

A healthcare professional, likely a nurse or doctor, wearing blue scrubs and a white hijab, is looking at a tablet computer. She is wearing glasses and has a stethoscope around her neck. She is smiling slightly and appears to be in a conversation with a patient whose face is partially visible on the right side of the frame. The background is a bright, out-of-focus hospital setting.

A SIMPLE GUIDE

Transform Patient Care with Intelligent Data Aggregation and Insights

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Introduction

The primary goal of interoperability is to improve patient outcomes through frictionless health data exchange. The technology that keeps patient data flowing and accessible is in service to support the mission of helping people. In the case of data aggregation, clinicians want a holistic picture of their patient’s health to make the best-informed decisions at the point of care.

Achieving purposeful patient data access requires a platform that does the heavy lifting—taking data in various formats and qualities and refining it to make it useful and available to a broader network. The goal is to transform a mountain of data into information that’s easily comprehensible and insightful for the clinicians who rely on it.

Whether you are a chief executive officer, chief information officer, or IT leader of a healthcare organization or hospital, **this e-book aims to guide you to your next data aggregation software and analytics platform.**

This e-book can benefit healthcare data aggregators such as:

- Health information exchange organizations (HIEs)
- Hospitals
- Accountable care organizations (ACOs)
- State and regional government healthcare agencies
- Healthcare IT companies
- Pharmaceutical companies

CHAPTER 1

CHALLENGES IN HEALTH DATA EXCHANGE

Healthcare data aggregators play an essential role in ensuring everyone can talk to each other and that data is mutually understood.

The ability to seamlessly get data out of the EHR, bring it into a data repository, and into a place where it can become actionable for physicians and other users can be challenging. Healthcare data aggregators continue to seek better ways to improve clinical workflows with their data aggregation technology to ensure the data that lives in their repository is meaningful for all physicians.

The role of healthcare data aggregators and similar organizations is to implement interfaces and technologies that ensure that the data they manage is actionable to the healthcare professionals at the point of care.



When your organization is responsible for managing aggregated data, there are a few key considerations to keep in mind:

- How intelligently are you aggregating data while it's under your responsibility?
- How well does your system handle unique edge cases or inconsistent data?
- How do you refine data to ensure it is the most information-dense for whoever will receive it at the point of care?
- How do you ensure data is standardized and easily understandable to a broader network of providers?

Mapping local provider codes to standard codes, managing data access constraints, and simplifying provider workflows with automation are complex challenges that data aggregators must address with effective solutions.

For example, imagine two individuals both named John Smith. It is not always immediately obvious to computer systems who cannot see the patients in person to distinguish between them. It takes a sophisticated set of matching rules to look at broader patient information to assess whether two patient records relate to the same individual.

Further complicating things, sometimes matching new data with existing clinical records can become challenging when names are misspelled during the patient intake process and demographic information does not exactly match earlier encounters.

Healthcare organizations rely on smart technologies such as an enterprise master patient index (eMPI) to address these issues. The eMPI is responsible for ingesting patient demographic information and refining it to help consistently identify patients regardless of misspelled names and other inconsistencies.



How do these challenges affect clinicians in doing their jobs?

If bad data is coming in, you'll have bad data going out—it's a million-dollar problem. Every technology that sits between the original data source and the provider who requests it creates another link in the data chain.

The information that reaches physicians can only be as strong as the weakest link. This makes it all the more important to have robust and intelligent tools handling your data. It also emphasizes simplifying the number of touchpoints data is passed through on its journey to providers.

Suppose data comes in from a doctor's office, and you're doing nothing to map those local codes into standard codes. In that case, when you send that data back out, you will send it to a practice that has no idea how to interpret that patient's clinical history. To them, it's gibberish!

The primary role of data networks and aggregators is to standardize data and enable data sharing across the communities served. The impacts of how data is managed and aggregated are felt in places beyond just the point of care. Aggregated data is integral to clinical research, healthcare technology development, and community health. Clinical research needs good data. What findings they are able to conclude from their studies will only be as good as the data they start with. How valuable will that research be if they have data that's missing essential information and context?

Healthcare organizations, alongside health IT developers, share a common goal that everyone would like to solve—improve patient care.

Lack of provider adoption

The more steps it takes for providers to get access to data, the less likely they are to actually implement the technology into their workflows. Provider burnout is real, and simplifying the availability of aggregated data is important to ensuring the value of data in improving patient care is achieved. If the workflow is too complex, they may skip it altogether and possibly miss out on essential insights.

