



WELCOME

Thank you for joining:

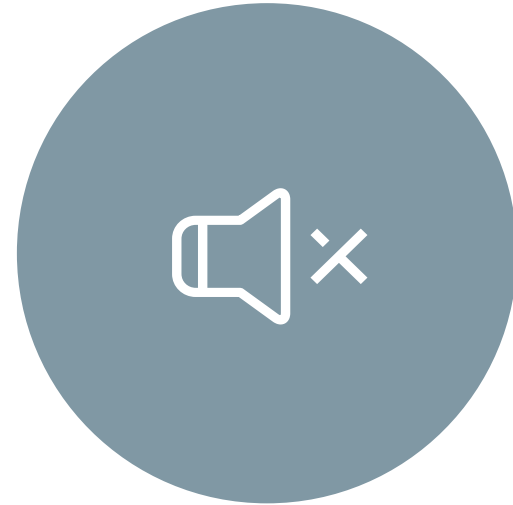
Modernization and Beyond - Envision's Plan for the Future
of Public Health Technology



Logistics



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and will be posted in the
AIRA Repository

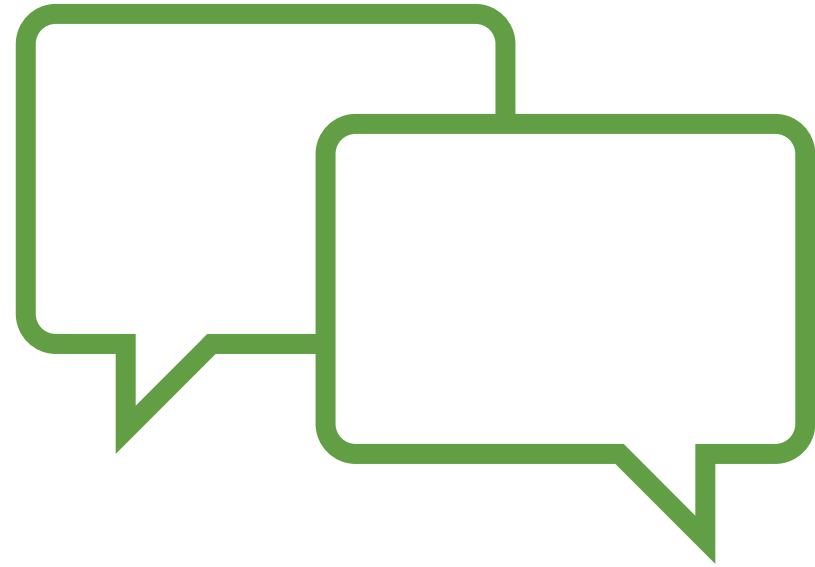


All phone lines
are muted

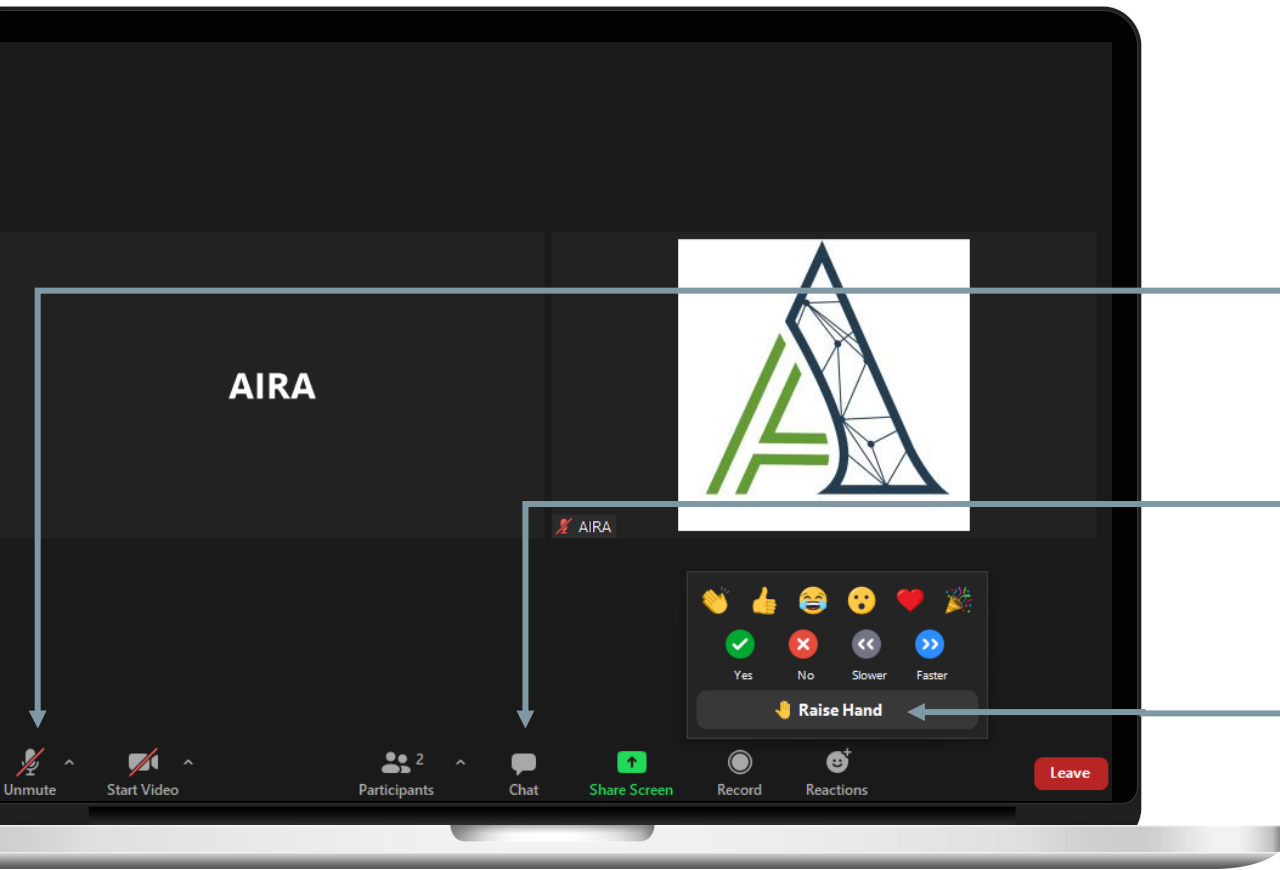


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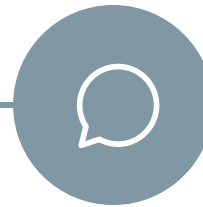
Question & Answer



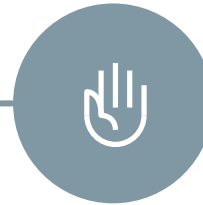
How do I engage?



Select the unmute icon and comment/ask your question verbally.



Select the chat icon and type your comment/question into the chat box.



Select the reactions icon, select "Raise Hand," and you will be called on.





