

Interoperability Vendors with a Unique Set of Features Newly Termed Datasynthex Vendors

What is a Datasynthex Capable Vendor and how Does that Improve Patient Care and Advance Your Business Case?

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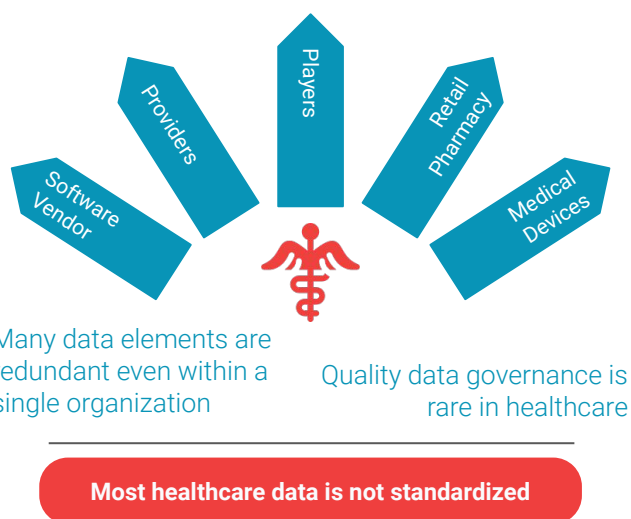
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A NEW PLATFORM ROLE EMERGES IN INTEROPERABILITY WITHIN HEALTHCARE DATASYNTHEX VENDORS

Many who are responsible for expanding, accuracy, and leveraging data in healthcare often leverage companies known for their interoperability and data integration capabilities (e.g., 1up, Health Gorilla, Verato, One Record, Particle Health et al). There are also QHINs, HIEs, Information exchange organizations and corporations (e.g., MedAllies, Health Gorilla, Epic, Commonwell). Healthcare organizations in general want to take advantage of the ease of exchange of data first and foremost, be regulatorily compliant according to the newer and expanding interoperability mandates, expand their data sets by taking advantage of the expansive sets of data that are within the healthcare and life sciences ecosystem. So often companies like the ones listed above are lumped into the category of interoperability vendors or information exchanges. However, a more nuanced and critical capability is emerging in the interoperability vendor space, that performs like switch vendors do in the fintech arena. Some of the interoperability vendors also legally broker the relationship aspects of consent and sharing of clinical, retail, and revenue cycle data upon customer/patient consent.

The expanded and sometimes longitudinal data is leveraged to improve the quality of care, safety, accuracy of diagnosis and treatment efficacy, alongside analytics and interventions by clinicians and consumer/patients that enriched data set can reduce costs and impacts on lives by alerting the right person at the right time to an impending health event, required changes to care protocols, and overall health alerts that motivate the individual to make lifestyle choices that change their health status and outcomes.



The choice of platform architecture in total, and the partners you choose to include in that architecture are critical to your long-term success. When looking at how close your organization is to being interoperable throughout your organization(s) the efficiency of various systems talking to one another is of paramount importance. It is debilitating for clinicians, patients, researchers, administrators, operational staff managing the care of the patient, chronic disease management, deciding on the most effective level of care, turnover of equipment, rooms, scheduling when they do not have a complete real time picture of what is going on across the interrelated departments, treatments, and most importantly the patient/consumers responses to those interventions. Then consider the impacts to an individual patient/consumer of not having accurate or timely data during an acute health event, or while they are more importantly trying to return to the healthy side of the continuum in the choices they make every day in their everyday life.

Interoperability vendors, sometimes called switch vendors due to their expansive data available readily as long as an organization has all the required regulatory ingredients for consent, can create short cuts or alternatives to set immediately as you grow your population with the few interoperability vendors who also broker the consent and communication of data from many other sources. This not only allows for the clinical and care enhancements, but if your business case is aligned to the benefit of the consumer/patient your product or services become exponentially more valuable to all business subsectors in healthcare because managing chronic diseases, identifying barriers to care, treatment and health, and making new discoveries by leveraging larger more accurate data sets will inspire new research findings that further those goals. Interoperability switch vendors allow you to accomplish all of that in an accelerated time frame.

