

# Better care through better information



# Orion Health Case Study



## KEYSTONE HEALTH INFORMATION EXCHANGE

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Pennsylvania,  
United States of America

[www.keyhie.org](http://www.keyhie.org)

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**Patients Served** Over 6.8 million

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**Organisation Type** Health Information Network

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**Key Benefits**

- Scalable infrastructure supports essential point-of-care decision making.
- Better health outcomes through extensive data to analytics.
- Improved provider efficiency.

The Orion Health partnership is clearly working, with **KeyHIE** realising benefits that have placed the organisation in the vanguard of **value-based care.**



## The Customer

Founded in 2005, Keystone Health Information Exchange (KeyHIE®) is Pennsylvania's longest-operating HIE and a national leader. A Geisinger corporation, it serves over 6.8 million patients in Pennsylvania, New Jersey, Delaware and Maryland. KeyHIE connects an array of diverse organisations, including:

- 22 hospitals
- 375 physician practices
- 90 long-term care facilities
- 33 home health agencies
- 18 Pharmacy sites
- 19 Urgent Care facilities
- 4 insurance carriers
- 4 EMS providers

KeyHIE also supports national and state interoperability via the Sequoia Project eHealth Exchange and the Pennsylvania Patient & Provider Network (P3N).

## The Challenge

Kim Chaundy, Senior Director of Operations, succinctly stated KeyHIE's core mission as "being the highway connecting the information of many disparate organisations." Creating the robust infrastructure to fulfill this strategy includes providing "white space" coverage to link remote facilities and those lacking full technological resources. The ultimate objective is achieving better outcomes by advancing value-based care and emerging delivery models. Chaundy pointed to the role KeyHIE's data exchange plays in population health management, disease surveillance, and urgent programs such as Pennsylvania Coordinated Medication-Assisted Treatment (PacMAT) addressing the opioid crisis.





## The Solution

At the same time, KeyHIE's strategy mirrors that of its peers, with the need to generate positive growth. The organisation has expanded significantly over the past several years and has successfully built a sustainable enterprise free from reliance on grants and subsidies.

A common strategic thread is management of data with the scale, intensity, and fluidity to produce comprehensive patient medical records and optimise analytics.

KeyHIE must attend to several simultaneous challenges as it pursues its ambitious strategies:

### **Highly Variable Data Requirements**

Explained Joe Fisne, Associate Chief Information Officer at Geisinger, "Our partners span a wide range of institutional types. They bring diverse workflows, modes of information capture and consumption, and use cases." Moreover, data requirements are "an evolving, moving target for us." Consistency and standardisation are difficult.

### **Gaining User Adoption**

Clinician usage is a central determinant in HIE effectiveness. Fisne observed that "rapidly demonstrating value is critical to adoption at all levels." He lists the need to streamline provider onboarding, make pertinent data immediately available, and integrate with EHR workflows.

### Ensuring Data Quality

KeyHIE knows that its highway must generate trusted information that is structured, accurate, and reliable. Chaundy described “highly variable quality among organisations and data types. Some of the smaller institutions are particularly challenged.” As a result, KeyHIE works cooperatively with participating facilities to improve data “cleanliness” and parses CCD documents to compare and rate quality levels.

### Implementation

KeyHIE has been working with Orion Health since 2015 and views the relationship as a true partnership that has enabled overall participant growth of 363%. Chaundy said that “Orion Health takes a team approach and owns its responsibilities.” Adds Joe Fisne, “We cannot perform without a solid platform. With Orion Health, we maintain an ongoing conversation to chart our path.”

Orion Health’s suite of solutions forms the bedrock foundation of KeyHIE’s platform and allows it to offer flexible options for its customers. Orion software deployed includes the Rhapsody interoperability platform, secure messaging, clinical document viewer, patient portal tools, HIE module, and more. KeyHIE leverages this integrated portfolio to meet vital technology requirements:

### Managing Massive Data

The HIE captures a rich mosaic of data types from multiple sources: ADT, lab, radiology, CCD/CCDAs, discharge summaries, medications, allergies and others. The feeds are large-scale, continuously updated, and frequently streamed in real-time.

