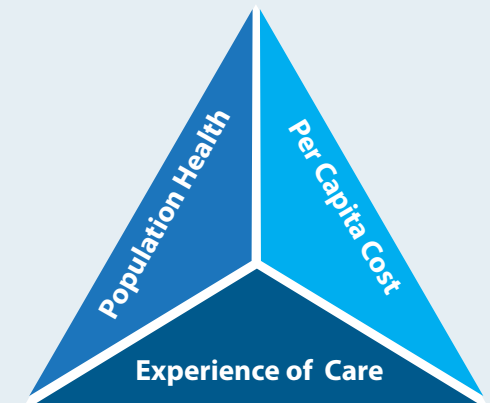


The destination: Person-centered interoperability

Consumable data → Providers *and* patients are empowered

Flexible data has been set free to combine with multiple data sources. Retrievable data helps you find the needle in the haystack. That data is consumable when it can be accessed *and understood* by the end user, so patients and providers can engage how and when they choose, with the specific information they want to see.

For example, a cloud-based data platform that acquires, parses, and normalizes data can feed it back into the workflow as needed—whether directly from the platform or via apps designed for targeted care and business needs. Individual consumers and their healthcare team can choose to view complete records or a single care episode or lab result. They can also connect to healthcare data regardless of technology, from a desktop computer to a tablet or smartphone.



The IHI Triple Aim

The Triple Aim framework was first developed by the Institute for Healthcare Improvement.⁶ The Triple Aim refers to both targets and timeframe: the goal is to improve the patient experience of care, improve the health of populations and reduce the per capita cost of healthcare—simultaneously. It's like the three legs of a stool: you can't move one without moving them all.

EMR adoption has been described as the precursor to achieving the Triple Aim. With widespread EMR adoption already achieved, it's time to go further. Sharing, accessing and consuming the data necessary to achieve the Triple Aim requires a level of data liquidity well beyond EMR capabilities—it requires interoperability.

Interoperability as a culture

Many organizations in the healthcare industry have been working together to make data flexible, retrievable and consumable. But culture change takes time, and technology often moves faster than business practices.

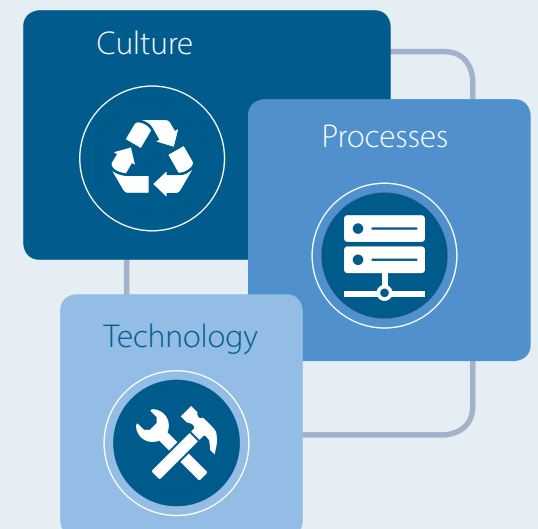
The speed of change has created a significant gap between current data competency at most organizations and the requirements for true data-driven decision support. The pace of the healthcare industry has quickened in multiple areas, including:

- The geometrically expanding volume and complexity of healthcare data
- Consumer expectations redefined by mobile devices, vendor-neutral apps and the Internet
- Payers accelerating the transition to value-based reimbursement

New technology alone will not bridge this gap. Organizations must also consider how their business models and workflow will transition away from EMR-focused practices.⁷ Though many patients consider their healthcare data their own, many longstanding policies and procedures prove otherwise.⁸

21st Century Cures Act

The passage of the 21st Century Cures Act in December 2016 ensures that interoperability will be top of mind for healthcare organizations. The law encourages interoperability of EMRs and patient access to their own health data, emphasizing ease of connection for the end user. It also includes stiff financial penalties for organizations and vendors whose business, technical or organizational practices interfere with or discourage access, with fines for information blocking as high as \$1 million per violation.



Interoperability as a culture

Processes and personnel

Data governance issues can also slow the progress of interoperability.



Silos: Many organizations operate with departmental silos, where data from different sources rarely interacts. Clinical and financial/operational data function in different worlds, so that even basic concepts like an on-time start for surgery can have distinct definitions. Bringing them together takes business expertise as well as flexible data standards.