WELCOME

Modernization and Beyond - Envision's Plan for the Future
of Public Health Technology





Today's
Presenters:

Eric Whitworth: Chief Executive Officer,
InductiveHealth

Gary Wheeler: Executive Vice President and
General Manager, Envision Technology
Partners





AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION

Modernization and Beyond - Envision's Plan for the Future of Public Health Technology





MODERNIZATION AND BEYOND – ENVISION’S PLAN FOR THE FUTURE OF PUBLIC HEALTH TECHNOLOGY

SEPTEMBER 10, 2025

TODAY'S SPEAKERS

Eric Whitworth, CEO

Gary Wheeler, Exec VP and GM

Kevin Snow, CTO

Mandy Patti, Senior Product Manager



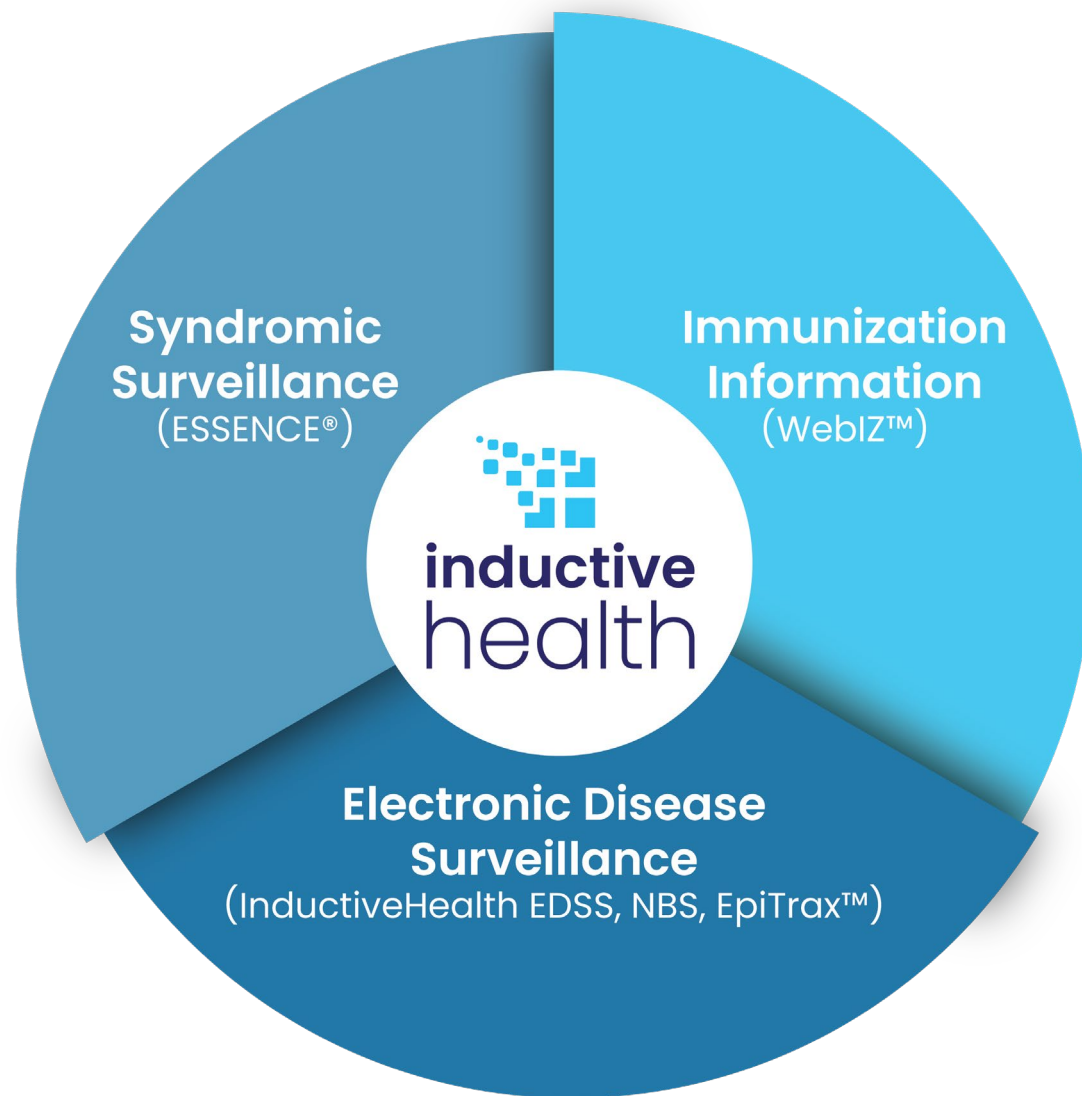
**Stop
Disease
Through
Technology**

**Over 40 Federal,
State, Local, and
Territorial Public
Health Agencies**

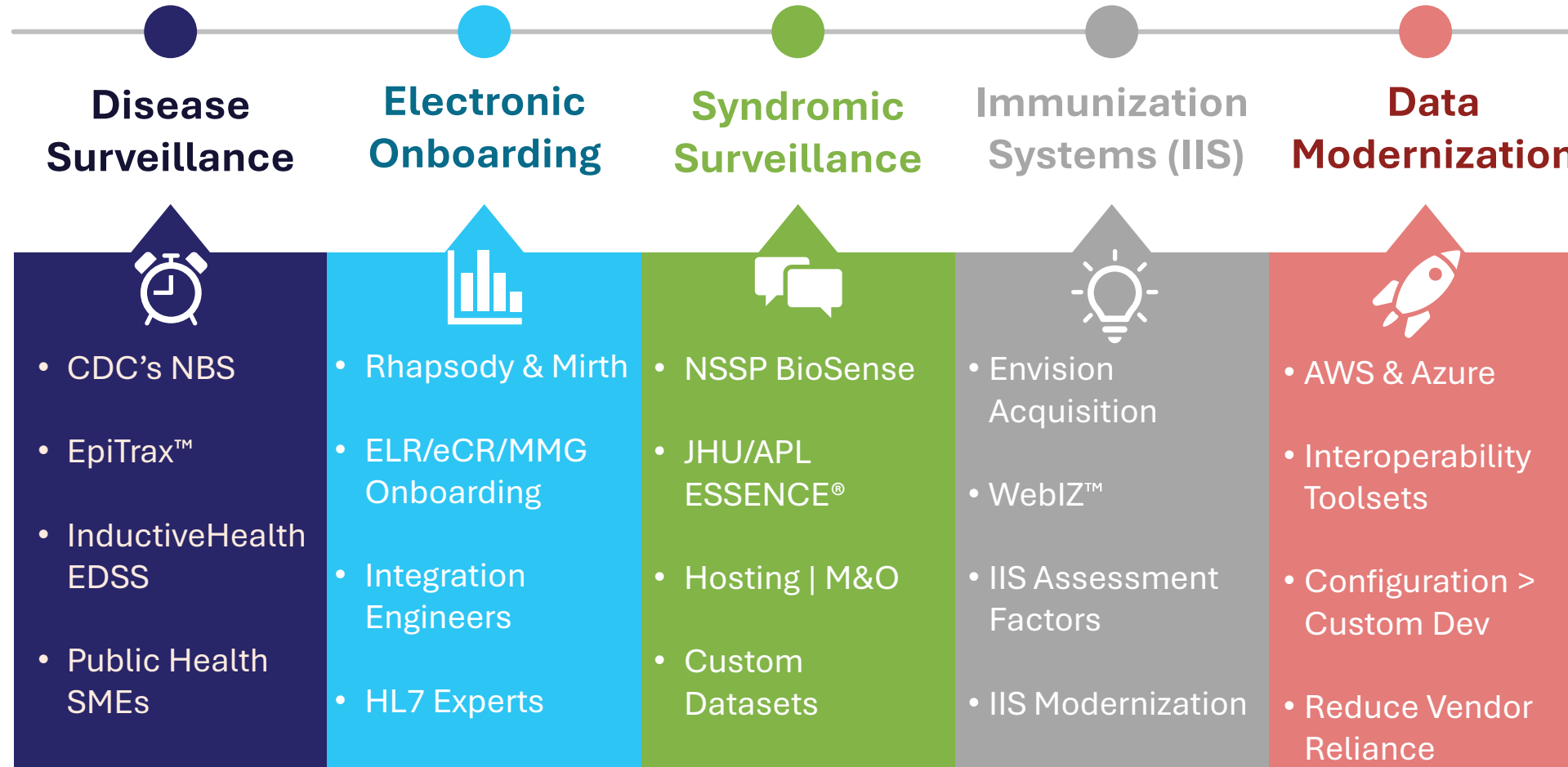
**Cloud-Based SaaS
Public Health
Technology Platform**

**Interoperability
HL7 | FHIR | Rhapsody
Mirth | APIs**

**Advanced Public
Health Expertise**



WHO WE ARE – INDUCTIVEHEALTH | ENVISION



THE INDUCTIVEHEALTH DATA FLOW: WHAT GOES IN

Includes Data From:
17 Jurisdictions

- Reporting Facilities:**
- ~3000 ED Facilities:
 - Inpatient
 - Outpatient
 - Urgent Care