Additionally, it's even more challenging to convince providers that the extra effort is worth it if the data they're getting is not actionable. When it takes five minutes to pull data from the state HIE, or a disparate network of data aggregators, that time is not worth the data they will get back in most cases. Easier to ask the patient sitting in front of them instead!

Intelligent data exchange solutions built with provider workflows in mind directly and positively impact the health of the broader community.

CHAPTER 2

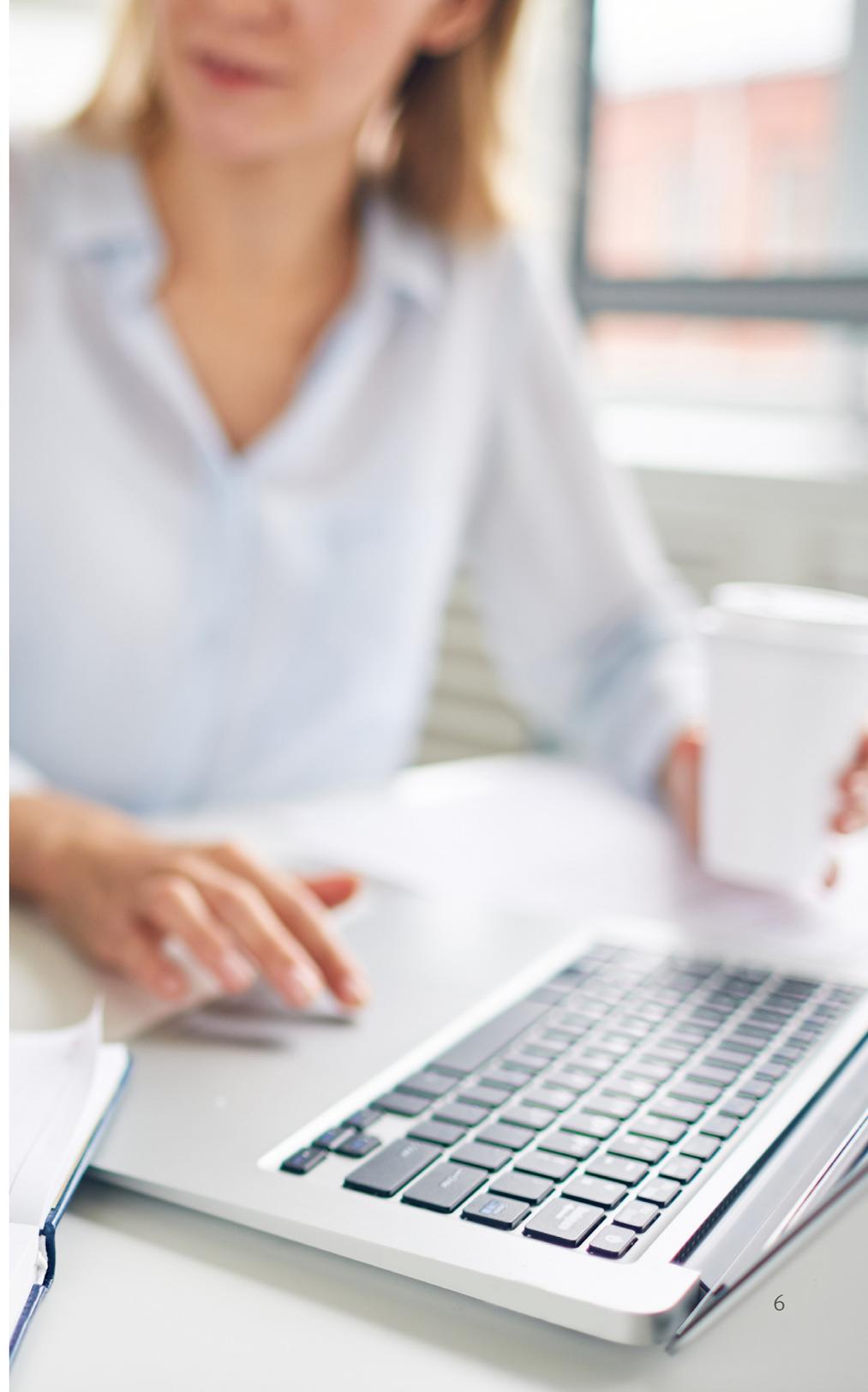
SEARCH FOR A BETTER DATA AGGREGATION PLATFORM

Consider: How flexible is my current platform in meeting my particular set of nuanced workflows?

