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Member Led Webinar
MedicaSoft and DHIN

Cohabitating Claims and Clinical Data for Improved Analytics and Interoperability

August 22, 2024

HOUSEKEEPING ITEMS

- This is a Zoom webinar.
- All webinar participants are automatically muted, and your video is not displayed.
- If you would like to ask a question, please use the Q&A function on the taskbar.
- Use the chat feature to introduce yourself (name, org, location), share resources, etc.
- We will share slides and the recording after today's event.
- For questions following the webinar, reach out to contact@civitasforhealth.org

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AGENDA

- **Civitas Welcome and Updates**
  - Jolie Ritzo, *VP of Strategy and Network Engagement, Civitas Networks for Health*

- **Member Presentation:** *Cohabitating Claims and Clinical Data for Improved Analytics and Interoperability*
  - Mike O'Neill, *CEO of MedicaSoft*
  - Jan Lee, *CEO of Delaware Health Information Network (DHIN)*

- **Q&A**

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CIVITAS UPDATES

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InterSystems®
Creative data technology

#CIVITAS2024 UPDATES

The "Bridge Between Data and Doing" conference will be held October 15-17, 2024, in Detroit Michigan.

Registration is Open!

Thank you to our platinum sponsor, InterSystems!

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COMMUNITY EXCELLENCE AWARDS – NOMINATION WINDOW EXTENDED!

Celebrate the remarkable individuals and organizations making positive contributions in their communities through our Annual Civitas Networks for Health Community Excellence Awards!

- **Nominations Close: Friday, September 6, at 5:00 PM ET**
- Visit our conference website for details.

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CIVITAS 2024 VIRTUAL PRECONFERENCE SESSIONS

Mark your calendars for the 2024 Virtual Preconference Sessions, which are made possible with support from Telligen!

- Session 1: Partnerships and Data Sharing with Emergency Medical Services and Crisis Response | August 26, 12:30-2:00 p.m. ET
- Session 2: Virtual Preconference: Advancing Equity in Maternal and Infant Health | September 11, 12:30 – 1:30 p.m. ET
- Session 3: Virtual Preconference: Using Networks to Improve State-Wide Systems and to Address Inequities | September 19, 3:00 – 4:30 p.m. ET

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SPONSORSHIP OPPORTUNITIES

There's still time to sponsor the Civitas 2024 Annual Conference! We offer a range of sponsorship packages to fit your needs and budget. Each package is designed to provide maximum exposure and engagement for your brand.

This event would not be possible without our conference sponsors. Connect with us to learn how you can support health care transformation and elevate your brand. Ready to be a partner? Connect with us at contact@civitasforhealth.org.

Learn more about sponsorship.

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VIEW THE 2024 ANNUAL CONFERENCE AGENDA!

The preliminary agenda for the Civitas Networks for Health 2024 conference, hosted in partnership with our Upper Midwest Region members, is now available!

Check out our exciting lineup of sessions focusing on health data interoperability, partnerships driving progress, and community-centered approaches to improve health.

View 2024 Conference Agenda

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CIVITAS 2024 ANNUAL CONFERENCE ROOM BLOCK

Civitas 2024 Annual Conference attendees are eligible for discounted rates at the Detroit Marriott at the Renaissance Center.

Book early via our conference website to ensure you take advantage of these special rates!

The discounted block ends on September 19, 2024, at 5:00 pm ET.

Please be advised: the conference is scheduled for October 15th-17th, with the room block available from October 11th-17th.