Orion Health’s Clinical Data Repository platform consolidates and manages this trove of information. The organisation’s database houses well over 14 million records. In the past year alone, KeyHIE invoked 200 unique rules to deliver 115,000 notifications and share more than 21.5 million documents, labs, and ER reports. Orion Health recently migrated KeyHIE’s environment to Amazon Web Services to take full advantage of the latest Cloud technologies.







### **Robust Integration**

Orion's vast experience in data integration and interoperability serves KeyHIE well. The platform permits data exchange on multiple levels:

- Between varied institutions, including payer-provider links.
- Involving different data structures.
- Across diverse applications such as EHRs and analytics.
- Fisne regards Orion Health's Open API approach as crucial to handling expanding integration needs driven by population health management and other initiatives.

### **Convenient Data Access, View, & Communication**

Repository data is exchanged through the KeyHIE-developed Information Delivery Service software, and provider view is supported by Orion's Clinical Portal. The HIE also utilizes Orion Health's Communicate module for fast and secure electronic transmission and receipt

of protected health information among patients, providers, and organisations. Communicate offers point-to-point encryption and flexible management of multiple document and data formats. Care coordination – especially across independent locations – is greatly enhanced.

Positive clinical user experience with all of these functions is paramount. KeyHIE strives to accommodate provider needs in its onboarding process, employing RNs as trainers. Kim Chaundy explains, "Orion Health is a partner in the effort and proactive in ensuring proper connectivity, testing, and issue resolution."



### **Security**

Because healthcare remains an attractive target for cyber criminals, security is a fundamental concern in health information exchange. In 2019, the healthcare sector experienced hundreds of data breaches that are estimated to have exposed over 38 million records. Fisne says that KeyHIE “puts security on the table right up front with our partners. Customer confidence in this area is extremely important, especially for smaller practices.” Orion’s platform has substantial built-in security and conforms to HITRUST, NIST 800-53, and other standards. Orion Health is also a founding member of the Direct Trust network and a significant partner, currently representing nearly 12% of nationwide Direct traffic.



**On the same day one hospital went live with us, it obtained previously unavailable patient information that prevented an unnecessary operation and may have saved a life.**

**SHILA BLEND,**  
Director,  
North Dakota Health Information Technology

## The Results

The Orion Health partnership is clearly working, with KeyHIE realising benefits that have placed the organisation in the vanguard of value-based care. Among the most prominent:

- Better care through better information. An anecdote Fisne offered best illustrates the benefit: “On the same day one hospital went live with us, it obtained previously unavailable patient information that prevented an unnecessary operation and may have saved a life.” Such essential point-of-care decision support can only happen with the kind of scalable infrastructure Orion offers.
- More powerful analytics. KeyHIE’s ability to feed extensive data to analytics engines is crucial to better outcomes. The organisation views the powerful capabilities of the Orion Health platform as positioning it well to perform high-value predictive analytics.
- “Future-Proofing.” As Chaundy noted, “we constantly need to stay relevant in the market.” She listed three trends that she believes the Orion platform and technology roadmap will help KeyHIE manage:
  1. Social Determinants of Health. Non-traditional data with significant influence on understanding the health needs of populations is becoming a major goal. Complexity of data management will increase.
  2. Business Intelligence. KeyHIE Insights™ provides the necessary tools to help participants with HEDIS measures, analytics, and improved care coordination.
  3. Precision Medicine. The future promises individualised care informed by genomic and other personal data. The increase in scale will be exponential. KeyHIE is leading the way with projects such as Diabetic Retinopathy.
- Improved provider efficiency. Examples include proactive notifications to Home Health agencies when patients are in the ED or admitted to the hospital, avoiding unnecessary home visits, and streamlining medication reviews through provider access to KeyHIE’s complete information.



## Future Directions

The partnership is forward looking. “Orion Health has a vision that helps us think through what it means to be a next-generation HIE,” said Chaundy. On the horizon is integration of Orion Health’s Amadeus platform, designed specifically to handle increasingly substantial and complex data streams and requirements, further solidifying KeyHIE’s ability to meet its long-term objectives.

## Orion Health

At Orion Health, we are building thinking software for life. Our new generation health software provides an open platform that seamlessly integrates local, regional, and national data, making it more readily available to doctors, pharmacists, nurses, specialists and patients themselves. We believe that our software, built on new generation technology, will give everyone healthier, happier and longer lives.

Find out more at: [orionhealth.com](http://orionhealth.com)





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