- Data Types:**
- Health & Clinical
 - Environmental
 - Public Safety & Community

HL7 Import

Syndromic Surveillance
ESSENCE®

Includes Data From:
15 Jurisdictions

- Reporting Facilities:**
- Hospitals
 - Private Providers
 - Pharmacies
 - Public Health Clinics
 - Vital Records
- ~140 Reportable Conditions

- Data Types:**
- Patient Data
 - Lab Data (ELRs)
 - Case Data (eCRs)

HL7 Import

Disease Surveillance
InductiveHealth EDSS,
NBS, EpiTrax™

Includes Data From:
21 Jurisdictions

- Reporting Facilities:**
- Hospitals
 - Private Providers
 - Pharmacies
 - Public Health Clinics
 - Vital Records

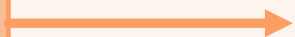
- Data Types:**
- Immunizations
 - Vaccine Reaction Data

HL7 Import

Immunization Information
WebIZ™

THE INDUCTIVEHEALTH FOOTPRINT

ESSENCE®



30%

Of All United States ED Visits

3M +

Daily Messages

Disease Surveillance



5M +

ELRs received YoY (HL7)

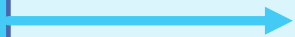
500K +

eCRs received YoY (HL7)

1M +

Patient Records YoY

Immunization Information



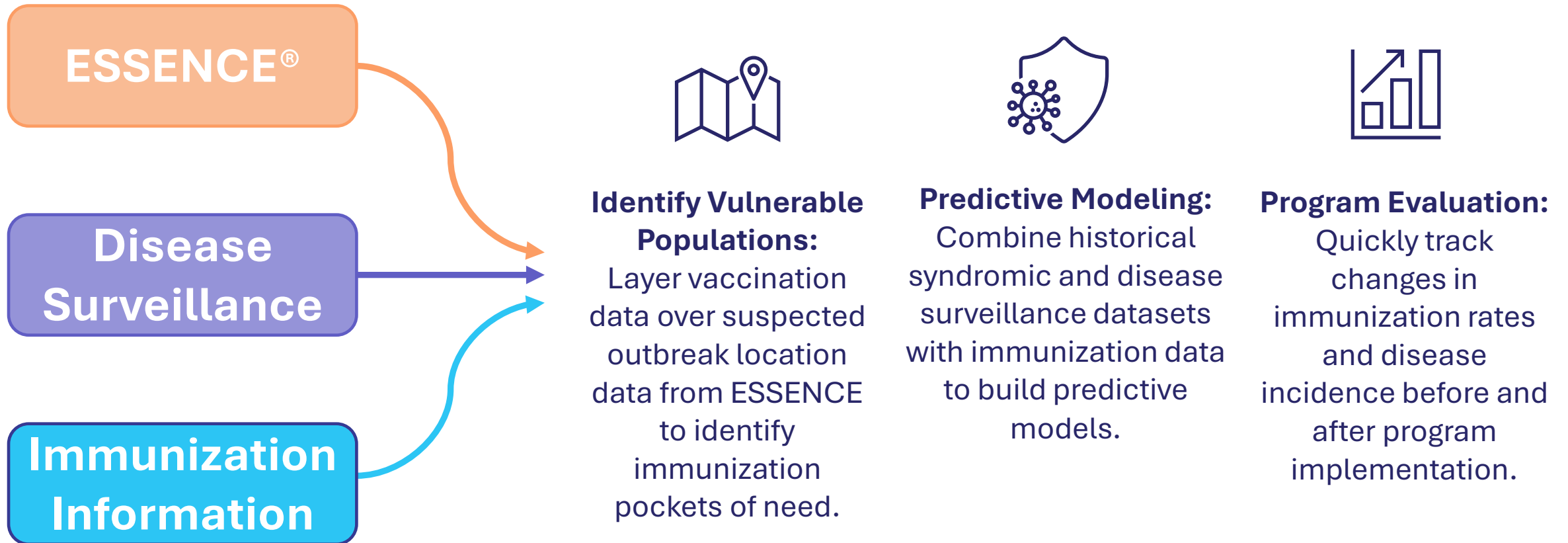
85M +

Patient Active Records

1B +

Immunization Records

THE POSSIBILITIES: DATA OUTCOMES



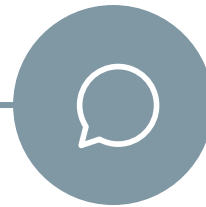
Question & Answer



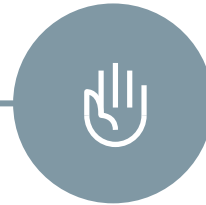
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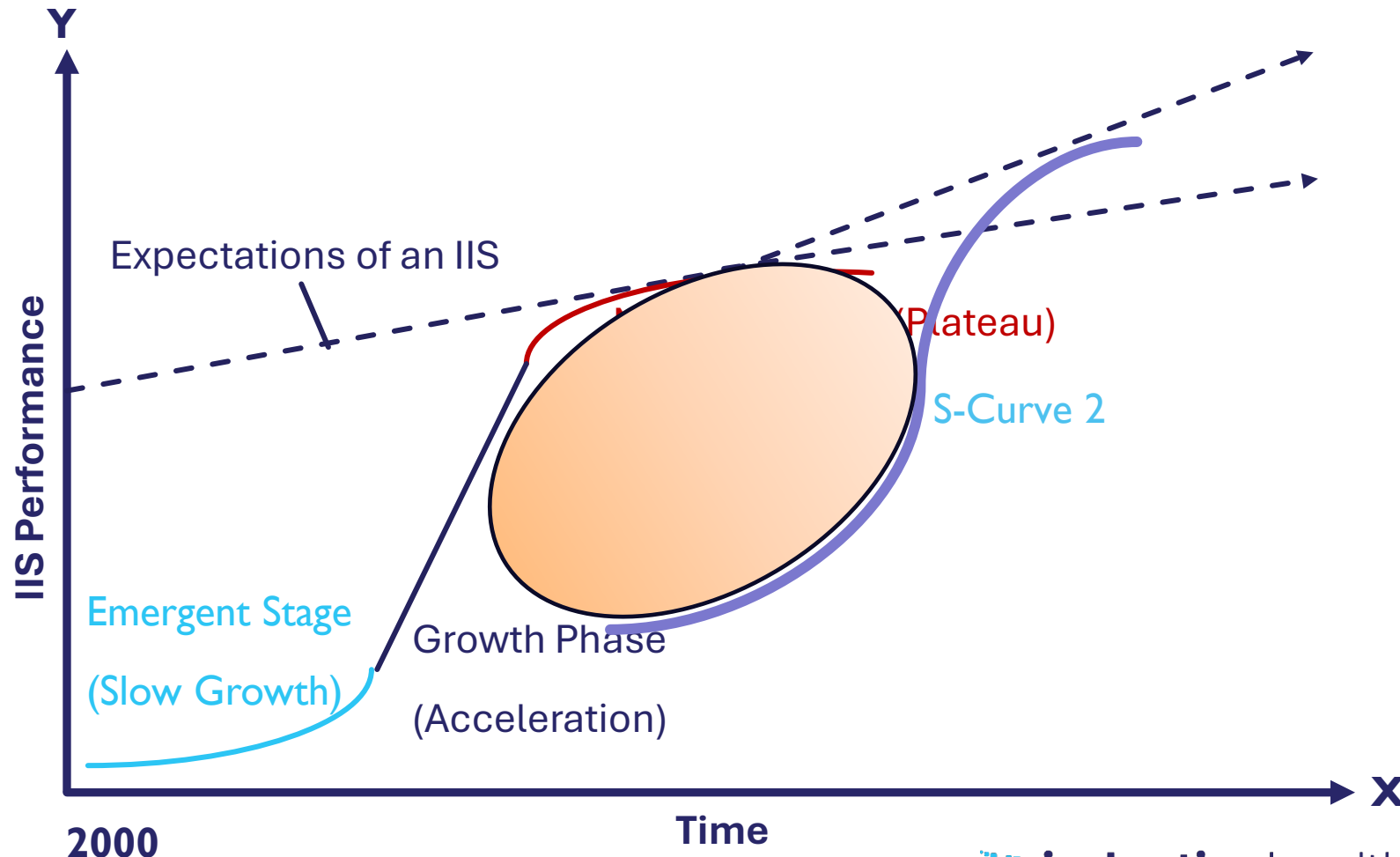
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Presenters:

Kevin Snow: Chief Technology Officer, Envision Technology Partners

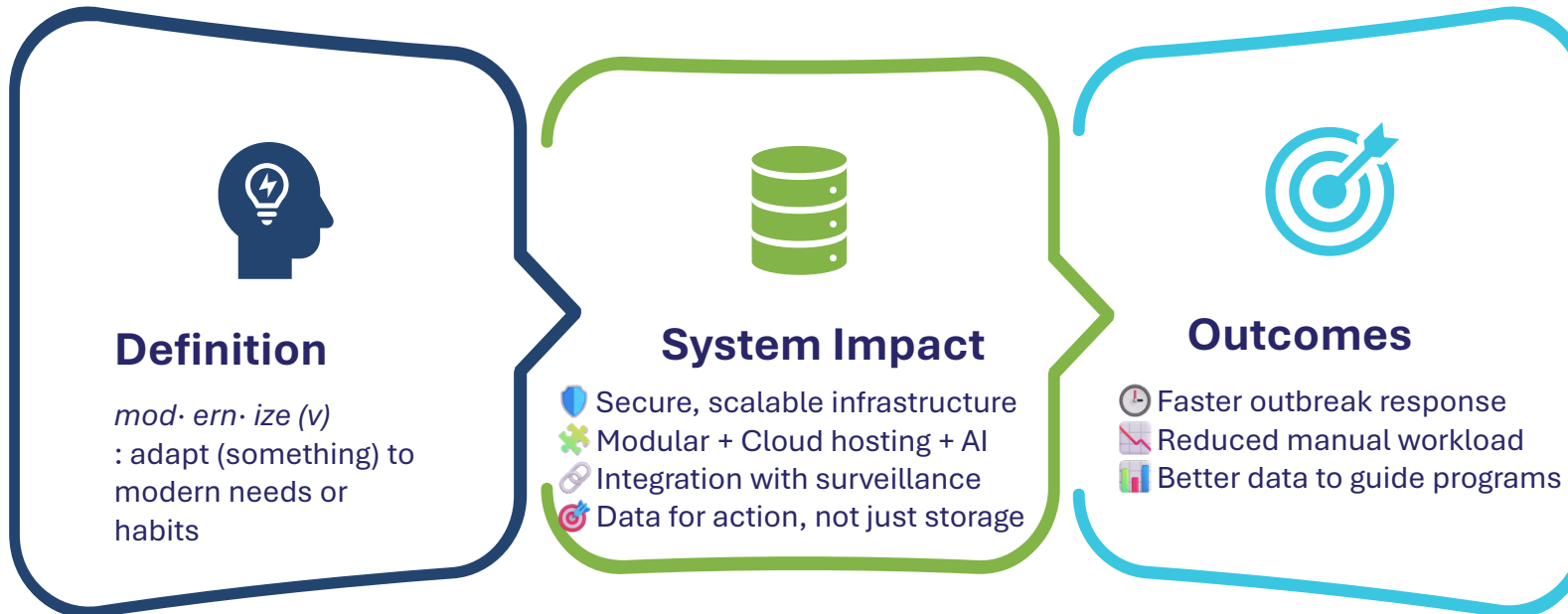
Amanda Patti: Senior Project Manager, Envision Technology Partners



PUBLIC HEALTH EXPECTATIONS ARE CHANGING (S-CURVE)



WHAT IS MODERNIZATION?



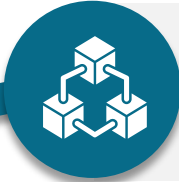
Strategic Goal of Modernization

"Modernization isn't just solving today's problems, it's preparing for tomorrow's opportunities."

MODERNIZATION CAN BE MEAN MANY THINGS



CLOUD HOSTING & MODULAR SERVICES



INTEROPERABILITY & DATA SHARING



SECURITY & ACCESSIBILITY



ARTIFICIAL INTELLIGENCE (AI)

BALANCING SECURITY AND USABILITY



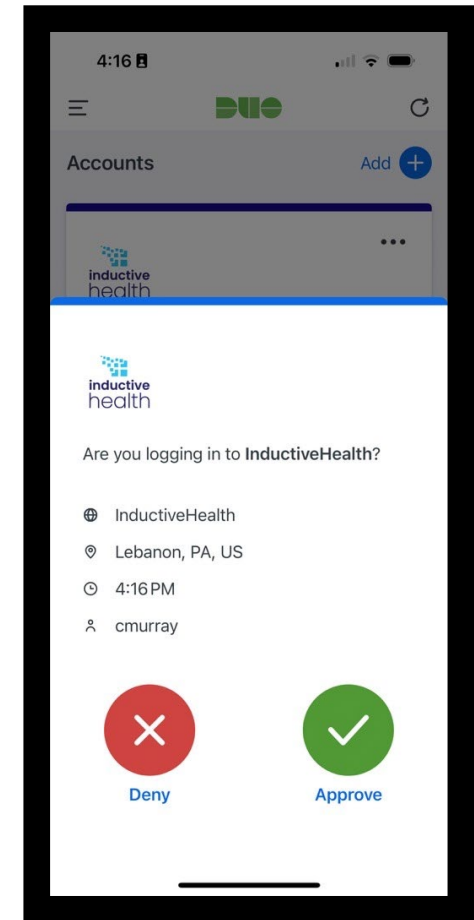
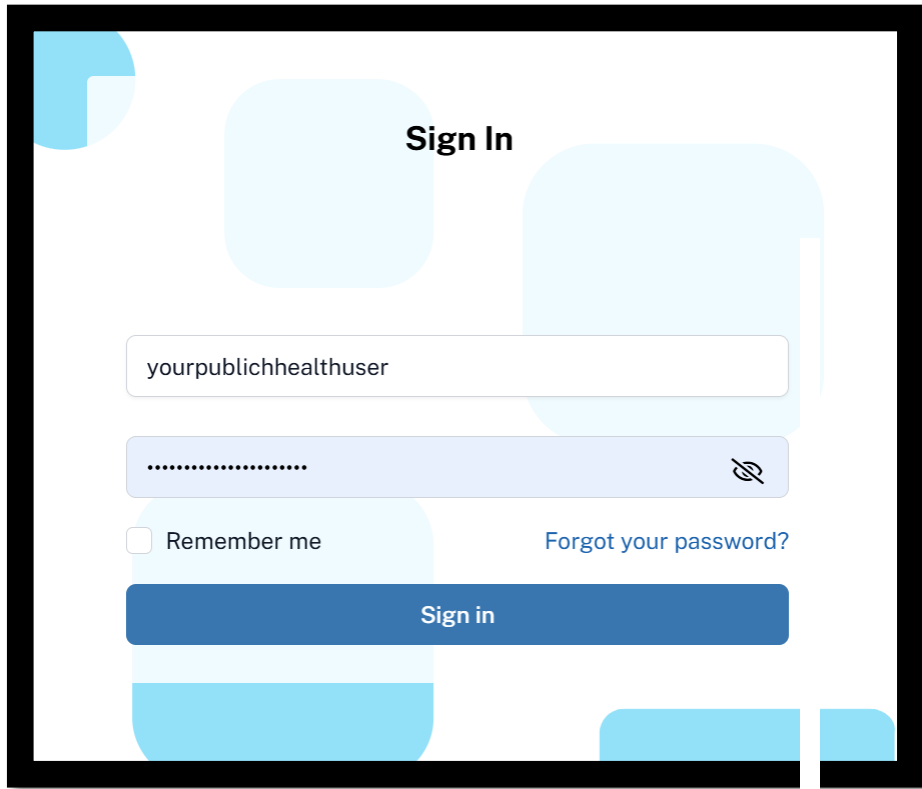
- Multi-Factor Authentication (MFA)
 - MFA enhances security by requiring multiple forms of verification, making unauthorized access significantly difficult.
- Single Sign On (SSO)
 - SSO streamlines user access across platforms, reducing password fatigue and improving usability while maintaining centralized control over authentication

WHY USE MFA AND SSO TOGETHER

- ✓ **Enhanced Security**
- ✓ **Simplified Access**
- ✓ **Improved User Experience**
- ✓ **Operational Efficiency**



CREATING ONE USER EXPERIENCE





GENERAL

 Home

 Administration >

SURVEILLANCE

 InductiveHealth EDSS 


 WebIZ IIS 


INSIGHTS

 Disease Surveillance >

 Message Flow >

 Management >

 Syndromic Analytics >

 System Health >

DATA INTEGRATION

 SmartETL 

DATA EXPLORATION

Hello, Agency User!



