

Provider Directories: A Snapshot

*Critical Infrastructure for
Delivery System Reform*

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Learning Objectives

- I. Current provider directory standards activities
- II. Policy, governance activities related to directory federation
- III. How provider directories support sophisticated use cases such as alerting and new payment models
- IV. How to accelerate provider directory success nationally



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The way we were...

- In the beginning...there was provider directory confusion:
 - Many competing standards – not harmonized, incongruent, inconsistent, incomplete
 - Organizations struggled to decide which standard to use; some even tried conforming to all standards ☹️



Now: Harmonized Object Model

Standards

IHE HPD 1.0

CP 601

HPD +
1.1

S&I ModSpec

Harmonization

IHE HPD



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IHE Organization Object Model

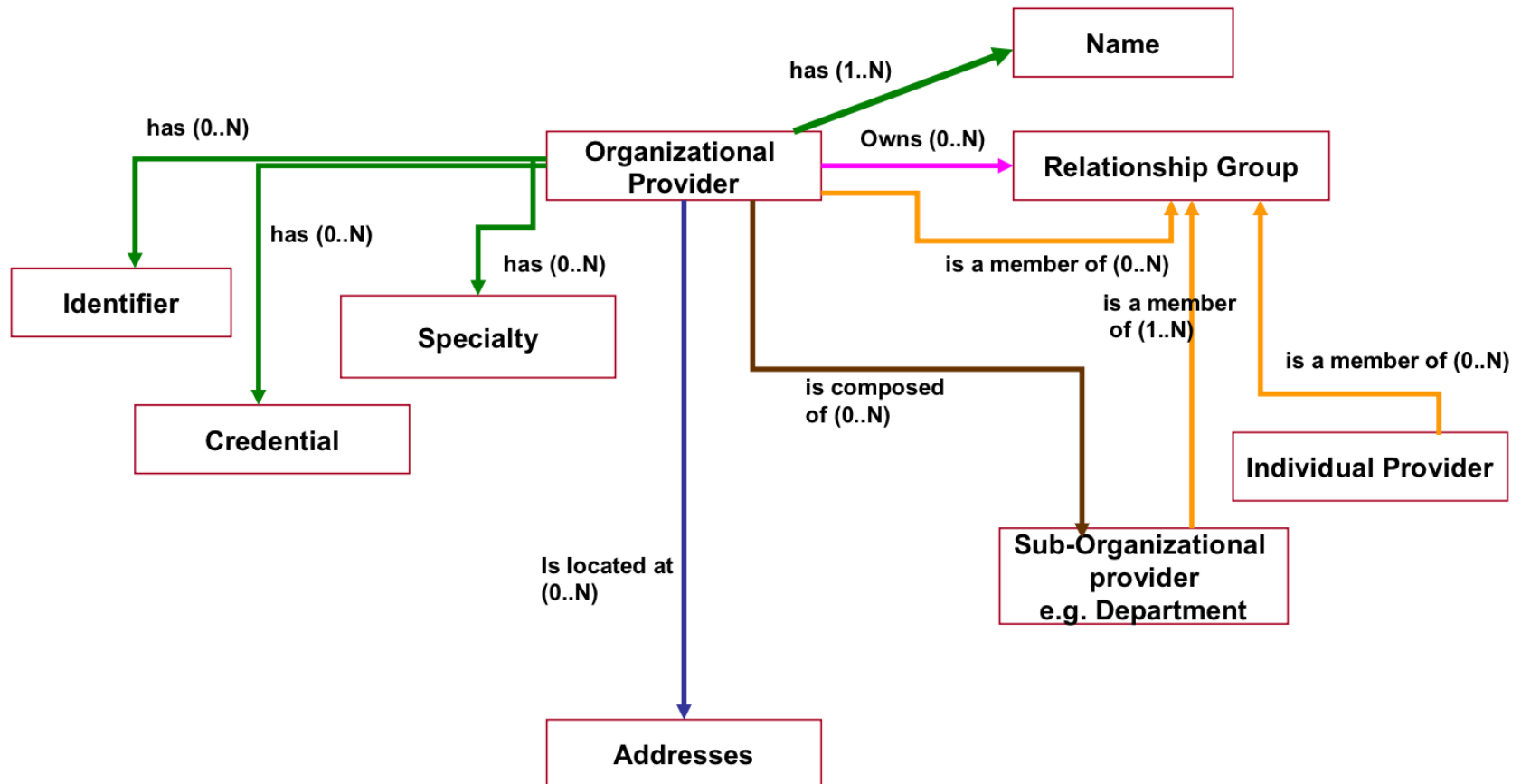


Figure 28.3.2.2-1: Organizational Provider Entity and its Attributes

IHE Provider Object Model

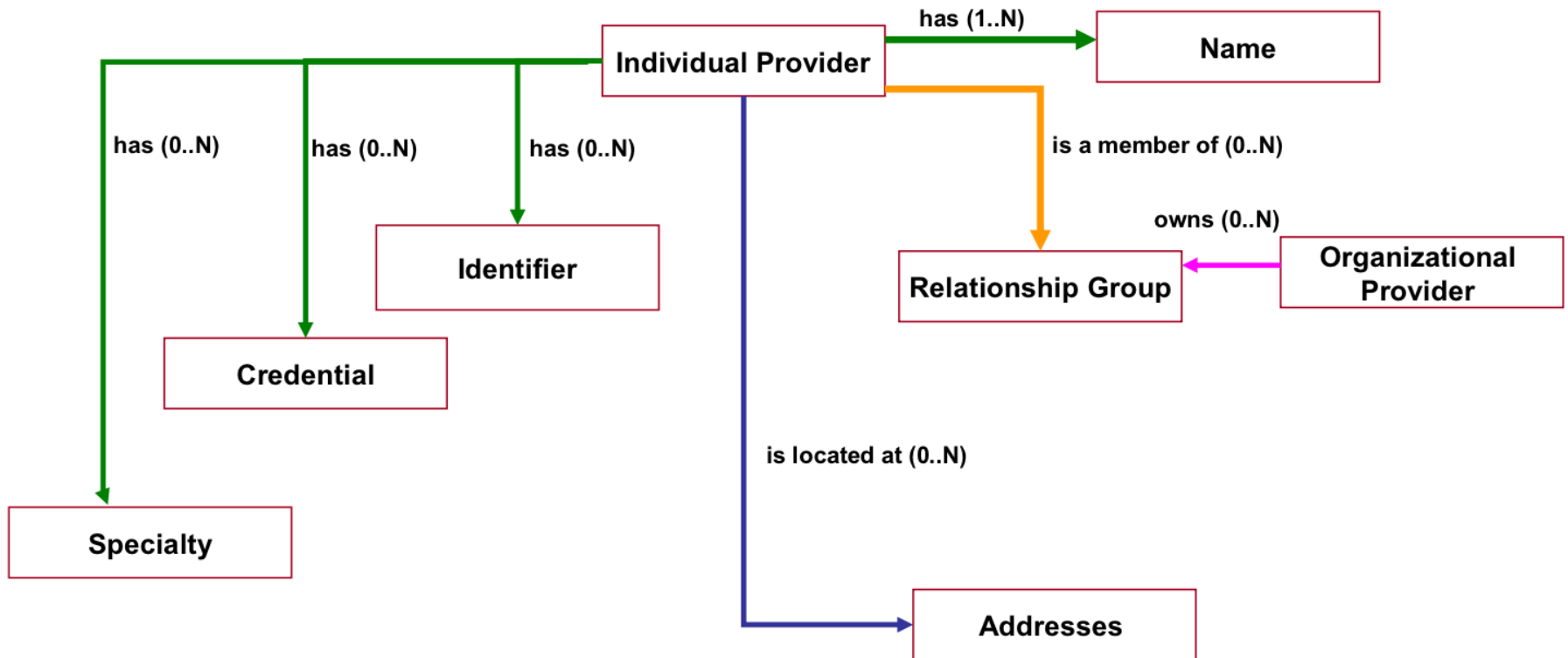
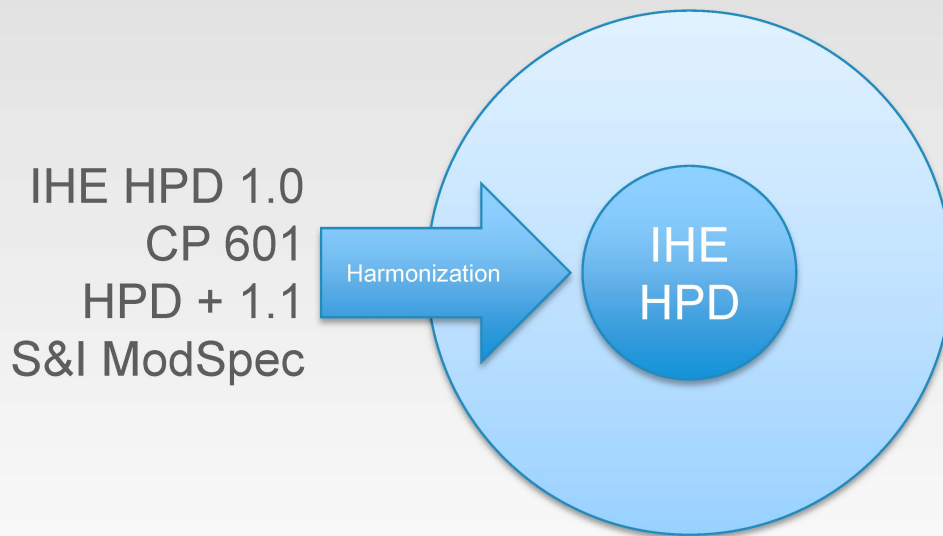


Figure 28.3.2.2-2: Individual Provider Entity and its Attributes

Michigan Enhanced Object Model



- Provider Object Model adds:
 - ADT Sender Provisioning
 - ADT Receiver Delivery Preferences Provisioning
 - Active Care Relationships (Patient-Provider Attributions)
 - Data Sharing Agreements
 - Use Case Agreements
 - Use Case Onboarding
 - Meaningful Use Tracking