User errors: The complexity of data types means that data may be entered into a record incorrectly or incompletely. C-CDA documents also present data entry challenges. For example, the human-readable part of the document may be complete and transferable, while machine-readable fields are empty, making it tough to capture data for analysis.



Skills and workflow: Processes and job descriptions to ensure that transitions in care are incorporated in the EMR have not kept up with current interoperability needs. At the same time, the industry need for data scientists skilled in both data management and business analytics continues to go unmet.⁹



What is governance?

Interoperability depends on good data governance. Governance is the formal framework that establishes accountability and stewardship of an organization's information and analytic assets. *Good* governance lays the groundwork for connecting operational, clinical, financial and IT stakeholders in a unified effort to support enterprise goals.

Good governance includes:

- Multi-disciplinary cooperation
- New connections between data sources not previously evaluated together
- Data stewardship for data quality and lifecycle management
- Growth and development as goals evolve

RelayHealth Advisory Services can provide guidance for adoption of best practices in data governance, with 10 decades of combined clinical and management experience to ensure that your data goals serve your business goals.

Signs of a stronger future

The road to interoperability is one the healthcare industry will have to travel together. The good news is that collaborative efforts for meaningful information sharing are already underway.

ARGONAUT PROJECT

Ideally, healthcare interoperability will one day ensure that health information is as accessible as the apps for tablets and smartphones. The Argonaut Project is a private sector initiative sponsored by both healthcare organizations and healthcare IT vendors, working together to advance interoperability standards. As an initial project sponsor of the Argonaut Project, RelayHealth has provided resources to drive both the creation and the adoption of Fast Healthcare Interoperability Resources (FHIR), the most recent—and the most flexible—data standard developed by HL7. FHIR exposes discrete data elements so that they are easily shared and understood, regardless of vendor or interface.

With true interoperability in place, the possibilities for better patient care at lower costs are almost limitless.



What happens when a snowbird from Wisconsin sprains an ankle in Florida? Patient identity management presents one of the most significant obstacles to health information exchange. CommonWell Health Alliance, a network of health IT vendors, was created to solve this problem. Through core services provided by RelayHealth, CommonWell Health Alliance provides patient record location and secure data sharing to providers nationwide. As of December 13, 2016, [CommonWell has partnered with Carequality](#), a common interoperability framework designed to enable exchange among health data sharing networks. This partnership will expand health data sharing options to include both more providers and more types of data, regardless of EMR vendor.

CommonWell Health Alliance is also one of the early implementers of FHIR, demonstrating its potential to advance interoperability on a large scale.