If you've seen one integration, you've seen one integration. There's no cookie-cutter approach to interoperability yet—despite efforts to standardize protocols. If your organization is asked to stand up a workflow with a doctor's office that uses an outdated or homegrown EHR, you'll need a data platform that is flexible enough to connect to that source through a wide array of supported standards and open APIs.

You never want your technology to be the limiting factor in an integration.

As a data aggregator, you need the sharpest interoperability tools to transmit, aggregate, refine, and deliver data effectively.



An open API is an integral piece of the puzzle that enables your organization to keep aggregated health data in a warehouse and interact with it externally. In certain cases, your work goes beyond delivering data into an EHR or sending event notifications through automated workflows. Customized data reports that intelligently combine different clinical items are often a business necessity.

For example, to help government healthcare agencies during the pandemic, healthcare data aggregators routinely tracked the number of COVID-19 condition elements and condition clinical items and delivered weekly reports to public health departments. It takes flexible technologies working together to warehouse, aggregate, and report on the data that communities need to allocate resources expediently and cost-effectively in times of crisis.

Support complex workflows

As a data aggregator, your data supports provider workflows—most commonly, workflows involving encounter notifications sent to an EHR or direct mail. **But what about the more complex workflows?**

Within the healthcare data aggregation industry, organizations are pushed to deliver insights as a health data utility (HDU) for their communities. For example, the Situational Awareness for Novel Epidemic Response (SANER) Project was developed in Texas as a framework to provide hospitals and organizations with tools to communicate more effectively with each other during the pandemic when resources were so scarce.

It provided hospital bed count reporting and connected with the EMS services locally to notify them of hospitals with available beds. This is a prime example of how healthcare data aggregators are being pushed to utilize their data to serve the community outside traditional point of care provider workflows.

A flexible data platform that exposes open APIs enables organizations to make data useful in other, more complex applications. This enables customized data experiences and use cases, and inherently targets just the data needed (i.e., I need just medications).



How does your solution contribute to your success?

Naturally, healthcare executives have an insatiable appetite to identify solutions that deliver the efficiency and results that will make their organization an industry leader. They want their organization to be the “knight in shining armor of health data,” providing essential information that makes a difference in people’s lives.

Akin to this vision of excellence, a CEO of an HIE, hospital, or other healthcare organization may approach a prospective data platform vendor with the following questions:

- How will your solution reduce staff burdens and save my organization time and money?
- What is your solution going to do that mine can’t already?
- How will your solution enable my organization to deliver more meaningful data to providers?
- Will your solution ensure an improved user experience for my providers and make it easier for them to access data at the point of care?

Other important considerations

Provider organizations need data outside their in-house solutions from the community.

As you consider a new data platform, here are some key questions to keep in mind:

- How will we get the data and match it to our population?
- How do we normalize it for use in our public health initiatives?
- How well does the solution work in combination with our other enterprise data programs?



This approach, along with thorough training, will help ensure the solution is working for providers, not against them.



CHAPTER 3

PUT ON THE RIGHT LENS TO UNCOVER MEANINGFUL INSIGHTS

Without a proven data platform, ensuring your community gains significant value from the data you deliver will be an uphill climb. **Mirth® Health Data Hub** by NextGen Healthcare stores and aggregates health data, leveling the playing field to obtain the value providers expect.

Mirth® Health Data Hub Insights by NextGen Healthcare looks at aggregated data and helps organizations draw meaning from it; in the same way, providers get the data in their EHR when they meet with a patient. They see Current Procedural Terminology (CPT®) codes, conditions, allergies, medications, and other helpful information clearly through the lens of their medical expertise.

In the same way, data aggregators need to have their own lens, looking at this data from their perspective and making it meaningful.

Like a doctor putting on glasses to assess a particular condition, HIEs, health data utilities (HDUs), hospitals, accountable care organizations (ACOs), and other healthcare organizations look at the data through their lens to uncover trends that impact community health. Mirth Health Data Hub and Mirth Health Data Hub Insights work harmoniously to uncover such insights. Their combined capabilities provide the lens that enables clinicians and government health agencies to see the data clearly and act accordingly.

CHAPTER 4

FINAL THOUGHTS

Turn your mountain of data into gold

Technology plays a crucial role in the revolution of healthcare delivery, and efficient health data exchange is at the epicenter of this movement to keep patient data flowing and meaningful to all who need it.

The mountain of data your organization faces can become a gold mine of meaningful insights with the right tools.

Mirth Health Data Hub

Intelligently aggregate and normalize your clinical data, leveraging built-in eMPI, automated workflows, and an extensible API.