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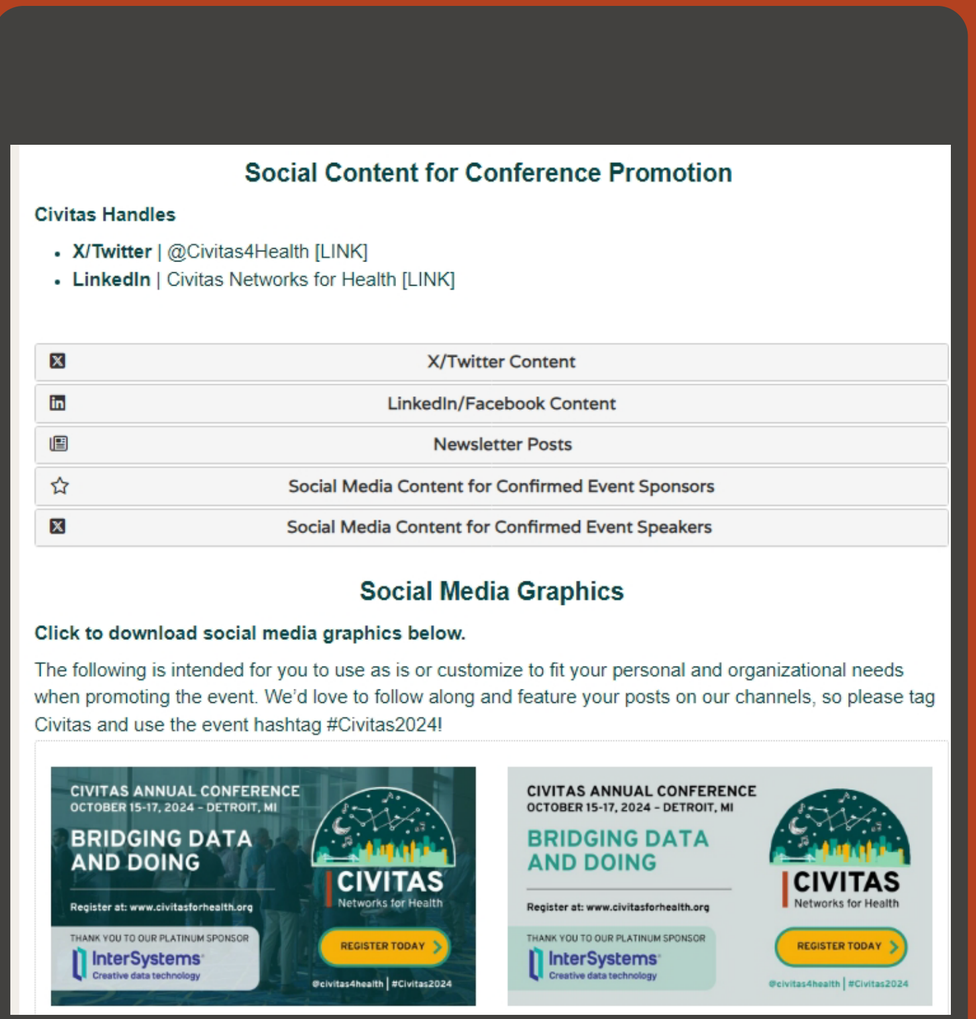

Social Content for Conference Promotion

Civitas Handles

- **X/Twitter** | @Civitas4Health [LINK]
- **LinkedIn** | Civitas Networks for Health [LINK]

X/Twitter Content
LinkedIn/Facebook Content
Newsletter Posts
Social Media Content for Confirmed Event Sponsors
Social Media Content for Confirmed Event Speakers

Social Media Graphics

Click to download social media graphics below.

The following is intended for you to use as is or customize to fit your personal and organizational needs when promoting the event. We'd love to follow along and feature your posts on our channels, so please tag Civitas and use the event hashtag #Civitas2024!

SPREAD THE WORD!

We appreciate your efforts in circulating the Civitas 2024 Annual Conference with your networks to further encourage cross-sector collaboration, increase robust opportunities for networking, cultivate creative solutions through knowledge sharing, and more.

You can find promotional content for social media, newsletters, and graphics in our digital toolkit. Please help us spread the word!

https://civitasforhealth.swoogo.com/civitas2024/communicationstoolkit

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WE WANT TO HEAR FROM YOU!

We'd like to hear about your 2024 membership experience to continue delivering high-value member benefits and inform our programming.

Our Member Satisfaction Survey is now open! We encourage you to share this with other members of your teams who participate in Civitas offerings.

Civitas will be offering two $100 Amazon gift cards and a top prize of one free registration for the 2025 Civitas Annual Conference.

https://civitas.tfaforms.net/f/2024-Member-Satisfaction-Survey

Please note that only one prize will be awarded per organization.

