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The IZ Gateway - Connect: Multi-jurisdictional Provider to Multiple IIS

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Speakers

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Presentation Outline

- Context for IZ Gateway Project – Jim Daniel
- Background on and Current State of IIS – Mary Beth Kurilo
- IZ Gateway Project Overview – Jim Daniel
- Focus on Onboarding to IIS – Mary Beth Kurilo
- Legal Considerations – Denise Chrysler
- Discussion and Input - All

IZ Gateway project team

Project Sponsor: Centers for Disease Control and Prevention



- Audacious Inquiry, LLC



- JBS International



- ESAC Inc.



- Association of Public Health Laboratories



- American Immunization Registry Association



- Network for Public Health Law



- HLN Consulting, LLC



- Kahuina Consulting



- Office of the Chief Technology Officer



Immunization (IZ) Gateway Portfolio

- IZ Gateway Connect: Multi-jurisdictional Provider to IIS
- IZ Gateway Share: IIS to IIS
- IZ Gateway Access: Consumer Engagement for IIS

IZ Gateway Connect: Project Goal

- Proof-of-Concept moving into Pilot Phase 2020
- Demonstrate a reduction in burden for stakeholders while improving completeness and availability of immunization information
 - National and local immunization programs
 - Healthcare providers
 - Consumers
 - Immunization Information Systems
- Areas of expected benefits
 - Alleviation of need for multiple IIS connections
 - Streamlined onboarding process
 - Centralized or common legal agreements



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IIS in the U.S.

IZ Gateway: Reducing burden while improving IIS completeness nationwide

Origins of IIS

Between 1989-1991, a measles outbreak swept the US, resulting in 27,600 cases and 89 deaths. At this point, no consolidated, longitudinal records existed.

Through the 1990s, CDC and the National Vaccine Program Office (NVPO) developed registry standards for functionality and interoperability.

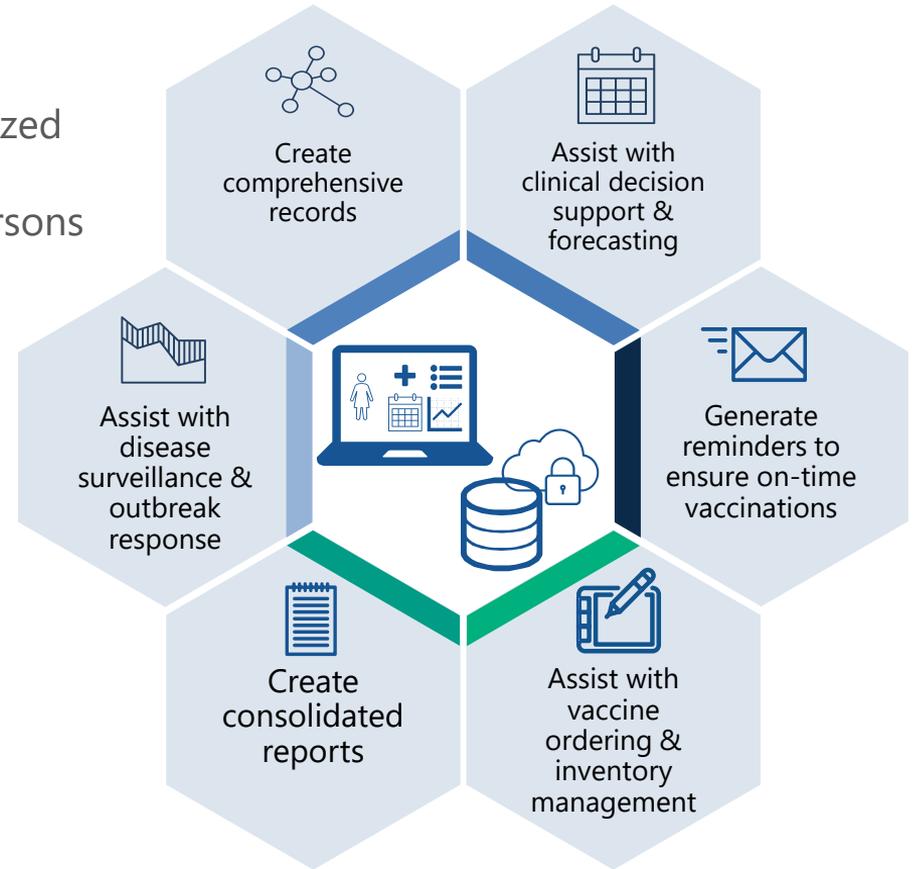
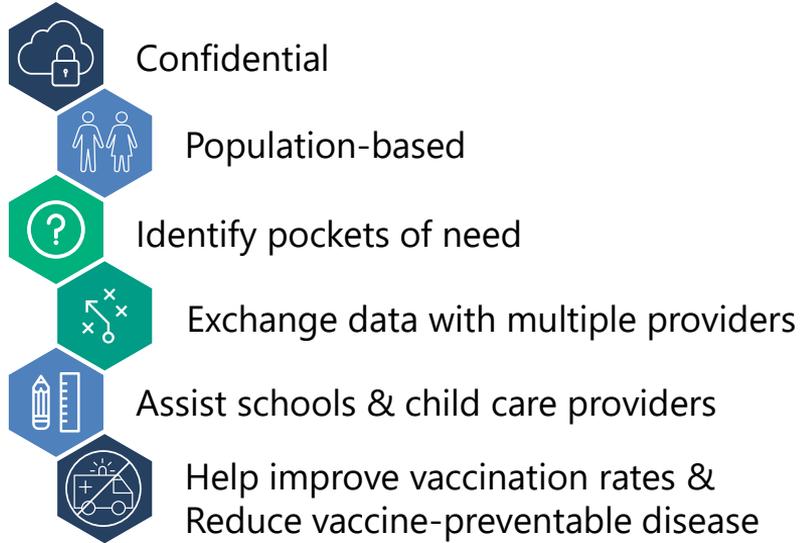