Helpful resources

User guides, video tutorials, and other helpful resources.



Contact support

Submit requests and report application issues.



Give feedback

See a place where we can do better? We're all ears.

My apps

Favorites



InductiveHealth
EDSS



WebIZ IIS



ESSENCE



RStudio (Production)



SmartETL

Discover more tools for your team



Enhanced Analytics



Flexible and performant analytics and visualization systems for public health teams. Bring the power of visual perspective to your team.

WHAT IS ACCESSIBILITY?



- **Visual Accessibility**
- **Auditory Accessibility**
- **Motor Accessibility**
- **Cognitive Accessibility**

WHY ACCESSIBILITY IS IMPORTANT

LEVELS OF ACCESSIBILITY COMPLIANCE

- *Inclusivity and Equal Access* ➤ *Enhanced User Experience*
- *Legal Compliance* ➤ *Social Responsibility*

Level A Compliance

Level A is the minimum accessibility standard, addressing basic barriers but allowing some challenges to remain.

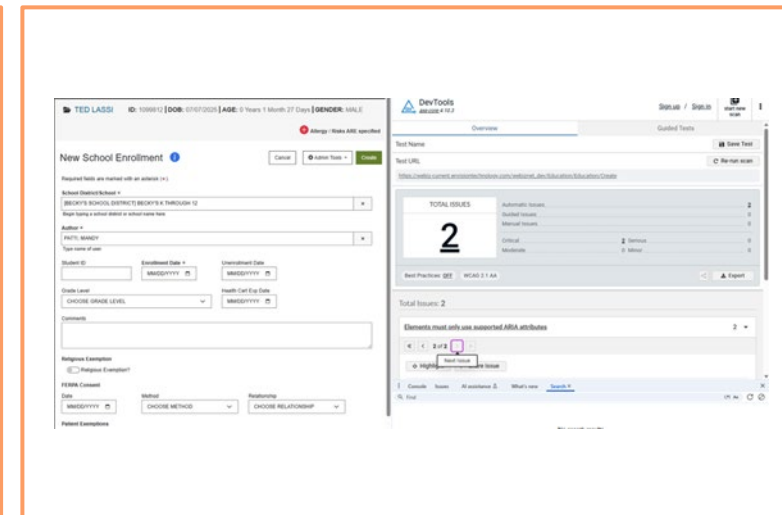
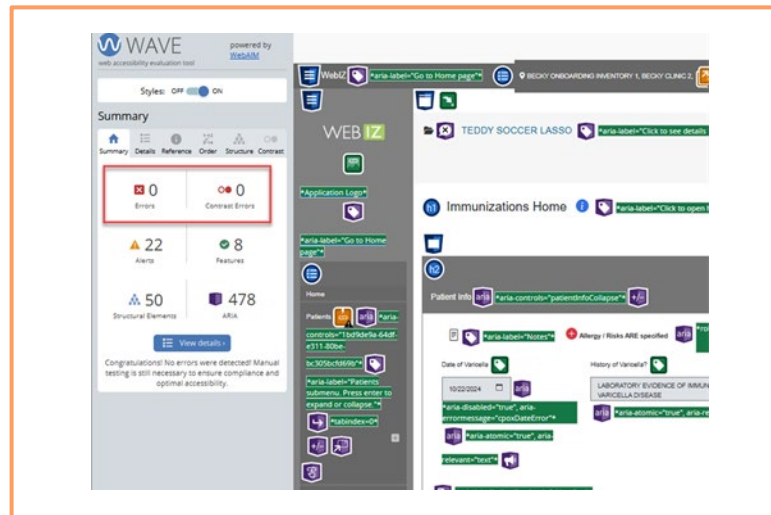
Level AA Compliance

Level AA covers a broader range of accessibility issues and is commonly required for legal compliance.

Level AAA Compliance

Level AAA offers the most comprehensive accessibility solutions but may not be feasible for all content types.

ACCESSIBILITY TOOLS AND PROCESSES



Tools:

- WAVE
- AXE dev tools
- Screen reader review
- Automated testing

Processes

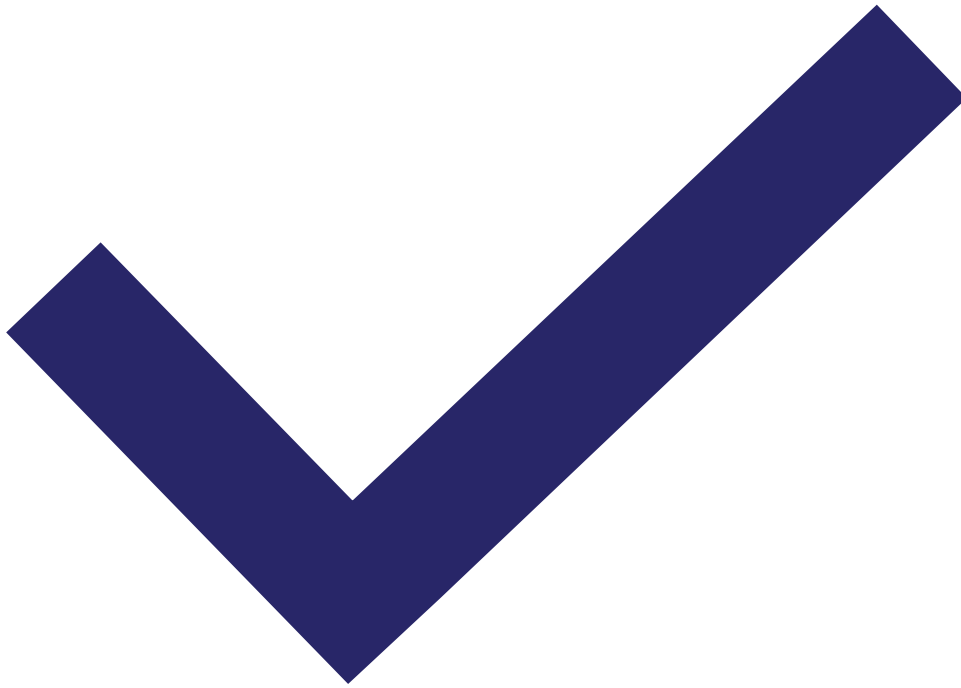
- Consistent design that meet accessibility standards out of the box
- Gate checks for code check-in
- 3rd party auditing