Mirth Health Data Hub Insights

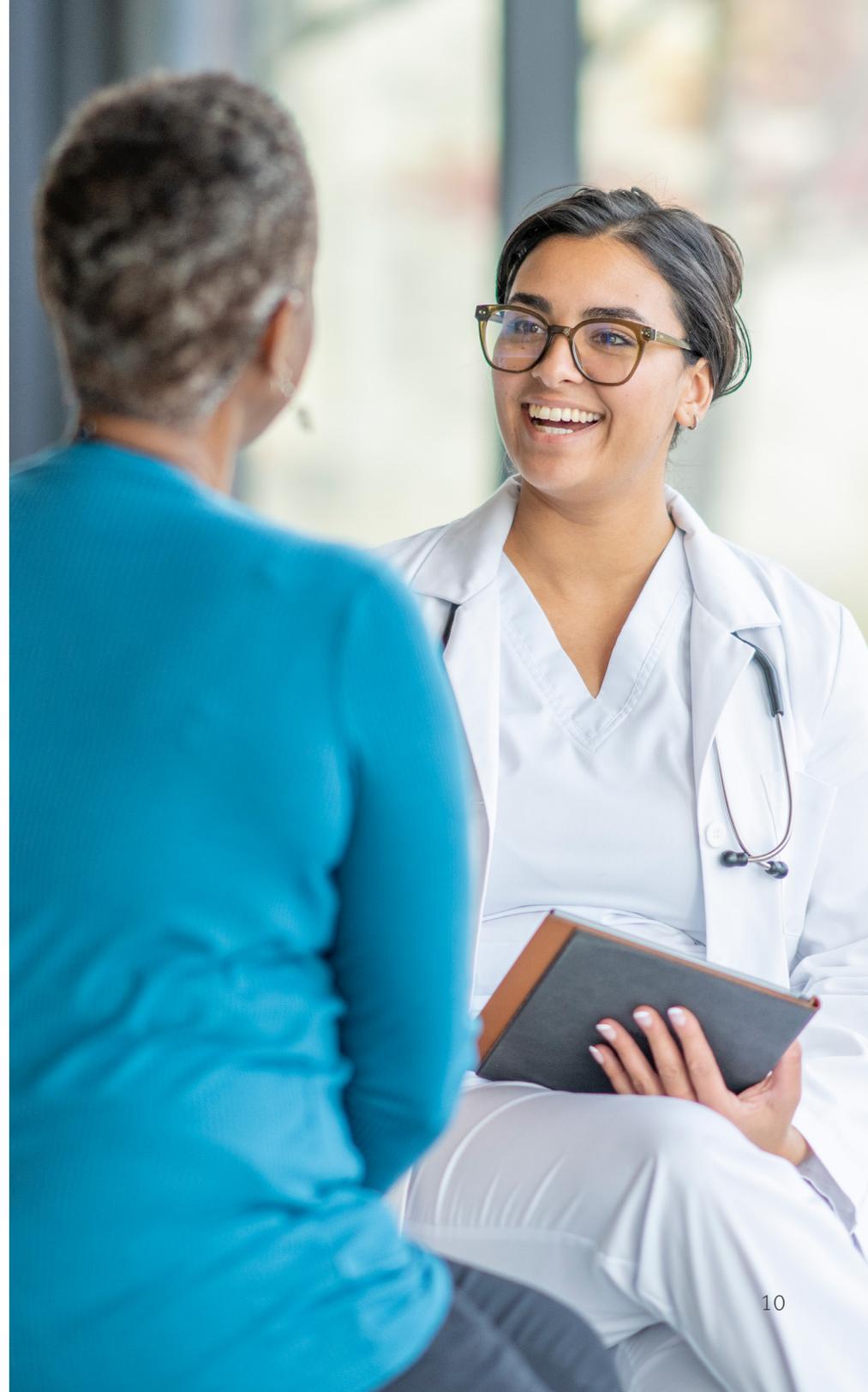
Managed data warehouse powered by Snowflake, accelerating data innovations through personalized data capabilities.

Mirth® Connect

Seamlessly integrate data between systems, using powerful message transformation, routing, and monitoring capabilities (vendor agnostic).

Mirth® Cloud Connect

Supercharged in the cloud, process high volumes of data efficiently backed by a fully managed service that includes 24/7/365 support and interoperability expertise on-demand.



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Contact us at 855-510-6398 or results@nextgen.com

“A longitudinal view into patients’ data provides a holistic view of the patient for physicians to improve their workflows and provide better care.”

Nicole Bigelow

Principal Architect

Resili Health