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CIVITAS CONFERENCE HAPPENINGS

SCAN

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Cohabiting Claims & Clinical Data for Improved Analytics & Interoperability

Jan Lee, MD, MMM, FAAFP
CEO, Delaware Health Information Network

Michael O'Neill
CEO, MedicaSoft

Aug 22, 2024

DHIN Delaware Health Information Network

MedicaSoft

Empowering data-driven decisions

- *Why Combine?*
- *History, Challenges, Early Decisions*
- *Architecture & Technology Strategy*
- *Current State, Next Steps*

DHIN Delaware Health Information Network

Why Combine Clinical & Claims Data?

- “Value” in healthcare is a function of both cost and quality
- Claims data are the proper source for data pertaining to cost
- Analysis of quality and outcomes requires clinical data
- Analysis of value involves evaluating the cost of achieving desired outcomes
- Governments could benefit from both for policy formation
- Payors could benefit from both for plan design
- ACOs and others in value-based payment models need both to balance the management of cost and quality
- Few organizations have large volumes of each type of data and the ability to combine them in meaningful ways

History in Delaware

- DHIN established by statute in 1997 (16 *Del C.* Chapter 103); went live with data exchange in 2007
- A “public instrumentality” – neither a state agency nor a 501c3
- Operate as a self-sustaining not-for-profit business
- Support public and private use of health data for statutory purposes (expansive)

- DHIN is a steward, not an owner, of data
- Allowable uses are governed by both statute and participation agreements (contracts) with data sending entities
- Use cases permitted by statute were constrained by contract terms
- Some contracts explicitly excluded all purposes other than “Treatment” (interpreted broadly)

Adding an All Payer Claims Database

In 2016, SIM grant funding enabled Delaware to implement an APCD

Arguments for placing it in DHIN included:

- Leverage existing technology assets (secure storage, MPI, data ingestion tools, etc.)
- Leverage existing vendor-partner relationships
- Leverage existing multi-stakeholder DHIN Board of Directors
- Leverage existing DHIN staff with expertise in data ingestion, validation, transformations, and security/privacy management of PHI
- Future ability to merge clinical with claims data – DHIN already had over a decade of aggregated clinical data spanning the healthcare ecosystem of Delaware

Challengers

Political

- Some State agencies felt that they should “own” the APCD
- Hospitals feared the APCD would be “weaponized” by the State if under a State agency

Technical

- SIM project officers were skeptical of DHIN’s proposed approach to architecting the APCD (“No other APCD is doing it that way.”) – demanded a pilot proof of concept before releasing funds for scaling up
- Pilot demonstrated our ability to match patient identities from claims and the clinical data repository at the person level and encounter level
- Pilot demonstrated our ability to perform analytic queries across both data sets and display data elements from both sets in an external-facing application

Challenges in Adding an APCD

Statutory

- 16 *Del C.* Chapter 103 Subchapter I governs DHIN in its role as clinical HIE/HIN
- Subchapter II governs DHIN in its role as administrator of the APCD
- Meaningful differences in the two requires careful navigation and management as separate and distinct service lines, complicating the eventual conjoining of data sets

Regulatory

- DHIN is authorized by statute to promulgate regulations
- Separate regulations needed to govern data submission (directed at payors) and data access (directed at data users) – lengthy process for public comment, eventual adoption

Challenges in Adding an APCD

Procedural

- Application to CMS for Medicare data – lengthy and involved process! ☺
- Execution of statutorily required, but “mutually acceptable” data submission and use agreements with all mandatory reporting entities – lengthy and arduous! ☺

Skill sets

- Most State APCD’s outsource the technology expertise and insource analytics expertise
- DHIN had technology expertise but not the analytics expertise – relied heavily on contract support initially

Business Challenges in Adding an APCD

Clinical HIE

- Data submission & participation is 100% voluntary
- Business model -- a volume-based fee to data submitters
- Well established polices & procedures for data access for Treatment use cases
- Saturated market with our core clinical services; little opportunity for further growth

APCD

- Data submission is mandatory (some exceptions)
- Prohibited by statute from charging fees for submission of data
- Statutory requirement for a Data Access Committee of the DHIN board to assess all data requests against allowable statutory purposes
- Marketing a nascent service line to reach business sustainability

Early Decisions

Method of claims submissions

- Transactional stream of X12 messages (similar to clinical HL7 data submission)
- Batch flat files – the method used by “all other APCDs”