In 1991, The Robert Wood Johnson Foundation took action to explore the concept of immunization registries. It funded the creation of “All Kids Count”, providing planning grants to develop registries.

Today, Immunization Information Systems (IIS) are operational in 63 states, counties, cities and territories. These complex systems interoperate with providers, EHRs, schools, Health Plans, and increasingly, other IIS

Today's IIS...

are confidential, population-based, computerized databases that record all immunization doses administered by participating providers to persons residing within a given geopolitical area.



Maturity

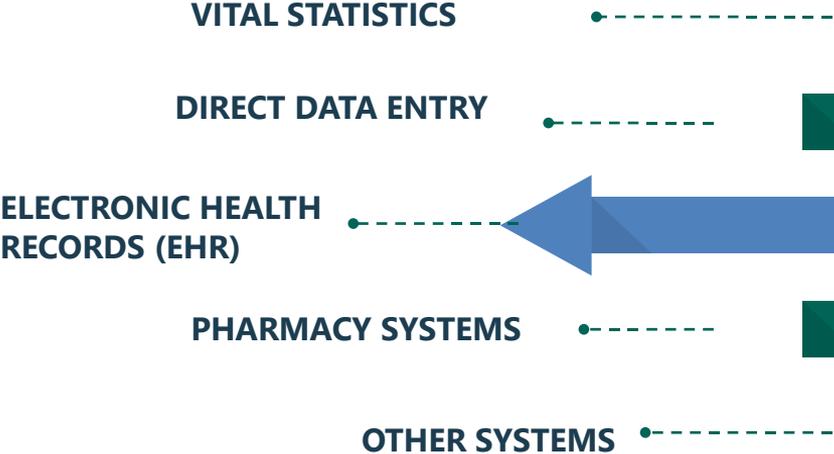
- No national IIS – each system is jurisdictionally-based
- Systems operate with common standards
- Newest IIS is hoping to launch in 2019
- Oldest have been in existence for 25+ years
- IIS are the most reliable source of aggregated vaccination information and consistent forecast information



Benefits of Exchanging Data with IIS

- IIS provide real time access to:
 - longitudinal consolidated immunization histories for individuals across the lifespan through an EHR
 - Providers in the Private Sector
 - Public Healthcare providers
 - Pharmacies
 - Schools
 - Evaluated immunization forecasts, including analysis of alignment with ACIP-recommended vaccination schedule
 - Clinic-based coverage rates, reminder recall functionality, vaccine ordering, inventory management, support for outbreak response, etc...

How does data get into an IIS?



But Challenges Remain...