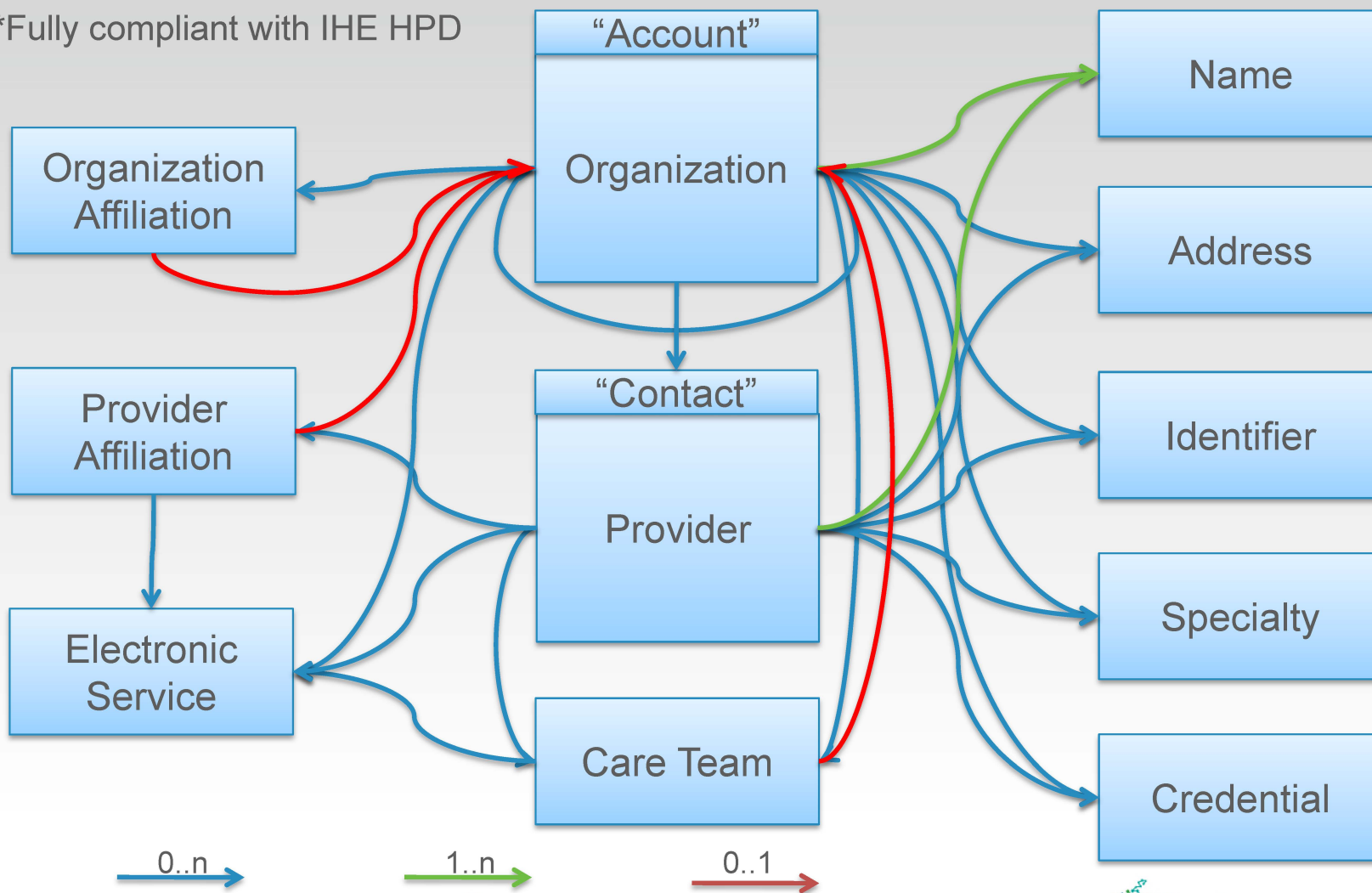
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- Consumer Object Model adds:
 - Care Team Members
 - Family Members
 - Advance Directives
 - Personal Health Records
 - Consents
 - e.g. 42 CFR 2, SAMHSA, trials



Michigan Object Model*

*Fully compliant with IHE HPD



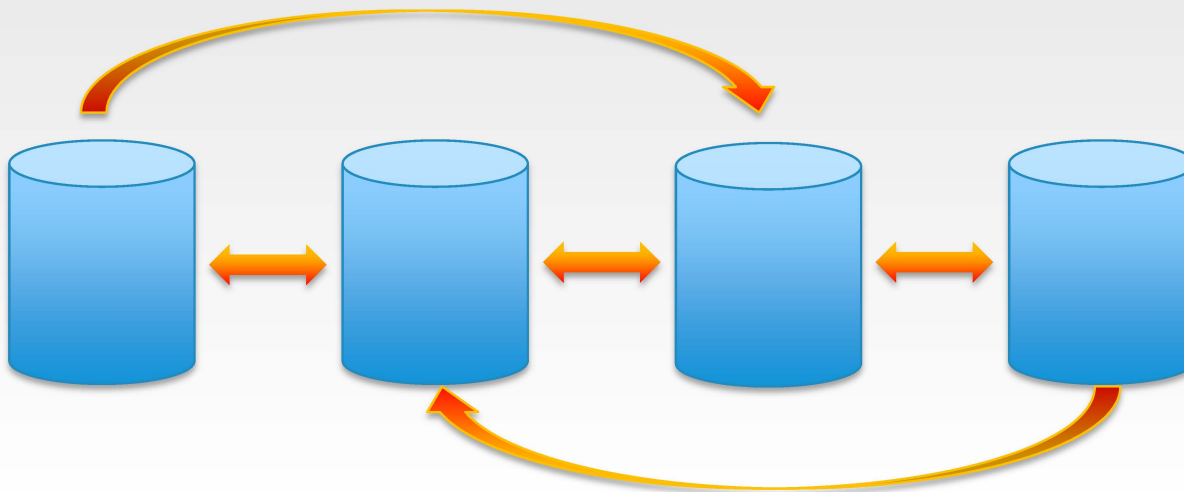
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Directory Federation: Policy, Governance Activities

- What is directory federation?
 - Enabling multiple directories to mutually access information or mirror each other



Some Current Federation Activities

- At least four kinds of federation happening now:
 - 20th century approaches:
 - Sneaker-net (e.g. sharing Excel files)
 - Daily mirroring via CSV files (e.g. DirectTrust Directory)
 - 21st century approaches:
 - ModSpec (now in IHE HPD standard)
 - Most are using DSML 2.0 & LDAP (very chatty)
 - Michigan implemented RESTful version of ModSpec with Surescripts during ONC Exemplars pilot
 - Simple REST/RESTful read/write APIs (100% transactional):
 - NPPES Redux
 - MiHIN
 - Mirth
 - WebMD
 - Others



Some Directory Policy Questions

- Should provider directories be:
 - White pages? Yellow pages? Both?
 - Routing tables with electronic addresses/preferences?
 - Gating infrastructure with credentialing/licensing?
- Who owns electronic addresses? Vendor or address holder?
 - Telephone analogy: people now own their number
 - Who is liable for a wrong address?
- Are electronic addresses private? Public?
 - Published or unpublished as specified by owner?
- Should “wildcard” searches be allowed? Data mining?
 - Should search results be transient or persistent?
 - How do you stop spam?