Required data elements

- Four files; member files, provider files, medical claims files, pharmacy claims files
- Statute specifies we must abide by “nationally recognized data collection standards and methods…promulgated by the APCD Council”

Early Decisions

Methods of Data Access

- Raw data extracts (DHIN has the expertise)
- Standard and custom reports (DHIN initially had to contract for analytic expertise)
- Direct access via “sandbox” environments – this is still aspirational

Early Decisions

Technology Platform – guiding principles:

- Flexibility – don't architect rigid solutions that are hard to modify or update
- Cost management – use scalable, cutting edge, "pay as you use" hosted cloud technologies where feasible
- Shared services – leverage existing tools and processes to the greatest extent feasible to realize economies of scale

Architecture & Technology Strategy

DHIN Delaware Health Information Network

Enterprise Architecture Considerations

- Match architecture and technology to use cases, such as care delivery vs. analytics
- Choose a flexible data model that will handle a variety of data types
- Prepare for patient matching/data linkage
- Understand differences in data quality in clinical and claims data
- Plan for handling sensitive data and patient consent
- Support multiple methods of data access & data sharing

Enterprise Architecture Considerations

- Match architecture and technology to use cases, such as care delivery vs. analytics
  - Care delivery uses longitudinal patient records in transactional workloads
  - Analytics and reporting use relational data and bulk workloads
  - Evaluate data currency requirements

- Choose a flexible data model that will handle a variety of data types
  - Clinical, claims, social determinants of health data
  - Ability to add data sets and data types
  - Support for data sharing and interoperability

Enterprise Architecture Considerations

- Prepare for patient matching/data linkage
  - HIEs typically have patient matching capabilities and link data from multiple provider sources
  - Payors and providers may not have similar capabilities
  - An MPI provides matching capabilities, but work is required to manage the set of identities for the patient population
  - Consider shared services to leverage existing identity management

- Understand differences in data quality in clinical and claims data
  - Claims data is often more structured and complete; clinical data can be more varied and less consistent
  - Aggregating clinical data makes deduplication more important
  - Improving clinical data quality may require working with the data sources

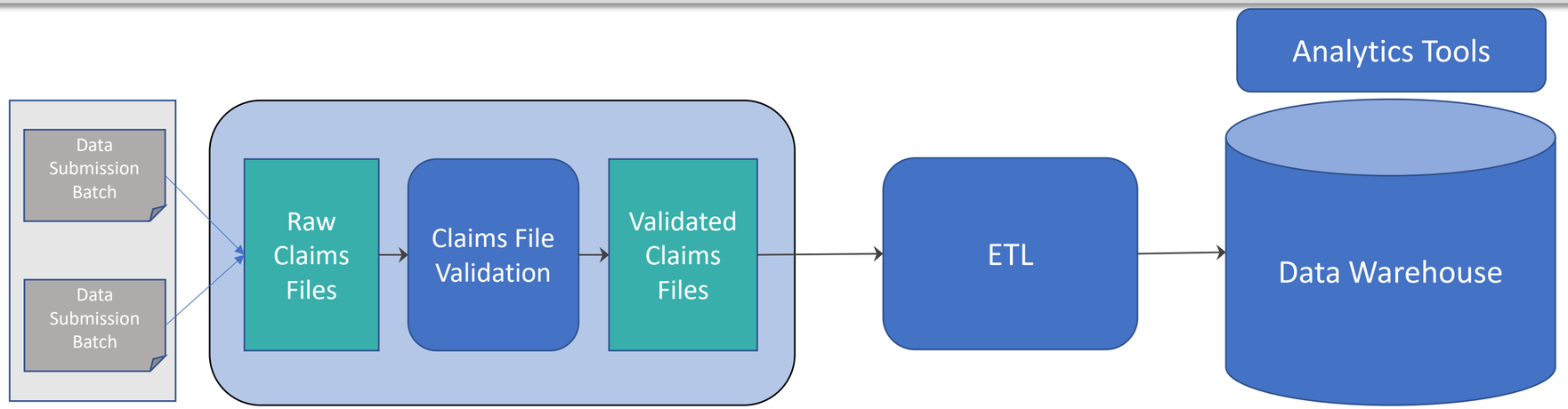
Enterprise Architecture Considerations

- Plan for handling sensitive data and patient consent
  - Regulatory and legislative activity makes handling sensitive data a priority
  - Patient consent is often required, at an increasingly granular level, to use patient data for care delivery and analytics
  - Integrating support for sensitive data and consent into the architecture helps eliminate gaps in proper use of health data