- Large provider organizations cross multiple jurisdictional areas
 - IZ Gateway Connect
- Patients cross jurisdictional boundaries to seek care
 - IZ Gateway Share
- Consumers do not have easy access to the data in the IIS
 - IZ Gateway Access



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The IZ Gateway Connect

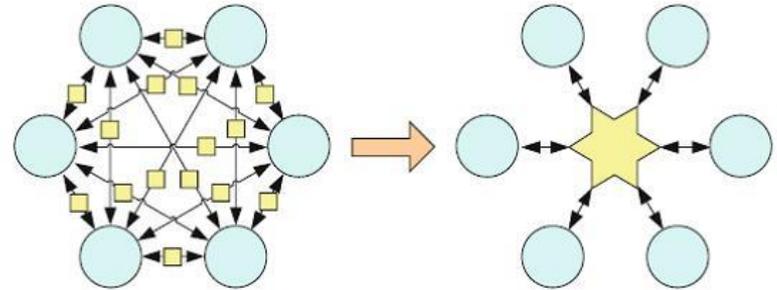
IZ Gateway: Reducing burden while improving IIS completeness nationwide

Direction

- Explore and leverage advantages of a centralized connectivity infrastructure to improve immunization registration operations
- Multi-staged approach through proof-of-concept and pilot phases
 - Cumulative effect as more and more parties using the centralized solutions
 - When 5 people in town have a telephone, that is a proof-of-concept
 - When 5 thousand people in town have a telephone, that is a pilot
 - When 5 million people in town have a telephone (~everyone), that is a total game changer

IZ Gateway Connect Approach

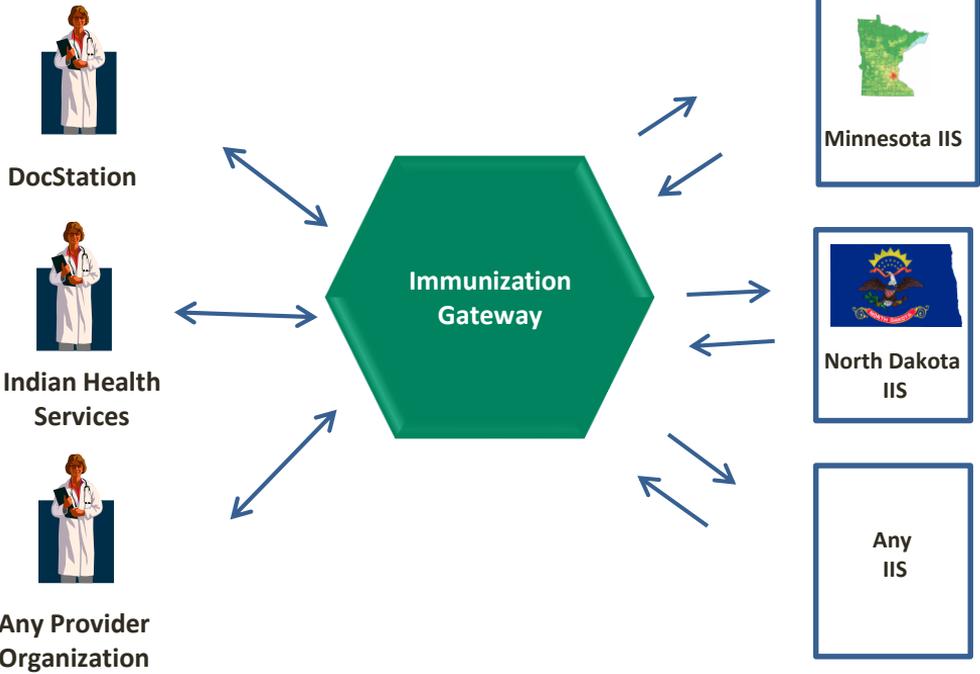
- Pragmatic approach emulating a National Registry: Centralized Hub to link local IIS, Providers, and Consumers
- Addresses operational, technical, and legal challenges via centralized shared services