ACCESSIBILITY OUTCOMES

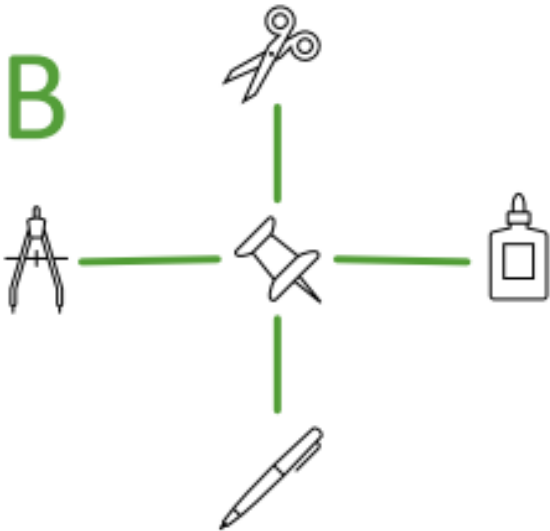
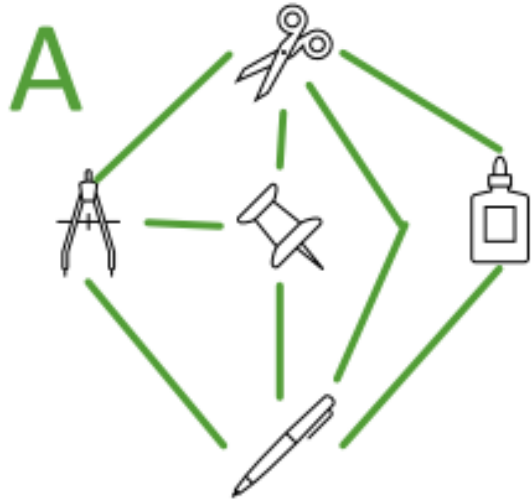
Ongoing
strategy

Enhanced
User
Experience

Accessible
Application



EVOLVING TO MODULAR APPLICATIONS



IF YOU NEED TO REPLACE THE
SCISSORS WITH A KNIFE –
WOULD IT BE EASIER IN A OR
B?

CURRENT VS FUTURE STATE



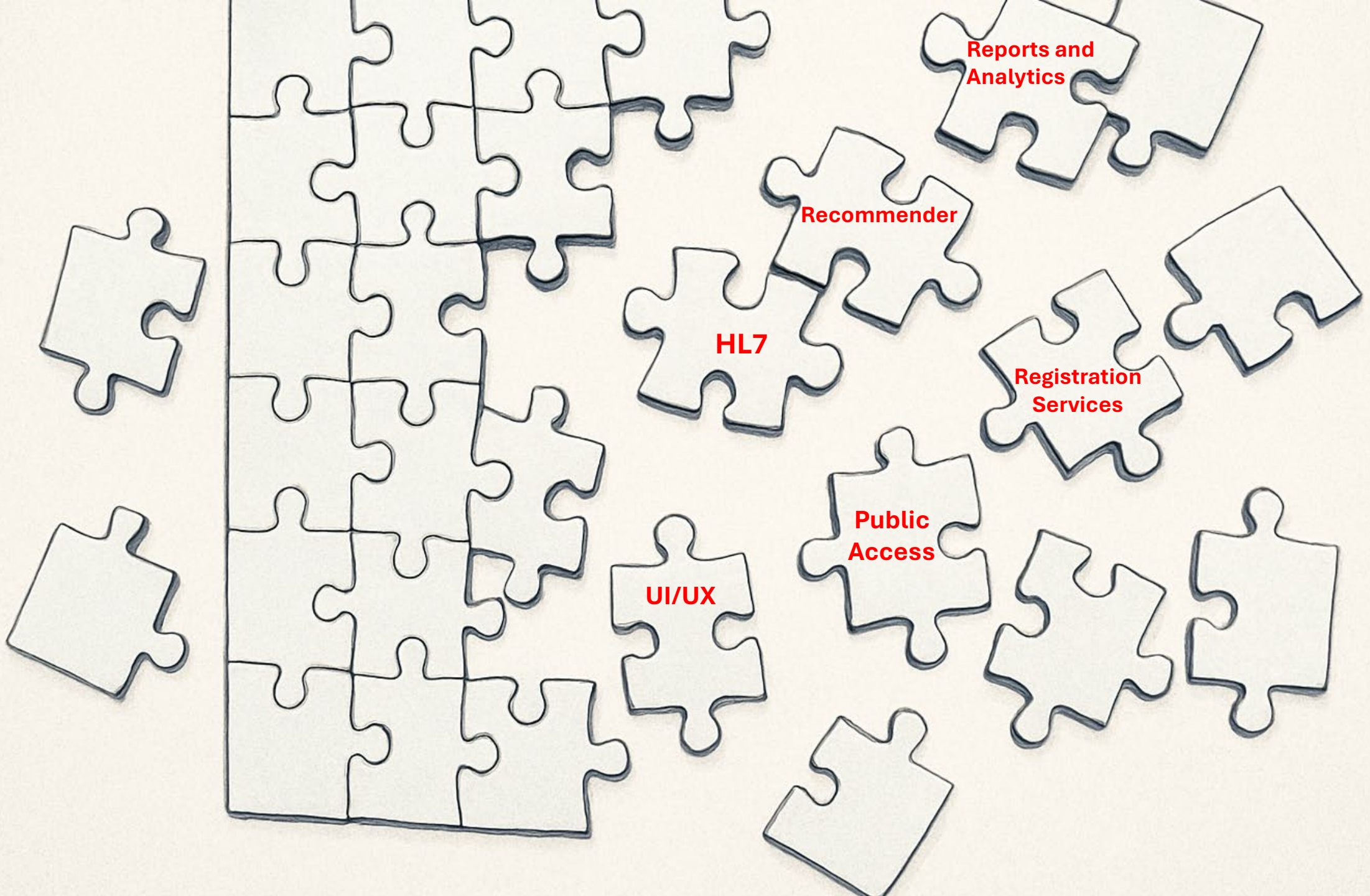
Current state

- Limited Scalability
- Slow Deployment
- Tight Coupling
- Complex Maintenance
- Technology Lock In



Future state

- Scalability
- Flexibility
- Faster Deployment
- Resilience
- Improved Collaboration



Reports and Analytics

Recommender

HL7

Registration Services

Public Access

UI/UX

MODERNIZING INTEROPERABILITY FOR WHAT'S NEXT

Trusted Data

Central service for record cleanup & matching
Reduce duplicates, improve completeness
Reliable data across all programs

Seamless Connections

Fully Validated Interfaces (HL7, CDSi, etc.)
Broader reach across registries, labs, providers, and federal partners.
Ex. ~475M HEDIS Queries per year,

Automated Reporting and Data Enrichment

Automate validation & enrichment
Reduce manual effort, improve accuracy



Improved Observability

Transparency today
Scalability for tomorrow (HEDIS, FHIR, etc.)
Unified insights

Faster Onboarding

Self-service registration and analytics
Automated Data Quality Reports
Lower barriers for all stakeholders
Learn from IZ Gateway for cross-program data sharing
Ex. 124 IZ Gateway Connections, 12 VHA, 30M VXUs, 17M QBPs, etc.

Run at Scale

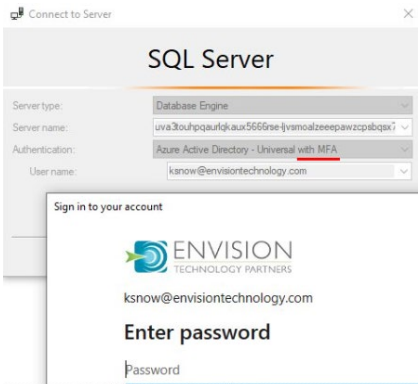
Cloud-ready & secure
Shared resources → lower costs
Handle growth in data & load

DEMOS

Enable smarter decisions, faster.

WHAT SECURE SELF-SERVICE DATA ACCESS LOOKS LIKE

Secure
Use Work Single-Sign
On backed by MFA

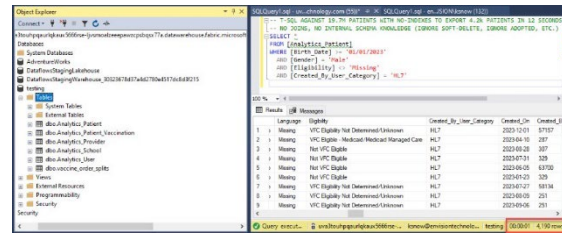


Approve sign in request

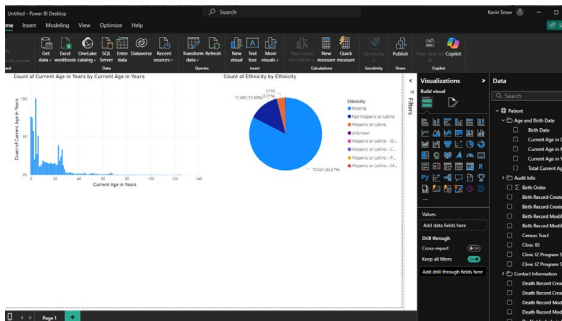
Open your Authenticator app, and enter the number shown to sign in.