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Phone book, infrastructure, or both?

- “Phone book directories” good for 20th century information:
 - NACSZ+ PFEU
- Provider directory as infrastructure: 21st century HIE!
 - Functions well beyond just a portal or client
 - Operates as web service with APIs
 - Integrates with other infrastructure components (PPA)
 - Serves as “provider routing table” and “gating service”
 - Gives access to both 20th and 21st century information
 - Not just Direct addresses
 - DirectText, IHE/EHR endpoints, OIDs, or any electronic address
 - Supports secure sharing of PHI between licensed, credentialed, verified and trusted identities



Critical Infrastructure Components

**Patient
Provider
Attribution
Service**

**Patient Consent
Preferences**

**Federated
Identity
Management
(FiDM)**

**Gateway
Services
(e.g. XCA)**

**Master Person Index
+
Common Key Service**

**Identity
Management**

**Health
Provider
Directory**

**Secure Transport Layer Services and
Digital Credentials**

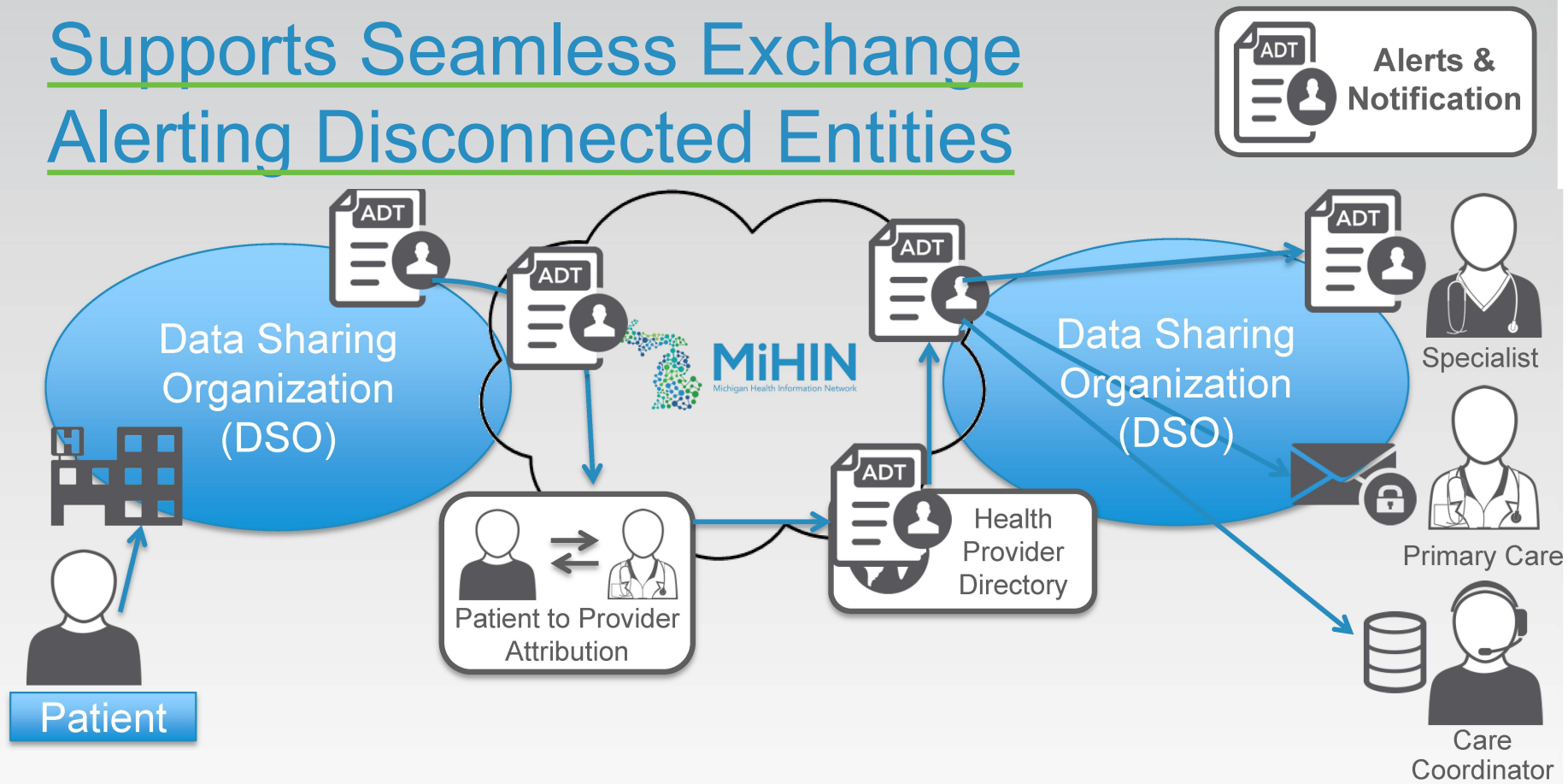


Patient Provider Attribution Service (in Michigan we call this ACRS)