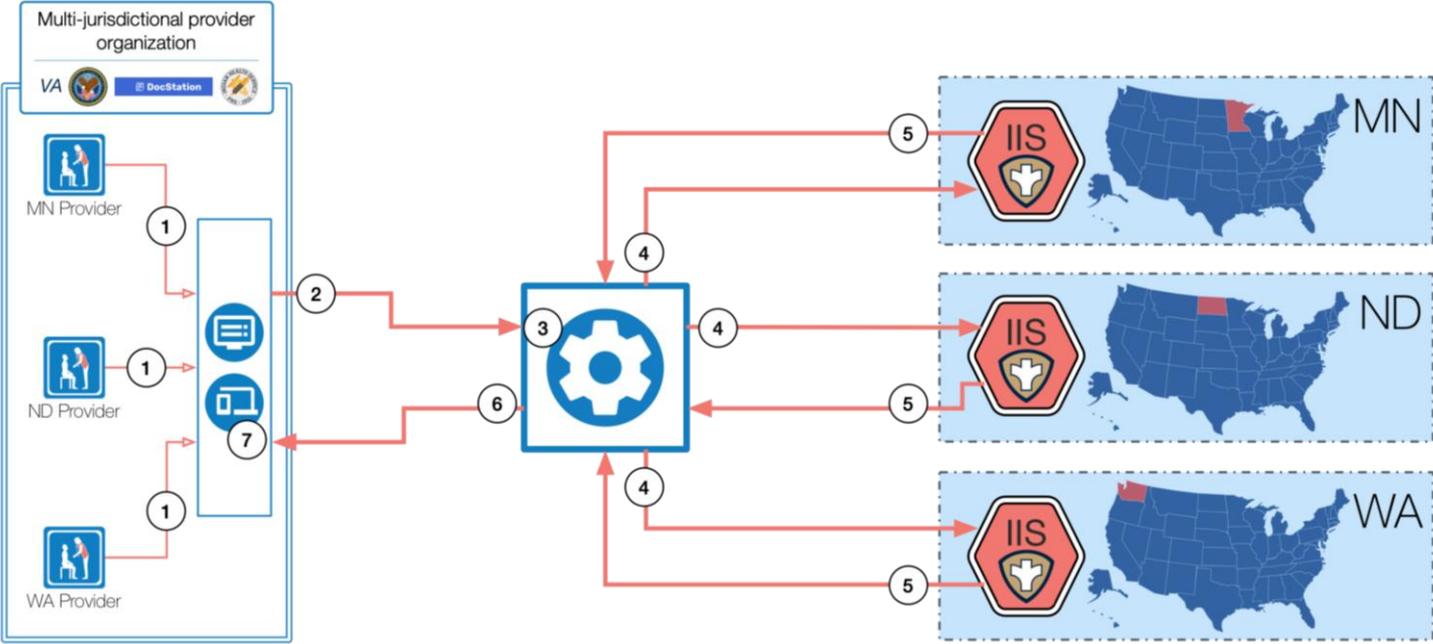
- Linking 6 systems requires 15 interfaces; but linking 64 Immunization Information Systems (IIS) requires 2,016 interfaces
- Accounting for providers, the Hub reduces connections from thousands to dozens

Diagram has been adapted from “Principles of Health Interoperability. HL7 and SNOMED” by Tim Benson

IZ Gateway



Architecture | IZ Gateway



Action ID	IZ Gateway Connect Submission Actions	Actor(s)
1	<ul style="list-style-type: none"> Provider enters patient vaccination data into EHR. 	Provider
2	<ul style="list-style-type: none"> EHR trigger generates HL7 2.5.1 v1.5 VXU (unsolicited vaccination update) compliant vaccination event message. EHR transmits message to IZ Gateway using Modified CDC WSDL and IZ Gateway specific certificate. 	EHR
3	<ul style="list-style-type: none"> IZ Gateway receives the message IZ Gateway reads SOAP header to determine appropriate IIS to route message. 	IZ Gateway
4	<ul style="list-style-type: none"> IZ Gateway routes vaccine administration message to appropriate IIS using CDC WSDL, existing IIS server-side certificate, and IIS provided username and password 	IZ Gateway
5	<ul style="list-style-type: none"> IIS generates acknowledgement message and returns to IZ Gateway 	IIS
6	<ul style="list-style-type: none"> IZ Gateway returns acknowledgement message to EHR/provider 	IZ Gateway

Technical Requirements | IZ Gateway Connect Proof-of-Concept

Provider Organizations

- i. Support HL7 2.5.1, release 1.5
- ii. Passes client-side certificates
- iii. Populate MSH segment with appropriate facility ID
- iv. Implement modified CDC WSDL