58

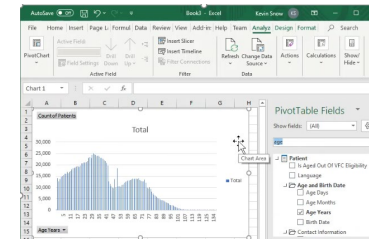
Bring Your Own Tool (BYOT) to Connect to the Data



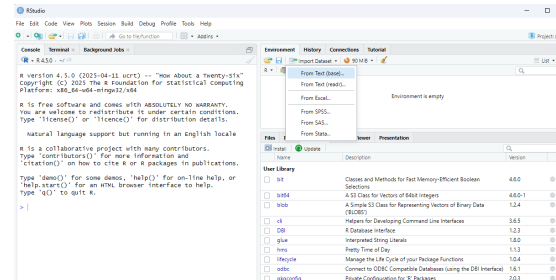
SQL Server Management Studio



Power BI Desktop



Excel



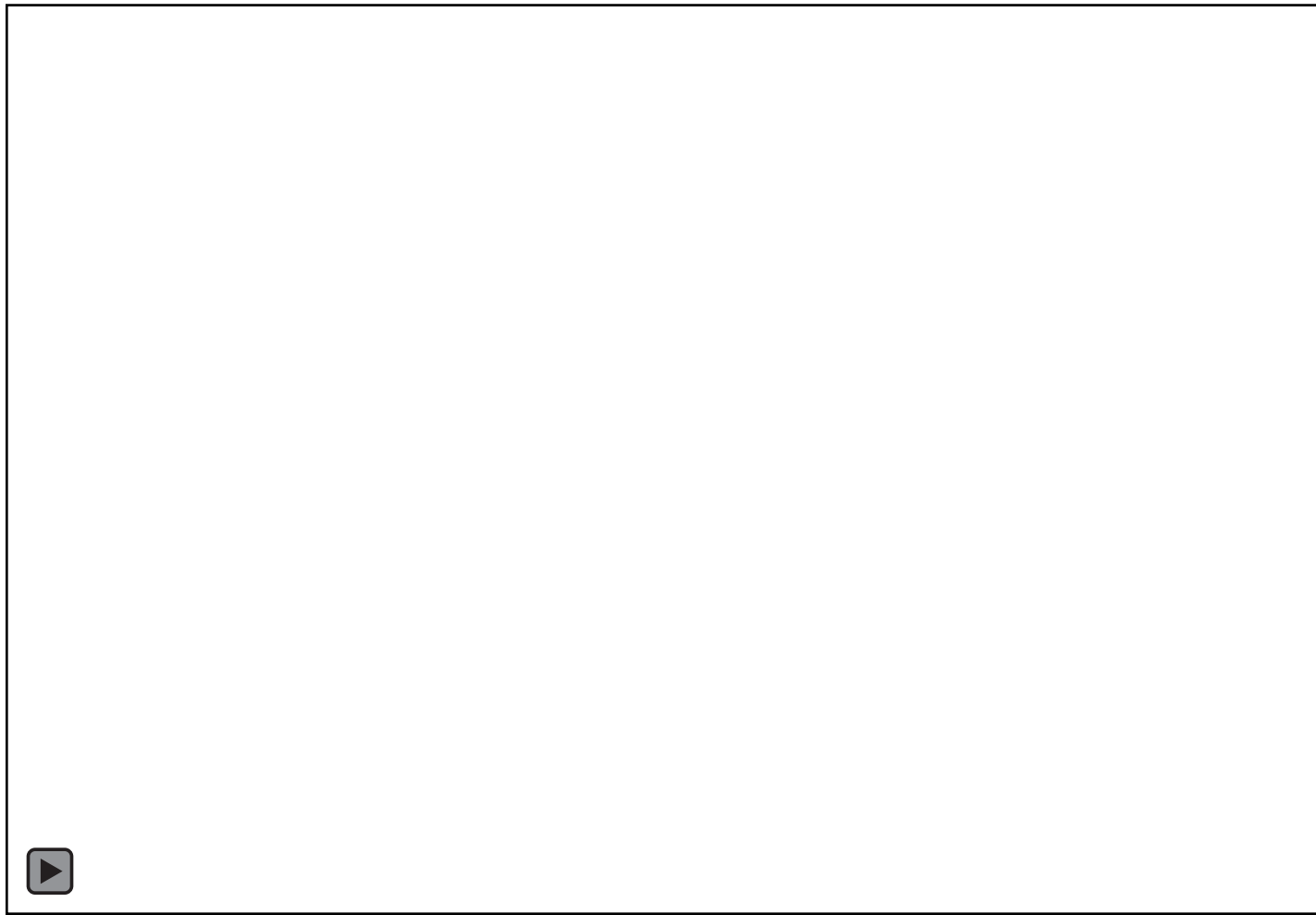
R Studio

PERFORMANCE AT SCALE

10 seconds to run a 4:3:1:3:3:1:4 for 19 to 35-month-olds in every county

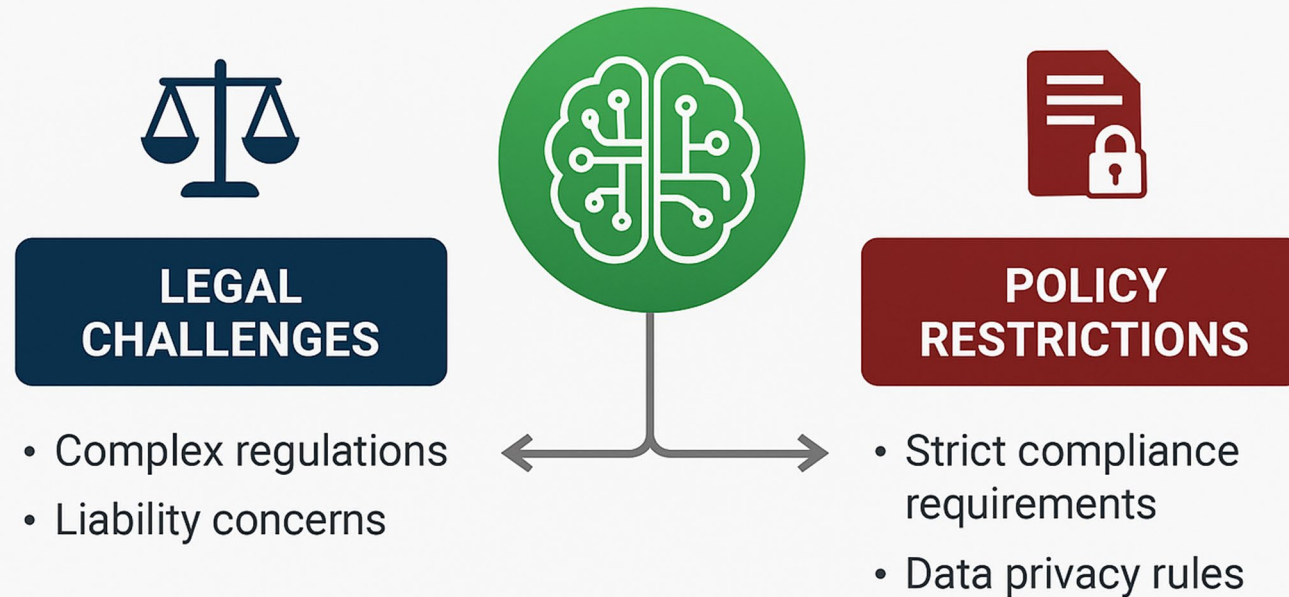
17 Million Patients
195 Million Immunizations
211 Million Evaluations