- Enables providers to **declare active care relationships** with patients – this attributes to a patient the active members of their care team
- Accurately routes information (e.g. Admit-Discharge-Transfer messages, medication reconciliations)
 - Improves care coordination
 - Reduces readmissions
 - Allows better outcomes
- Enables alerts to providers in active care relationships with patients
- Coordinates entire care team with changes to patient status **in real time**
- Allows searches by authorized persons or organizations:
 - Health systems and provider/physician organizations
 - Care coordinators
 - Health plans
 - Consumers (who can dispute asserted relationships)

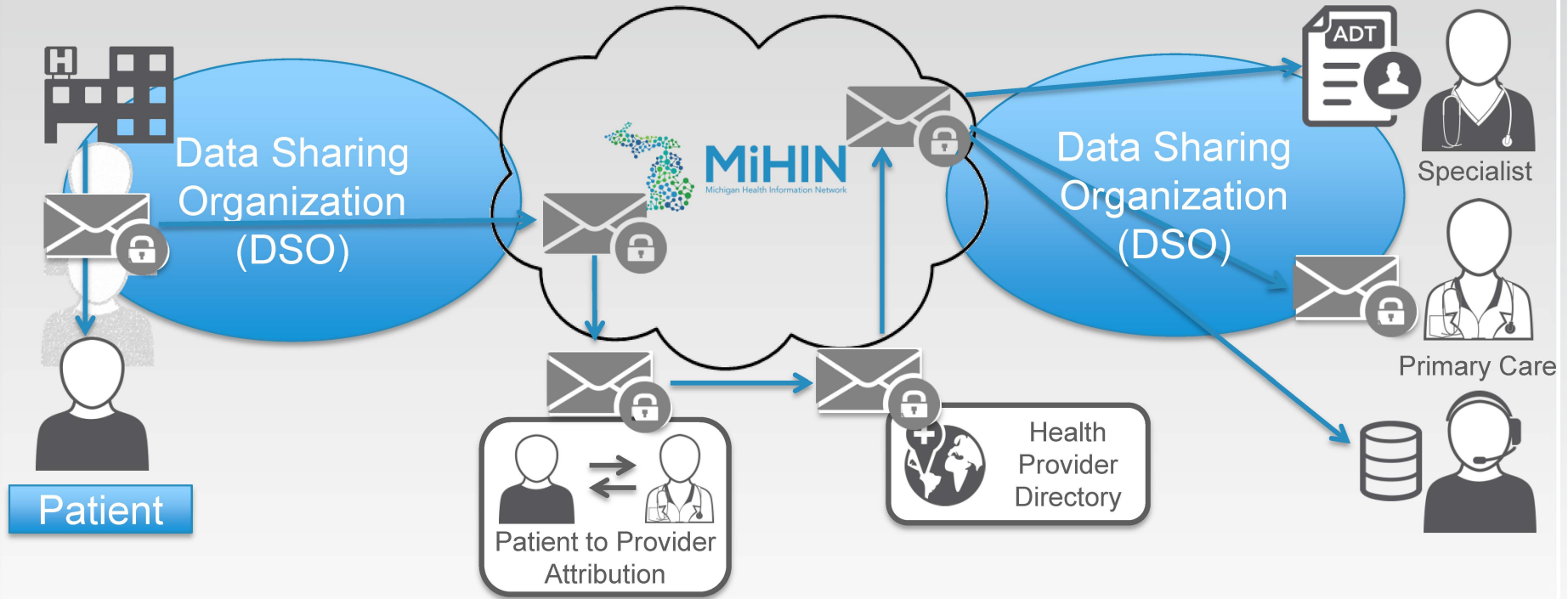


Supports Seamless Exchange Alerting Disconnected Entities



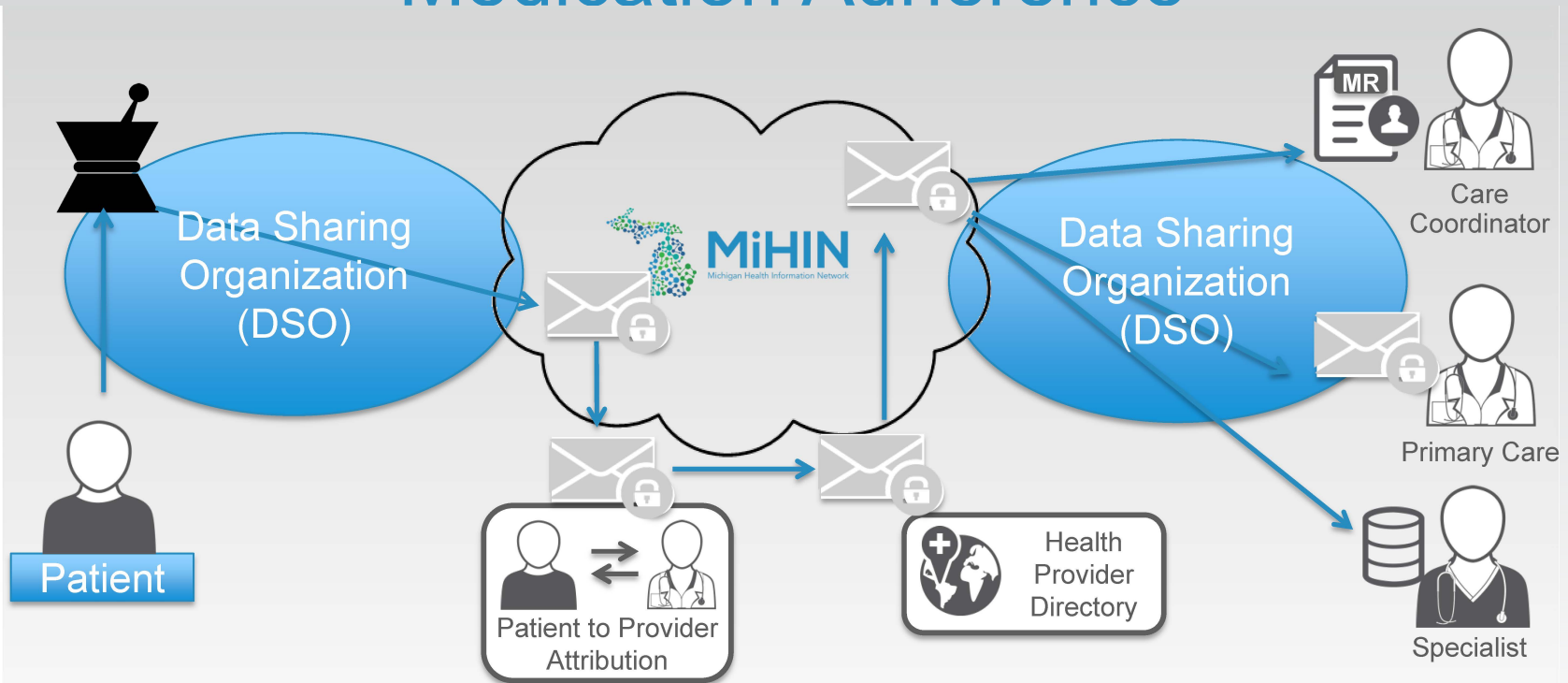
- 1) Patient goes to hospital, hospital sends message to DSO / MiHIN
- 2) MiHIN checks patient-provider attribution and identifies providers
- 3) MiHIN retrieves contact and delivery preference for each provider from HPD
- 4) Notifications routed to providers based on contact information, preferences