IIS

- i. Support HL7 2.5.1, release 1.5
 - ii. Use existing server-side certificate
 - iii. Support single account for IZ Gateway
 - iv. Recognize sender through MSH segments
- ✓ *No need to modify CDC WSDL*

Participation Responsibilities | IZ Gateway Connect Proof-of-Concept

IZ Gateway

- Ensure exchange agreements
 - Near-term: Business Associate
 - Long-term: Public Health Authority
- Support transformations from providers as needed
- Support onboarding to avoid duplication of efforts

IIS

- Accept Business Associate Agreement
- Identify and support onboarding activities for centralization
- Provide feedback on proof-of-concept activities

Project Timeline: Year 1 (Sept 2018 – Sept 2019)

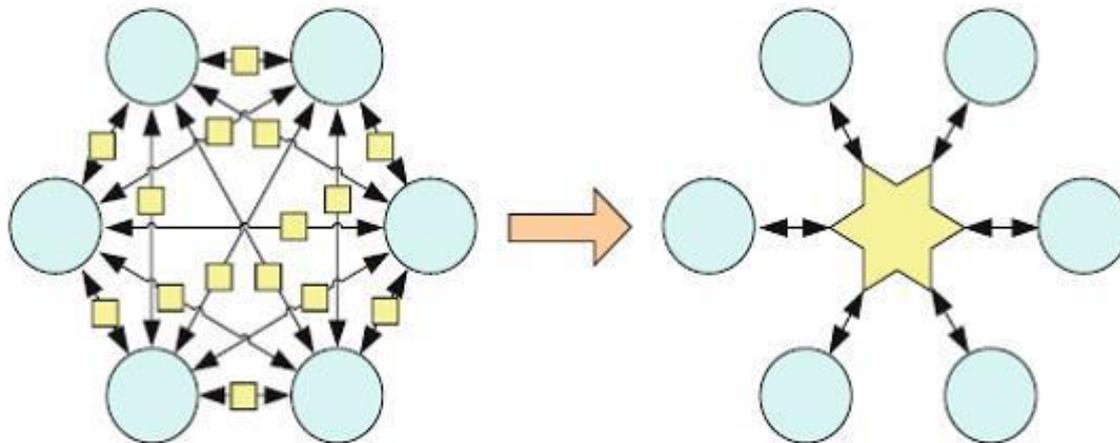
- September 2018: Project Kick-off
- March 2019: Completion of Environmental Scan
- May 2019: Model Business Associates Agreement drafted
- June 2019: Updates to IZ Gateway Architecture to support Provider connectivity complete
- August 2019: Onboarding procedures drafted
- September 2019: Proof-of-Concept – demonstration of immunization data exchange between provider organization and IIS through the IZ Gateway

Next Steps: Project Year 2 (Sept 2019 – Sept 2020)

- Refine onboarding processes
- Public Health Authority Proof-of-Concept in one state
- Onboard up to 10 additional IIS
- Onboard up to 3 additional Provider Organizations
- Evaluate project activities
- Navigate policy challenges with federal and state project partners

Onboarding

- What it means for an organization/large group to connect to the IZ Gateway instead of a point-to-point connection



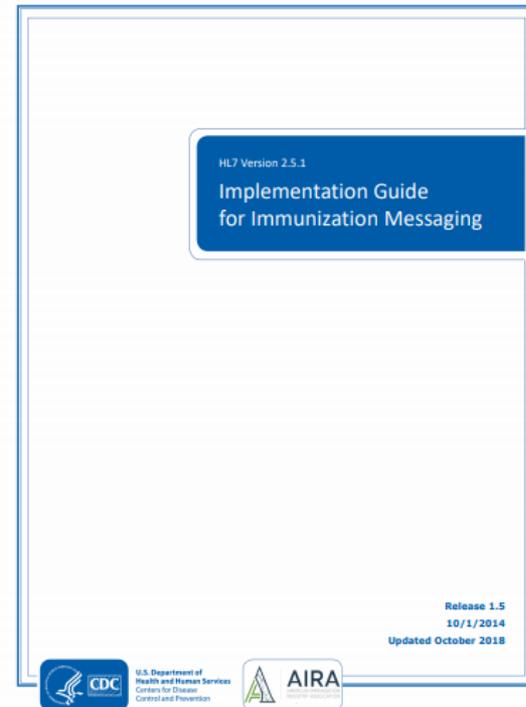
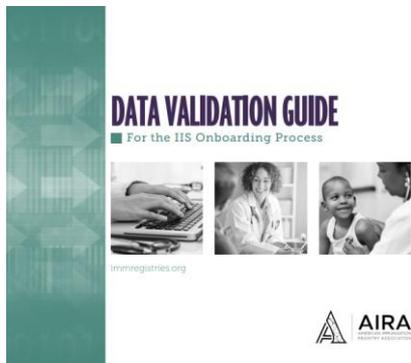
Quality Assurance | IZ Gateway Proof-of-Concept Onboarding