Most leaders in healthcare are not as familiar with the term switch vendor unless they are from legacy payor environments or have worked in fintech. Not all interoperability vendors are switch vendors. Therefore, let's together coin a name for this new emerging capability, that we can leverage in the remainder of this article for those interoperability vendors that not only facilitate information exchange, but also broker consent to data sources – we will coin this feature "DataSynthex".

This name combines "Data" to represent the information being handled, "Synth" to evoke the idea of synthesis and integration, and "Ex" to denote expertise and excellence in the field. "DataSynthex" conveys the scientific and technical expertise in synthesizing and integrating longitudinal data from diverse sources while ensuring consent compliance. It suggests the vendor's ability to harmonize complex data elements into a cohesive whole, providing comprehensive insights for research, analysis, and decision-making in a scientific and rigorous manner.

Various vendors known to the author to provide this type of data services and the various features and capabilities they have in the side-by-side table below:

Some switch vendors have agreements with payers and providers whose standardized data goes through the switch. Switches give you access to all that data without having to do the standardization work yourself. Here's how that helps health information systems:

- Fast implementation
- Lower costs
- Improved patient access to health records
- Better positioning for adding new technology solutions
- A more complete, data-driven picture of the overall patient

1 Fast implementation
2 Lower Costs
3 Patient use of data
4 Ability to leverage cloud app innovation
5 Longitudinal more complete patient data
6 Machine consumable source data

CHRONIC DISEASE MANAGEMENT IS AN ISSUE THAT CAN BENEFIT FROM A DATASYNTHEX VENDOR

A specific example that highlights the challenges and setbacks in chronic disease management involves the ingestion of foreign electronic health records (EHRs) or clinical system data in PDF format. These PDF files, without the use of Optical Character Recognition (OCR), pose significant difficulties as they are not immediately or ever machine-consumable as discrete data. This lack of machine discernibility creates obstacles and can lead to major quality-of-care issues, as illustrated below:

- The data is not available in a machine-readable format, which limits the application of artificial intelligence, basic alerts, or forced functions such as allergy alerts and drug-to-drug interaction checks. Since the information is perceived as an image rather than discrete data, it cannot be utilized effectively.
 - Clinicians must navigate to a separate area of the EHR and search through lengthy PDF files to access critical information. This extra step increases the risk of vital details being overlooked or missed.
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- When transmitting data to payers, EHRs often send voluminous PDF documents that contain unnecessary or disorganized patient data. This makes it challenging to identify the information required for preauthorization, leading to authorization rejections due to the lack of perceptible data necessary for decision-making.
 - Inconsistent standards for interpreting data elements, such as lab results, can cause conflicts when PDFs, CCDs, or discrete data from various applications are aggregated for the same patient. Variances in organizational treatment protocols or laboratory clinical standards further complicate the interpretation of data.

ROLE THE SWITCH VENDORS PLAY IN ACHIEVING INTEROPERABILITY

Interoperability in the healthcare industry is evolving rapidly, many innovators aren't fully aware of the role that switch vendors play in achieving interoperability efficiently and accurately. Limited knowledge of switches and their vendors can make selecting the right one challenging. How will you know you've made the right choice?

To make sure you select the right switch vendor for your unique needs, begin by assessing and documenting your organization's business requirements, including:

- Compliance with FHIR and other standards
- Data security requirements
- How you'll map FHIR resources/profiles between your organization and the vendor

Once you have a clear understanding of your business requirements, finding the right switch vendor becomes a priority. However, you don't have to navigate this process alone. At Quantori, our aim is to help you solve your business problems effectively. We have extensive experience and expertise in working with third-party switch vendors.