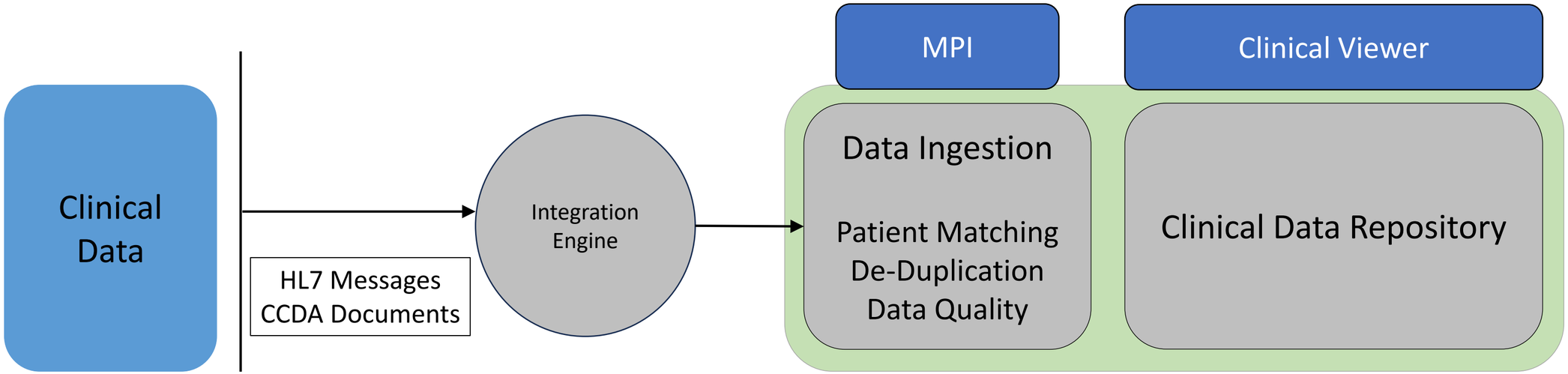
- Support multiple methods of data access & data sharing
  - Patient access, including authentication and identity proofing
  - Provider & payor applications
  - Interoperable access – document exchange, API exchange
  - Enforce Purpose of Use compliance