Empowers Clinical Alerts: Medication Reconciliation



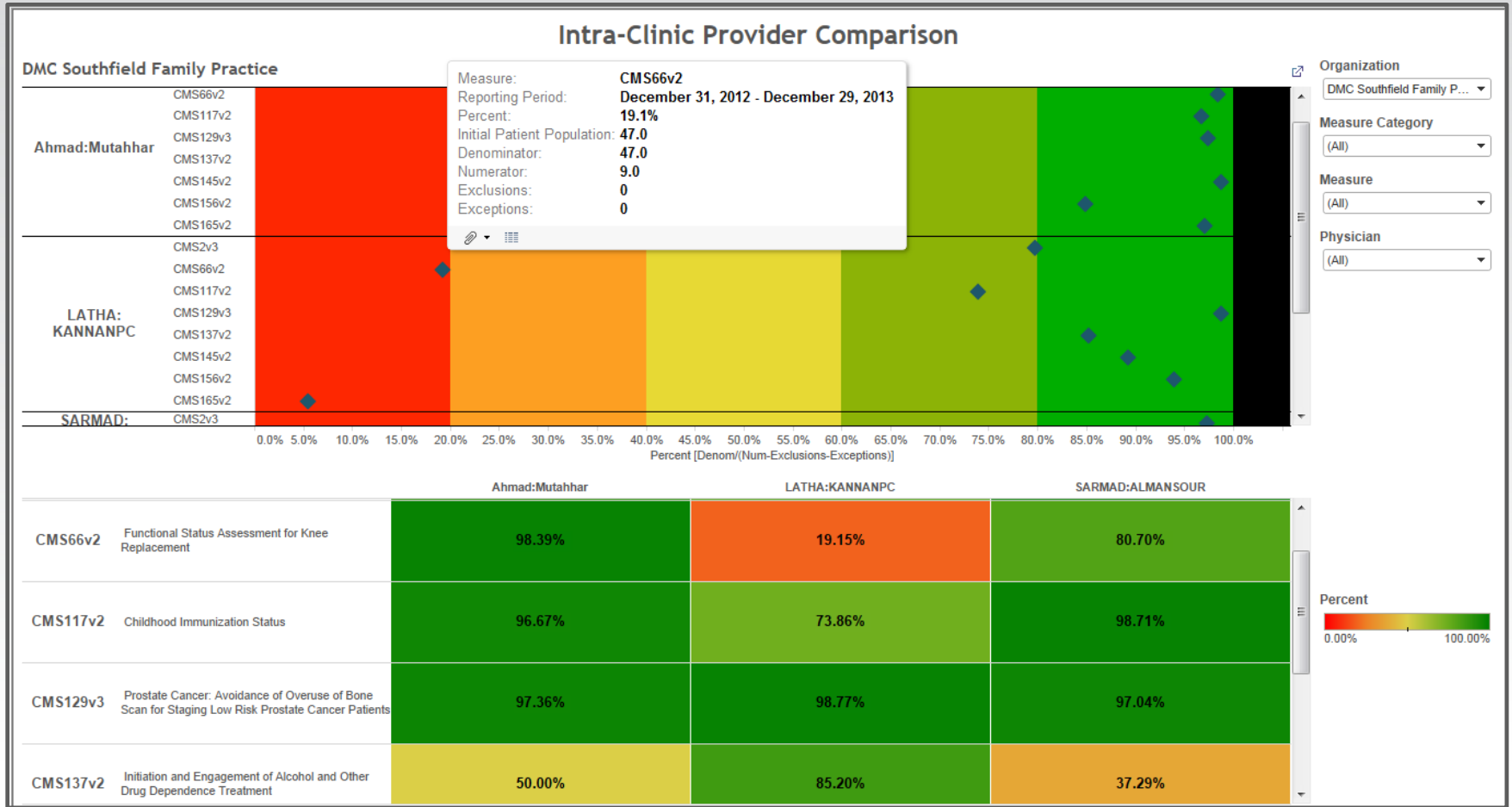
- 1) Patient discharged, hospital sends message to DSO / MiHIN
- 2) MiHIN checks patient-provider attribution and identifies providers
- 3) MiHIN retrieves contact and delivery preference for each provider from HPD
- 4) Medication reconciliation routed to providers based on contact info, preferences