Instead of starting from scratch, you can leverage our competitive analysis to save time and effort. Drawing on our knowledge and insights, we have carefully selected five vendors that form our recommended portfolio of switch vendors. These vendors are aligned with your specific requirements, ensuring a tailored solution for your business needs. By utilizing our analysis, you can expedite your development efforts and make progress faster.



COMPARISON OF DATASYNTHEX (SWITCH) VENDORS

Begin by reviewing our comparison of the top-tier switch vendors. This overview includes key information such as company background and switch features, providing you with a solid foundation for evaluation. For a deeper understanding, we also offer detailed summaries of each vendor's profile, allowing you to explore their unique capabilities and offerings.

At Quantori, our priority is to assist you in finding the right switch vendor that aligns with your business objectives. We understand the challenges you face, and our goal is to empower you with the knowledge and insights needed to make informed decisions. Let us guide you through the process and help you propel your development initiatives forward.

Company Name	Startup	Some notable customers
Health Gorilla	2014	Akute Health, Oscar, Triple S Salud
One Record	2016	Humana, Aetna, BCBS
1Up	2017	Cigna, Aetna, Tufts Health Plan
Particle Health	2018	Oak Street Health, One Medical, Omada Health
Med Allies	2001	CareQuality, Commonwell, Direct Network Customers

Company Name	Key features of switch vendor offering	Description of FHIR Compliance approach
Health Gorilla	<ul style="list-style-type: none"> • Clinical history • Payer data exchange • Provider data exchange • Qualified Health Information Network (QHIN) certified • Lab ordering 	<ul style="list-style-type: none"> • Both FHIR and Consolidated Clinical Documentation Architecture (C-CDA) support for longitudinal care records • Potential QHIN capabilities (XDS/XCA architecture)
One Record	<ul style="list-style-type: none"> • FHIR API • Patient-facing app 	<ul style="list-style-type: none"> • Representation State Transfer (REST) based FHIR API with patient-facing app for patient access APIs
1Up	<ul style="list-style-type: none"> • FHIR based platform • Patient access API • Provider directory • P2P data exchange 	<ul style="list-style-type: none"> • Patient/provider data access based on 21st Century Cures Act requirements
Particle Health	<ul style="list-style-type: none"> • Provider services • Pharmacy • High-level API (HAPI) FHIR • Virtual first-care 	<ul style="list-style-type: none"> • Consolidate Medical Records with FHIR-based R4 resources, compliance and regulatory with medication reconciliation
Med Allies	<ul style="list-style-type: none"> • Clinical data • Revenue cycle data • Patient access API 	<ul style="list-style-type: none"> • Consolidated Clinical Documentation Architecture (C-CDA) support for longitudinal care records • RESTful API post from MedAllies for a Disposition Status notification • Send Non-CCDA Payload so long as they are base-64 encoded and application class has the correct media type specified. • Request Direct Messages as XDM attachments or Non-XDM attachments

Below are more details on the five vendors who offer Datasynthex service in addition to interoperability services:

Health Gorilla:

Key functionality	Best features
Patient 360	<ul style="list-style-type: none">Real-time access to a patient's longitudinal health record, which is currently a CCD per C-CDA
My 360	<ul style="list-style-type: none">Patient-access solution enables patients to aggregate and share their medical records
Health Gorilla health information network (HIN)	<ul style="list-style-type: none">Precursor to QHIN that supports C-CDA exchange, QHIN query and exchange, and Master PatientIndex (MPI)/record locating service (RLS)
Social determinants of health (SDOH)	<ul style="list-style-type: none">Uses SDOH data to calculate risk scores, including readmission risk and medication adherence
Lab Network	<ul style="list-style-type: none">Enables diagnostic lab ordering and results via API
Chart Bridge	<ul style="list-style-type: none">Real-time medical record access supports swift, accurate underwriting and claims processing
QHIN Certification	<ul style="list-style-type: none">Broader range of connectivity to other healthcare industry organizations.Increased simplicity in connecting to other organizations