Clinical Data and Claims Data

Separate Approaches



Typical Claims Data System



Typical Clinical Data System

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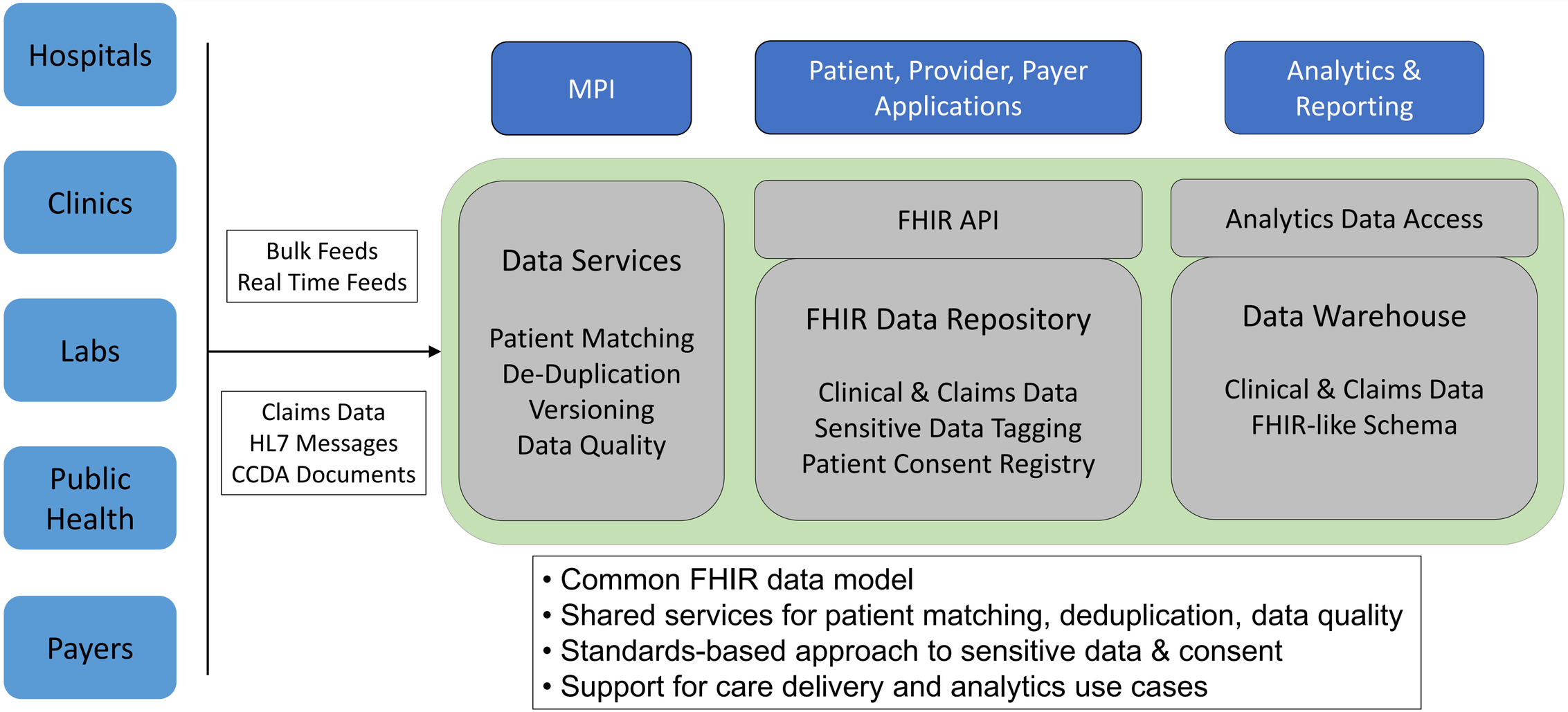
Clinical Data and Claims Data