Collaborate with provider organizations and IIS to develop and refine a common, mutually agreeable onboarding process

1. Analyze onboarding IIS-specific processes to identify core business needs
2. Leverage and reference IIS community efforts to collaboratively develop more efficient processes and tools for Proof-of-Concept onboarding
 - Centralized testing procedures
 - Centralized testing tools
3. Manually onboard provider organization participants to the IZ Gateway, covering preliminary quality assurance and IIS onboarding activities to streamline onboarding at the point of hand-off to IIS

How is the project streamlining the onboarding process?

- Leveraging existing HL7 standards and best practice guidance onboarding



Onboarding | IZ Gateway PoC

- The IZ Gateway Project team supports Step 1 and Step 2 in the onboarding process.



Onboarding | IZ Gateway PoC

The IZ Gateway project team collaborates with the IIS teams to support initial set up, connectivity, testing steps

This includes:

- Facilitating kick off call with the EHR /provider organization and IIS to identify timeline, roles, responsibilities, etc.
- Identifying sites, supporting IIS steps to enroll sites
- Testing the EHR connection to the IZ Gateway Hub
- Reviewing HL7 test messages, leveraging the NIST testing tool and AIRA testing resources
- Supporting testing to the IIS test environment, reviewing testing results
- Resolving HL7 message format and content issues
- When ready, handing off the final testing steps and production approval (Step 3) to the IIS team

Onboarding | IZ Gateway PoC

- Where are we today?
 - The IZ Gateway project team has completed testing and set up for a pharmacy EHR system that operates in multiple jurisdictions
 - Final testing/validation has been handed off to the IIS for production approval and it is anticipated that this interface will be live by end of month
 - 35 independent pharmacies in MN will be supported by this interface
 - As this pharmacy EHR rolls out to other IIS jurisdictions, the onboarding lift for the IZ Gateway project team (and the IIS onboarding team from each jurisdiction it supports providers in) will gain efficiencies and reduce time to approval and go-live
 - Testing for the second IIS jurisdiction with this pharmacy vendor is underway

Onboarding Recommendations

- How do we streamline onboarding?
 - Leveraging experience gained during proof-of-concept to streamline administrative and onboarding activities for IIS
 - Developing testing and quality assurance hand-off templates for IIS
 - Identifying tracking tools to facilitate onboarding for IIS and Provider organizations participating in the project