Signs of a stronger future

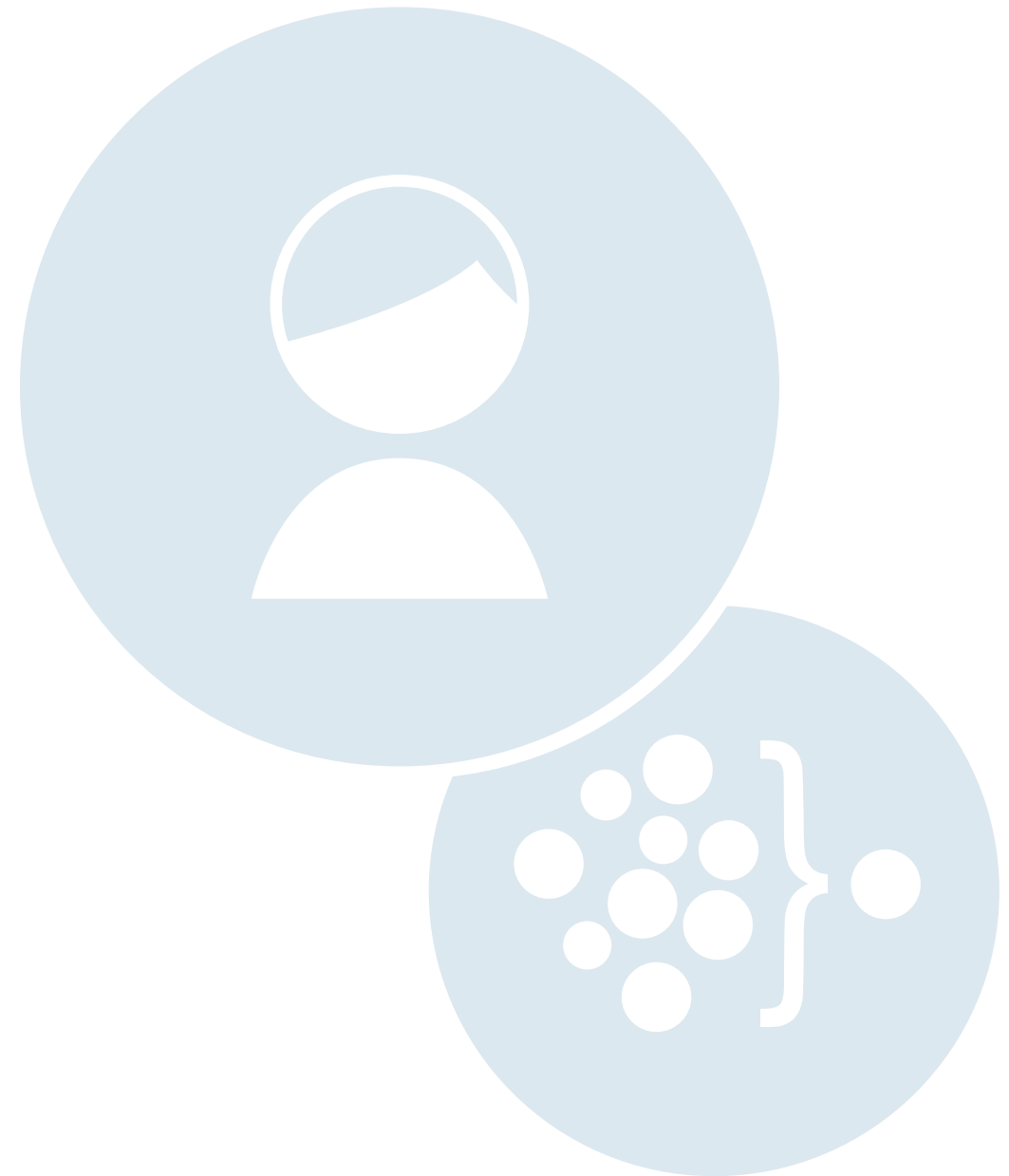
There is still more work to do to build the culture of person-centered interoperability, but the foundation is already in place. Technology, processes, and services already available can make data flexible, retrievable and consumable for multiple uses:

- Patient portals and other consumer engagement tools
- Real-time alerts and relevant, condition-specific information updates for providers
- Aggregated cost and quality data to drive cost reductions and stronger networks for health systems

With true interoperability in place, the possibilities for better patient care at lower costs are almost limitless.

"To achieve nationwide interoperability that truly improves patient care, two things are required: collaboration across the healthcare industry and the will to take real action."

— Jitin Asnaani, Executive Director
CommonWell Health Alliance ¹⁰



Endnotes

¹ Anderson, Monica. "Technology Device Ownership: 2015." Pew Research Center, October 29, 2015.

² Anderson, Monica. "6 Facts about Americans and Their Smartphones." Pew Research Center. April 1, 2015.

³ Office of the National Coordinator for Health Information Technology. "Office-based Physician Electronic health Record Adoption: 2004-2014." HealthIT.gov. September 2015.

⁴ Office of the National Coordinator for Health Information Technology. "Percent of Hospitals, by Type, That Possess Certified Health IT." HealthIT.gov. January 2016.

⁵ Healthcare Financial Management Association. "HMFA's Executive Survey: Value-Based Payment Readiness." May 2015.

⁶ Institute for Healthcare Improvement. "IHI Triple Aim Initiative." 2016.

⁷ Malec, Arien. "The Interoperability Evolution." RelayHealth. April 8, 2016.

⁸ Murphy, Kyle. "Why Data Ownership, Use Could Stifle Health Data Sharing." EHR Intelligence. March 14, 2014.

⁹ Laney, Doug. "Defining and Differentiating the Role of the Data Scientist." Garner. March 25, 2012.

¹⁰ Monegain, Bernie. "CareQuality, CommonWell to collaborate on health data exchange, Interoperability." Healthcare IT News. December 13, 2016.



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