One Record:

Key functionality	Best features
Patient facing app	<ul style="list-style-type: none">• Enables patients to manage their data in one place. Apple wallet integration. Patients can access API for patient data.
Patient access API (payers)	<ul style="list-style-type: none">• Connects to payers' APIs so payers can test them
Patient Access API (providers)	<ul style="list-style-type: none">• Connects to providers' APIs so providers can test information-blocking capabilities• App can be embedded in EHR systems for Patient Access API calls
Developer portal	<ul style="list-style-type: none">• FHIR-based REST APIs• Access to Patient Access API data• Document exchange

Particle Health

Key functionality	Best features
Longitudinal care record	<ul style="list-style-type: none">• Provides medical history, including medication history, telehealth/monitoring, public health etc.
Pharmacy records	<ul style="list-style-type: none">• Prescription history• Pub/sub capabilities for polling
Virtual first care	<ul style="list-style-type: none">• Empowers virtual care teams with quick easy access to complete patient records

1Up Health

Key functionality	Best features
Clinical connectivity	<ul style="list-style-type: none">• Patient Access API converts clinical and claims data (FHIR and non-FHIR) and converts to FHIR for Centers for Medicare & Medicaid Services (CMS) compliance
Provider directory	<ul style="list-style-type: none">• Directory information for in-network providers is working toward meeting CMS mandate (DaVinci Plan Net)
Control data	<ul style="list-style-type: none">• Ingests data into FHIR as needed• FHIR server (storage)• Access and consent management• User console
Compute data	<ul style="list-style-type: none">• SQL on FHIR• Converts FHIR into needed formats for downstream tools such as machine learning (ML), artificial intelligence (AI), etc.• Health history
Health history	<ul style="list-style-type: none">• Cleans and consolidates legacy data into FHIR

Med Allies

Key functionality	Best features
Non persistent data	<ul style="list-style-type: none">• Upon consent relationship it allows information exchange without data persisting
Care Quality Connectivity	<ul style="list-style-type: none">• Exchange information with any Care Quality organizations
Clinical connectivity	<ul style="list-style-type: none">• FHIR, HL7, C-CDA, and IHE Profiles
QHIN Certification in process	<ul style="list-style-type: none">• Broader range of data• Additional ease in connecting to other industry organizations
Provider network access	<ul style="list-style-type: none">• National Direct Network connected to all accredited HSPs, with more than 250,000 health care organizations and 1.2 million Direct users.
MedAllies Interoperability Lab	<ul style="list-style-type: none">• Allows for vendors and organizations to test out their apps and APIs with industry specific data. Over 95% of the market is connected through the MedAllies Interoperability Lab.

If you are currently grappling with issues related to internal data quality and interoperability readiness, let alone considering the integration, transformation, and harmonization of external data sources to enhance the quality of care and refine your application analytics, this becomes especially crucial. For those of you who are venturing into healthcare innovation, incorporating these extended data sources, datasets, and patient information into your product can significantly augment its value proposition. This, in turn, can serve as a strategic blueprint for expanding your market share and securing reimbursement from federal, state, or private payers.

With Quantori's assistance the application of the Datasynthex capabilities could potentially enhance your capacity to improve lives, bolster your revenue streams, and diversify your income sources into non-traditional healthcare avenues such as distributed clinical trials, advanced consumer-driven healthcare marketplace capabilities, and research opportunities. Quantori's healthcare vertical is uniquely positioned to guide you through this journey effortlessly, with the support of our subject matter experts and engineering teams, who possess extensive experience in precision data management.



We develop cutting-edge technology systems, applications, and infrastructures for biotech, pharmaceutical, and healthcare companies that accelerate drug discovery and improve patient outcomes. Our innovative approach harnesses the power of data engineering and informatics, machine learning, emerging technologies, and cloud expertise to advance research and development and ultimately bridge the gap between meaningful data and patient success.

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