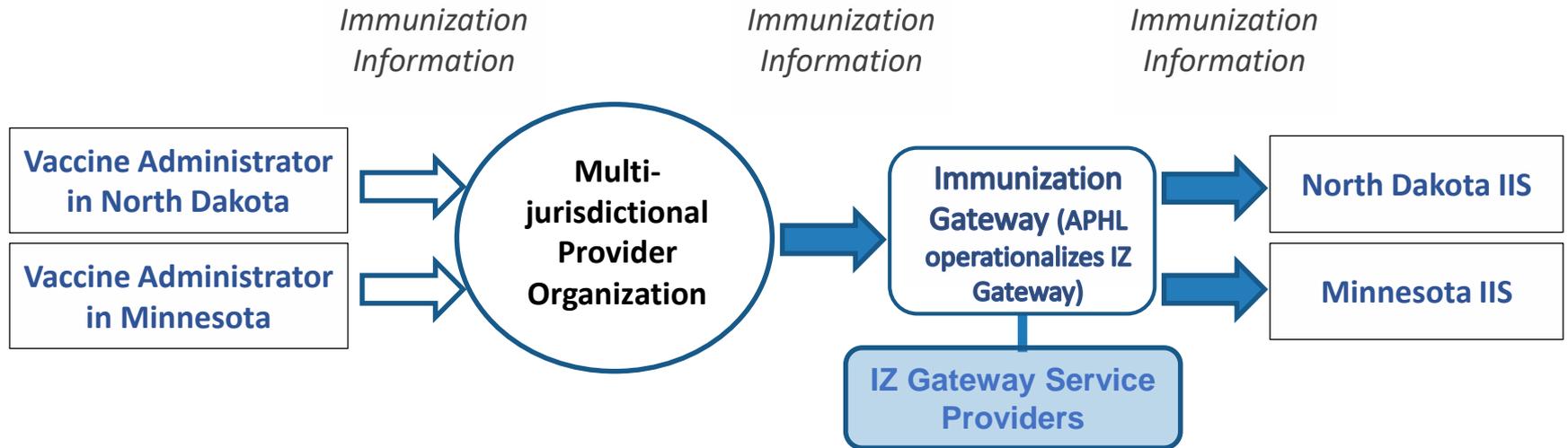
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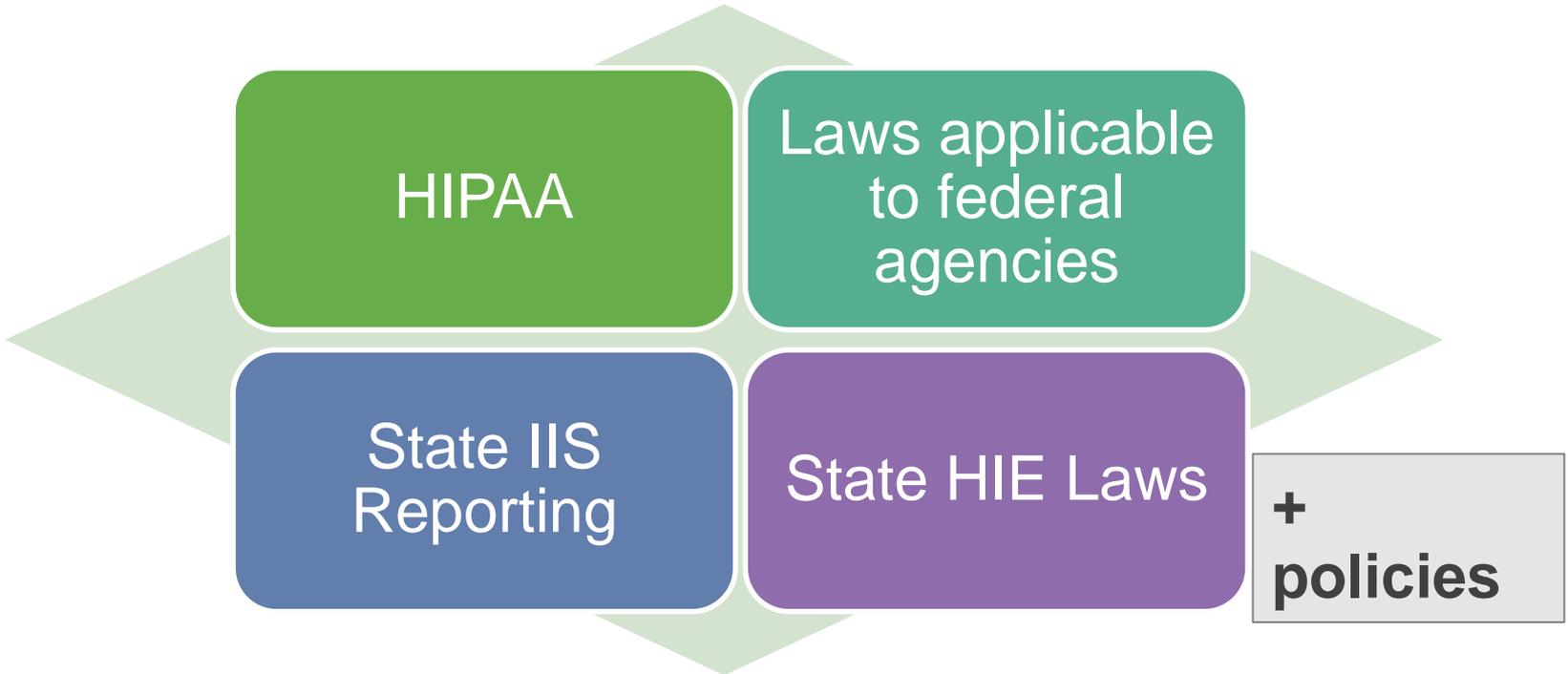
The IZ Gateway Connect Legal & Policy Considerations