	Results	Messages
1	Number of Patients	16991707
1	Number of Vaccinations	195292160
1	Number of Evaluations	211205971



AI IS HERE WITH ADOPTION CHALLENGES

CHALLENGES OF AI ADOPTION



AI adoption requires balancing innovation with compliance

EVERYONE SHOULD HAVE AN AI STRATEGY



**KEEP AN
OPEN MIND**



**COMMUNICATION IS KEY
TO OVERCOMING AI
ADOPTION CHALLENGES**



AI AND PUBLIC HEALTH

Considering Several AI Uses:

- Internal colleague efficiency
- AI driven product features
- AI & Data: Data Quality, Dataset Aggregation, System Interoperability, Patient Matching

Key Considerations

- Internal AI policy
- Jurisdiction specific AI policies
- Hosted and secure LLMs
- Jurisdiction feedback and prioritization

AI Driven Product Features

- Concierge
- Email Assist
- Workflow Management
- Data & Analytics
- Data Center and Data Management

DEMO: DO IT YOURSELF TRAINING MATERIAL (AI INFUSED)

Public Documentation for CDC, HL7, CDSi, Data Quality, Data Validation, IZ Gateway

Share Settings


Sources

+ Add Discover

Select all sources

- CDSi-miniGuide.pdf
- Core Data Elements For II...
- De-Duplication_Best_Pra...
- Immunization (IZ) Gateway...
- data_quality_assurance_8...
- hl7_2_5_1_release_1_5_2...

Chat



Public Documentation for CDC, HL7, CDSi, Data Quality, Data Validation, IZ Gateway

10 sources

This comprehensive guide details the **HL7 Version 2.5.1 Implementation Guide for Immunization Messaging (Release 1.5)**, providing specifications for the electronic exchange of immunization records between various health data systems like Immunization Information Systems (IIS) and Electronic Health Record systems (EHR-S). It outlines **message structures, data types, and coding systems** for sending and receiving immunization histories, requesting evaluated histories and forecasts, and managing batch files. The document defines **actors and their messaging goals**, explains **conformance**

Studio

- Audio Overview
- Video Overview
- Mind Map
- Reports

- Briefing doc
- Study guide
- FAQ
- Timeline

This may take a while

DEMO: DO IT YOURSELF TRAINING MATERIAL - OUTPUTS



Study Guide

I. Immunization Information Systems (IIS)

Fundamentals

- **Definition and Purpose:**What are IIS? (confidential, population-based, comp information systems collecting vaccine data).
- What is their primary role in increasing sustaining high vaccination coverage? (consolidating records from multiple p
- How do IIS contribute to "Meaningful L objectives? (electronic exchange of cc and accurate patient information).
- What federal legislation has incentivize electronic submission of immunization data to IIS?
- **Historical Context of De-duplication:**When was the last formal examination of IIS patient-level de-duplication methods by the CDC prior to the recent project?
- Why was a new CDC-sponsored project deemed necessary?

Glossary of Key Terms

- **ACIP (Advisory Committee on Immunization Practices):** A federal advisory committee responsible for providing expert external advice and guidance to the CDC regarding vaccine-preventable diseases. They develop immunization recommendations.
- **Adverse Reaction:** A negative health consequence experienced by a patient related in time to the administration of vaccines.
- **Aged Out:** A patient series status indicating the patient exceeded the maximum age prior to completing the patient series.
- **AIRA (American Immunization Registry Association):** An organization that promotes the development and implementation of immunization information systems (IIS) and provides resources and best practices.

INTERACT

Can you generate for me a sample VXU message for each member of the Simpson family. Please make sure all of the required fields are populated and everyone has at least a birth Hep B.

Here are sample HL7 v2.5.1 VXU (Unsolicited Immunization Update) messages for each member of the Simpson family, incorporating a birth Hepatitis B vaccination for each and populating the required data elements as per the sources 1 ...

Each message uses a consistent sender (MYEHR, associated with Dabig Clinical System - DCS) and receiver (MYIIS, associated with MyStateIIS) for illustrative purposes, and includes dummy IDs, names, and lot numbers. The message timestamp is set to `20240823100000-0500`.

Homer Simpson VXU Message

```
MSH|^~\&|MYEHR|DCS|MYIIS|MyStateIIS|20240823100000-0500||VXU^V04^VXU_V04|SIMPSONS-VXU-H001|P|2.5.1|||E
PID|1|HomerMRN001^^^DCS^MR|^^^DCS^MR|Simpson^Homer^Jay^^^^L|Bouvier^Marge^^^^M|19560512|M
ORC|RE|SIMP-ORDER-H001^^^DCS^LN|SIMP-FILL-H001^^^DCS^LN|^^^DCS^LN|||CLERKID^Davis^John^^^^^^^DCS^L^
RXA|0|1|19560512|19560512|45^Hep B, unspecified formulation^CVX|0.5|mL^^UCUM||00^New admin^NIP001|NURS
RXR|C28161^IM^NCIT^IM^^HL70162
```

Marge Simpson VXU Message

```
MSH|^~\&|MYEHR|DCS|MYIIS|MyStateIIS|20240823100000-0500||VXU^V04^VXU_V04|SIMPSONS-VXU-M002|P|2.5.1|||E
PID|1|MargeMRN002^^^DCS^MR|^^^DCS^MR|Simpson^Marge^Bouvier^^^^L||19560512|F
ORC|RE|SIMP-ORDER-M002^^^DCS^LN|SIMP-FILL-M002^^^DCS^LN|^^^DCS^LN|||CLERKID^Davis^John^^^^^^^DCS^L^
RXA|0|1|19560512|19560512|45^Hep B, unspecified formulation^CVX|0.5|mL^^UCUM||00^New admin^NIP001|NURS
RXR|C28161^IM^NCIT^IM^^HL70162
```

Bart Simpson VXU Message

DEMO: DATA AGENT LLM IN ACTION (PREVIEW 1/2)

What you're seeing:

- A natural language interface to explore registry data
- You can review, edit, and learn from the query

How:

- The system generates a query based on your question and a copy of the schema
- AI does not access your datastore, only submits generated queries.

Why it matters:

- **Transparency:** See the exact data query being run
- **Training:** Great for building query literacy for new or non-technical users



DEMO: DATA AGENT LLM IN ACTION (PREVIEW 2/2)

What you're seeing:

AI, on its own, can detect domain-specific data quality issues

Jump-Start Data Quality

Helping users query data without writing SQL, and learn in the process

Teach the AI how to query the models as you would

Stay alert for hallucinations

Are there any data quality issues that you detect?

There are several data quality issues detected in the registry:

Patient Table:

- 34 instances of duplicate SSNs.
- 9 instances of duplicate birth certificate IDs.

Patient Vaccination Table:

- 845 instances where the expiration date is before the administration date.
- 1,161 instances where the vaccination was administered before the birth date.
- 1,910 instances where the administered vaccination has a missing lot number.
- 540,369 instances where the administered vaccination is missing VIS (Vaccine Information Statement).
- 279 instances of administered vaccinations with unspecified formulation.
- 564,749 instances where the modified-on date is greater than the created-on date.

These issues need to be addressed to ensure the integrity and accuracy of the data in the registry.

 Sample questions

Analyze recent data for any outliers | I

MODERNIZATION IS A JOURNEY, NOT A DESTINATION

Easier to connect systems, faster access to insights, and smarter in how we approach the future.



CONTACT INFORMATION

- Gary Wheeler
- E-mail: gwheeler@envisiontechnology.com

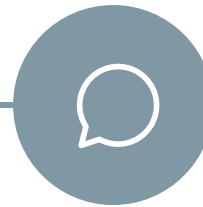
Question & Answer



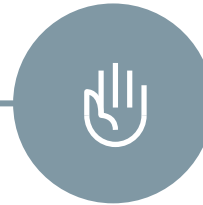
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**Thank you to our presenters, and
thanks to all of you for joining us!**