Empowers MORE Clinical Alerts: Medication Adherence

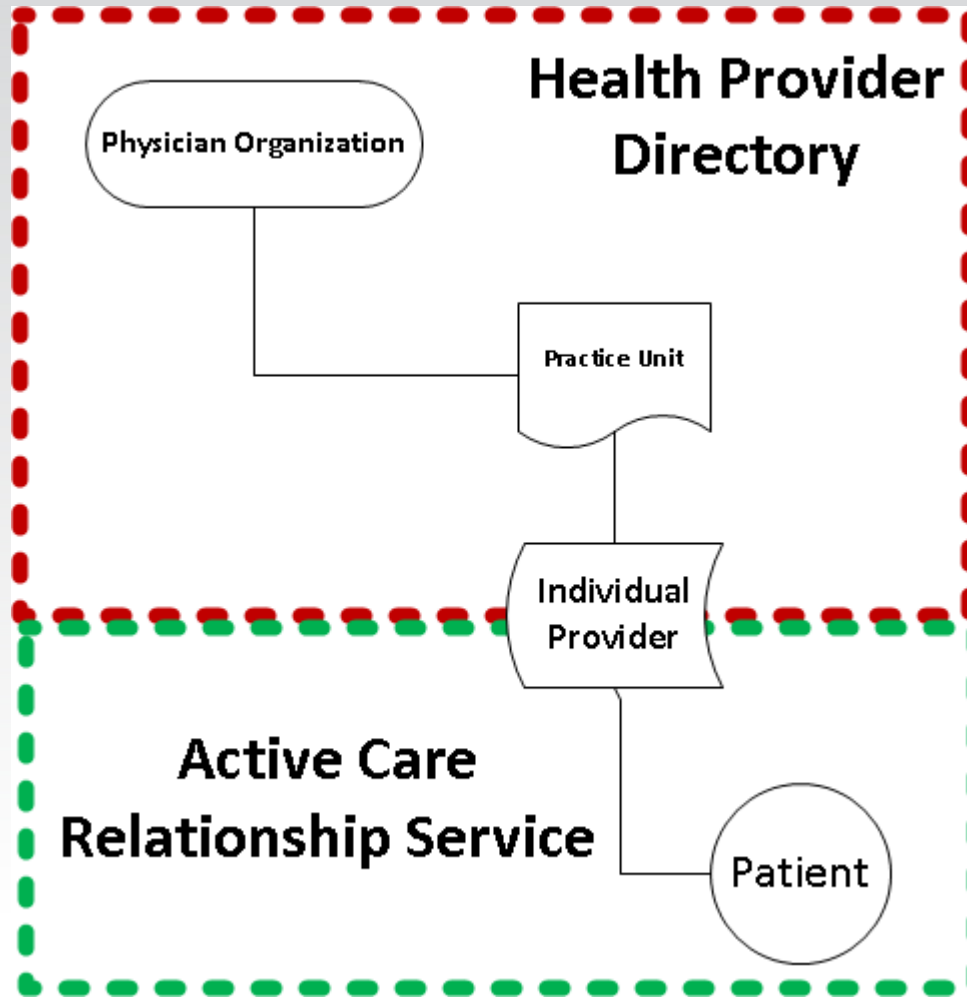


- 1) Patient picks up Rx, pharmacy sends message to DSO / MiHIN
- 2) MiHIN checks patient-provider attribution in ACRS and identifies providers
- 3) MiHIN retrieves contact and delivery preference for each provider from HPD
- 4) Medication information routed to providers based on contact info, preferences