**Denise Chrysler, JD, Director
The Network – Mid-States Region
University of Michigan School of
Public Health**

Proof of Concept Legal Relationships



Proof of Concept Key Laws



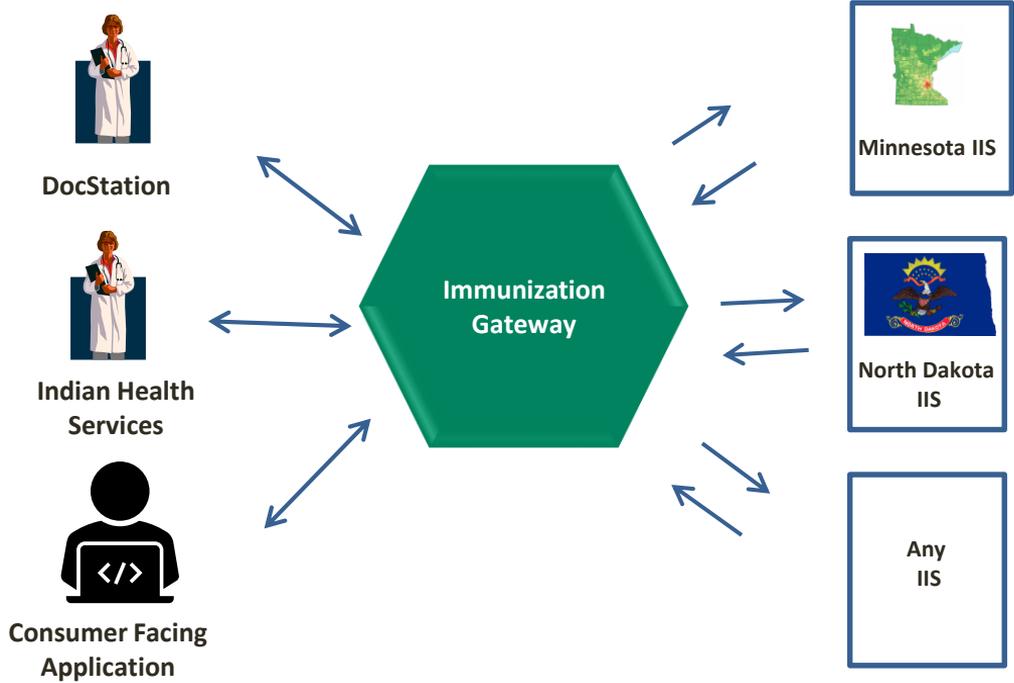
Proof of Concept Data Exchange Agreements

Challenge: uniformity vs. flexibility



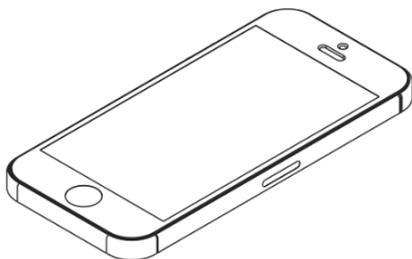
- Types of agreements
- Agreed definitions and common vocabulary
- Standardized terms

IZ Gateway Portfolio



Q&A

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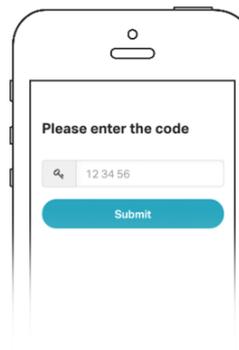
1

Grab your phone

www.menti.com

2

Go to www.menti.com



3

Enter the code **38 35 13** and vote!



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Thank you

Questions - Mentimeter

- Which of the services that we offer currently could be helpful to you/your organization? (free form answer)
- What other services could we offer to make connecting providers easier?
- What are the types of providers that are not yet connected to IIS, and what are the challenges connecting those providers?