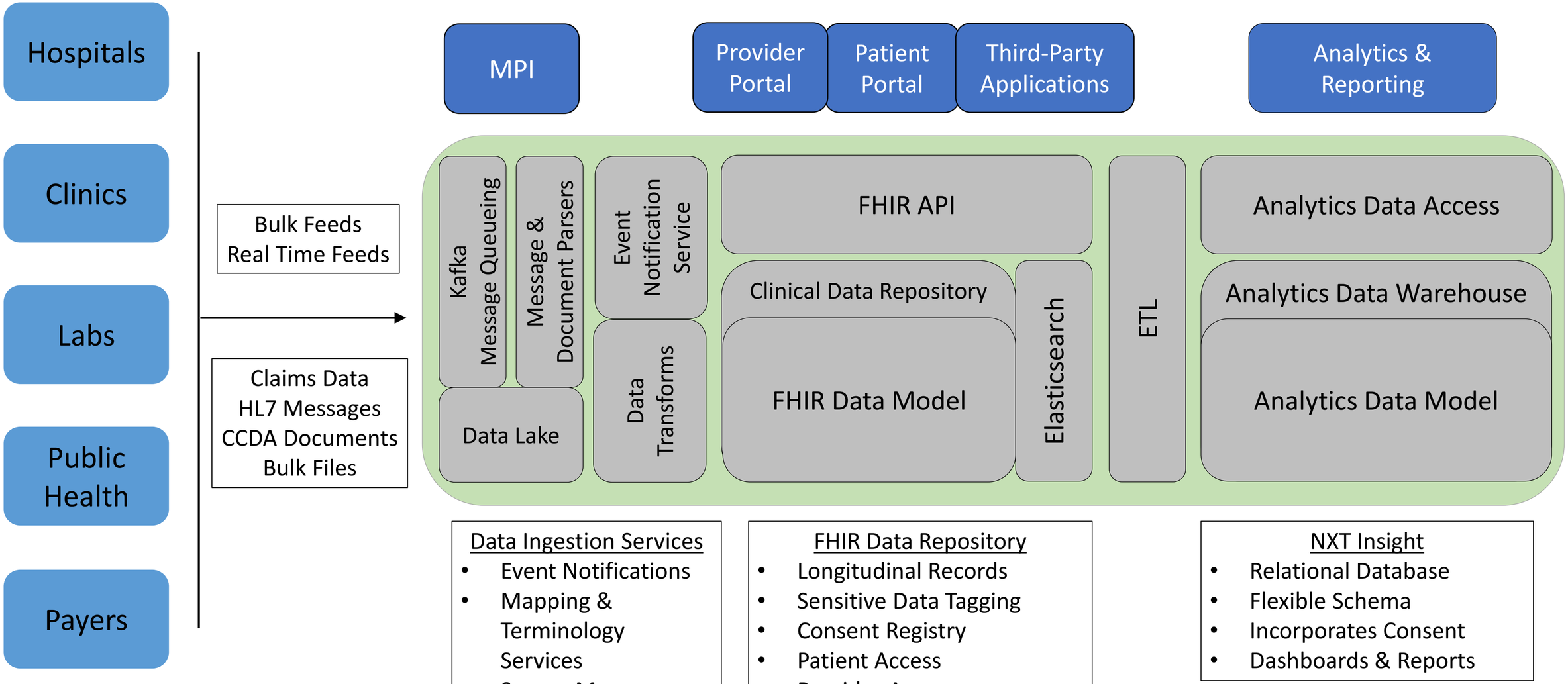
Integrated Approach



- Common FHIR data model
- Shared services for patient matching, deduplication, data quality
- Standards-based approach to sensitive data & consent
- Support for care delivery and analytics use cases

NXT Platform

Real Time Healthcare Data Management



Data Ingestion Services

- Event Notifications
- Mapping & Terminology Services
- Source Message Repository

FHIR Data Repository

- Longitudinal Records
- Sensitive Data Tagging
- Consent Registry
- Patient Access
- Provider Access

NXT Insight

- Relational Database
- Flexible Schema
- Incorporates Consent
- Dashboards & Reports

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Practical Considerations

- Choose an architecture that will support an evolving set of solutions
  - Avoid “silo” solutions
- Take an iterative approach
  - Waiting for all elements, from policy to technology, to resolve leads to doing nothing – which misses opportunities to improve care/services
- Prioritize real use cases with stakeholders who are ready to engage

Current State, Next Steps

Progress to Date

Ongoing work in the APCD

- Additional public facing reports (see https://dhin-hccd-portal.medicasoft.us/public)
- Enhancements to facilitate analytics (groupers, flags, risk scores, etc.)
- Streamline the process from application for data to approval and release

Renegotiating participation agreements with clinical data senders (lengthy and arduous! ☺)

- Comply with recent federal and state legal/regulatory changes (eg. Information Blocking Rule)
- **Permit expanded allowable uses of data, to include for analytics use cases**
- Still incomplete two years into the effort, but a statistically meaningful set of clinical data is now available

Current State

Ongoing work to display clinically relevant elements of claims as part of the longitudinal record in the Community Health Record

Re-evaluating claims submission methods –

- Current process involves much churn and rework
- “Reasonableness” checks and non-compliance with data submission guide can involve multiple iterations of submission and resubmission of files, delaying availability for use
- Pilot conducted to evaluate switch from **ETL** (payors extract data from their systems, transform to conform to the data submission guide, and load into our ingestion environment) to **ELT** (send raw X12 files to DHIN and let us do the necessary transformations and then load into the data warehouse
- Pilot was successful; scaling up will be complex and take time

Remaining Challenges

Law Without Teeth – health plans legally required to submit data, but no penalties for non-compliance or foot-dragging

"Sensitive" Data – Some insurers refuse to provide even redacted data

Recruiting Self Insured Plans – presenting a compelling "win-win" business case

Sustainability

- No APCD has yet achieved full sustainability through fees and sale of data products alone
- All rely on some combination of grants, State appropriations, federal matching of State Medicaid funds
- In Delaware, state agencies account for ~75% of data requests to date – we've successfully argued for a second bolus of State appropriation, expected to carry us through FY28

Q & A

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Thank you.