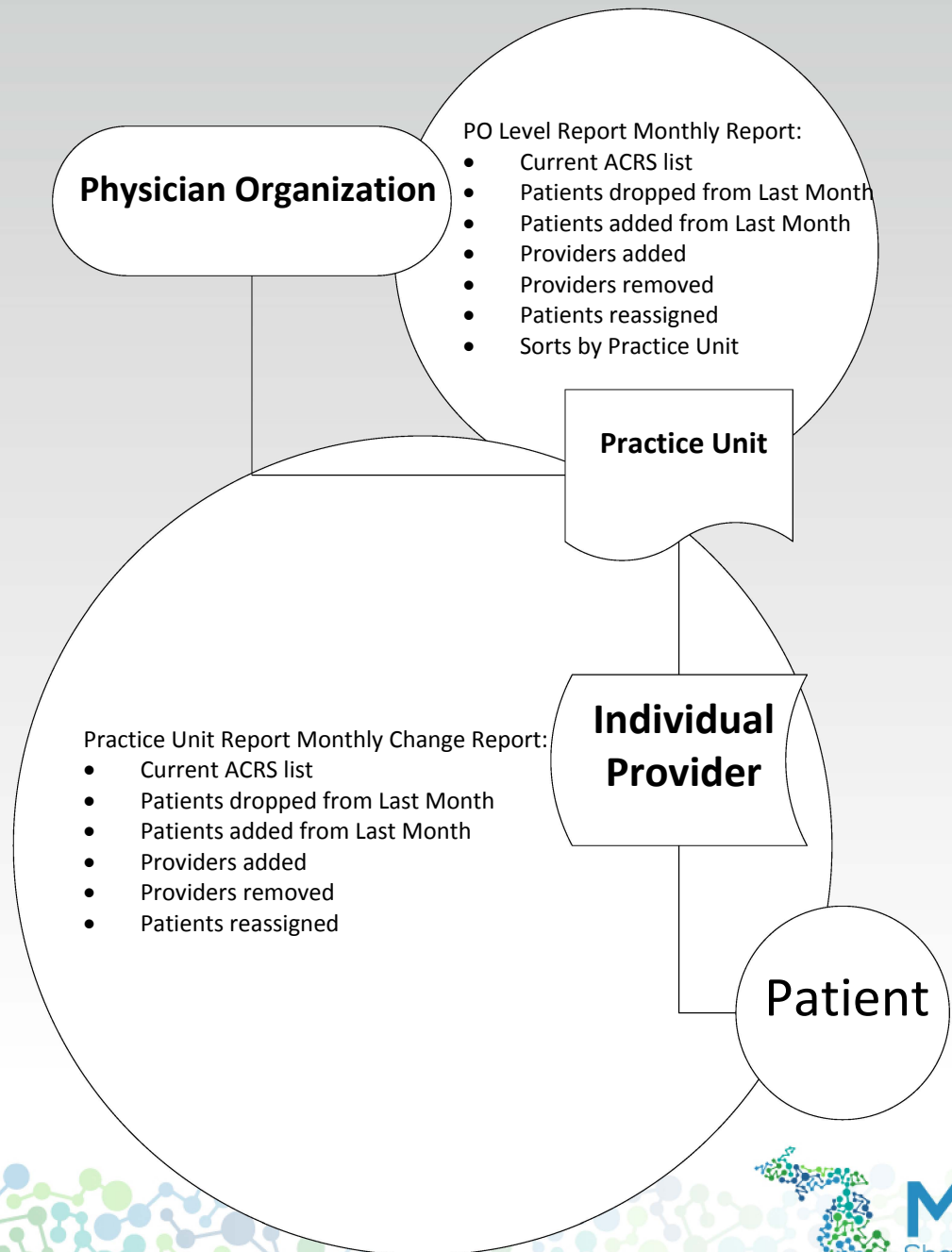
Supports New Payment Models



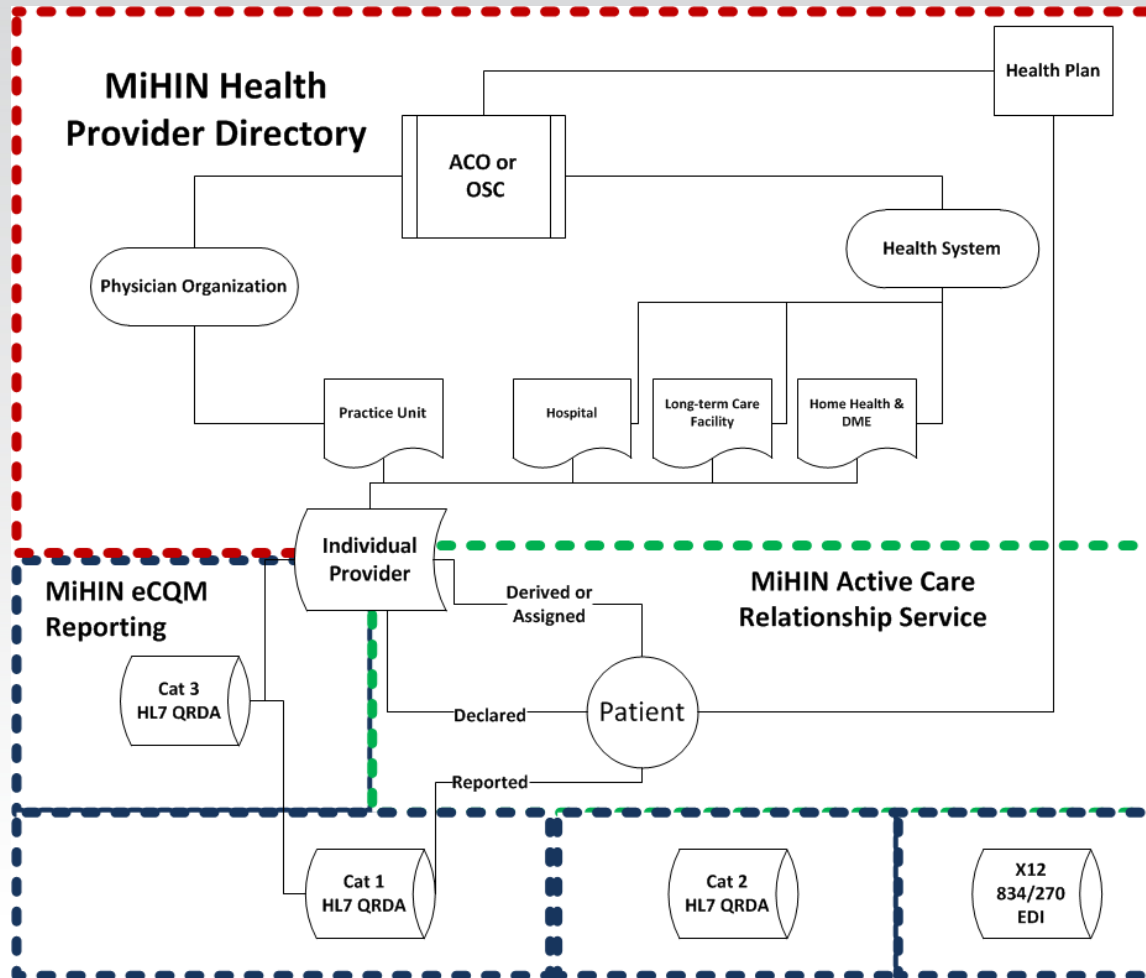
Robust Reporting Hierarchy



Example Reporting Flows



Full Reporting Opportunity



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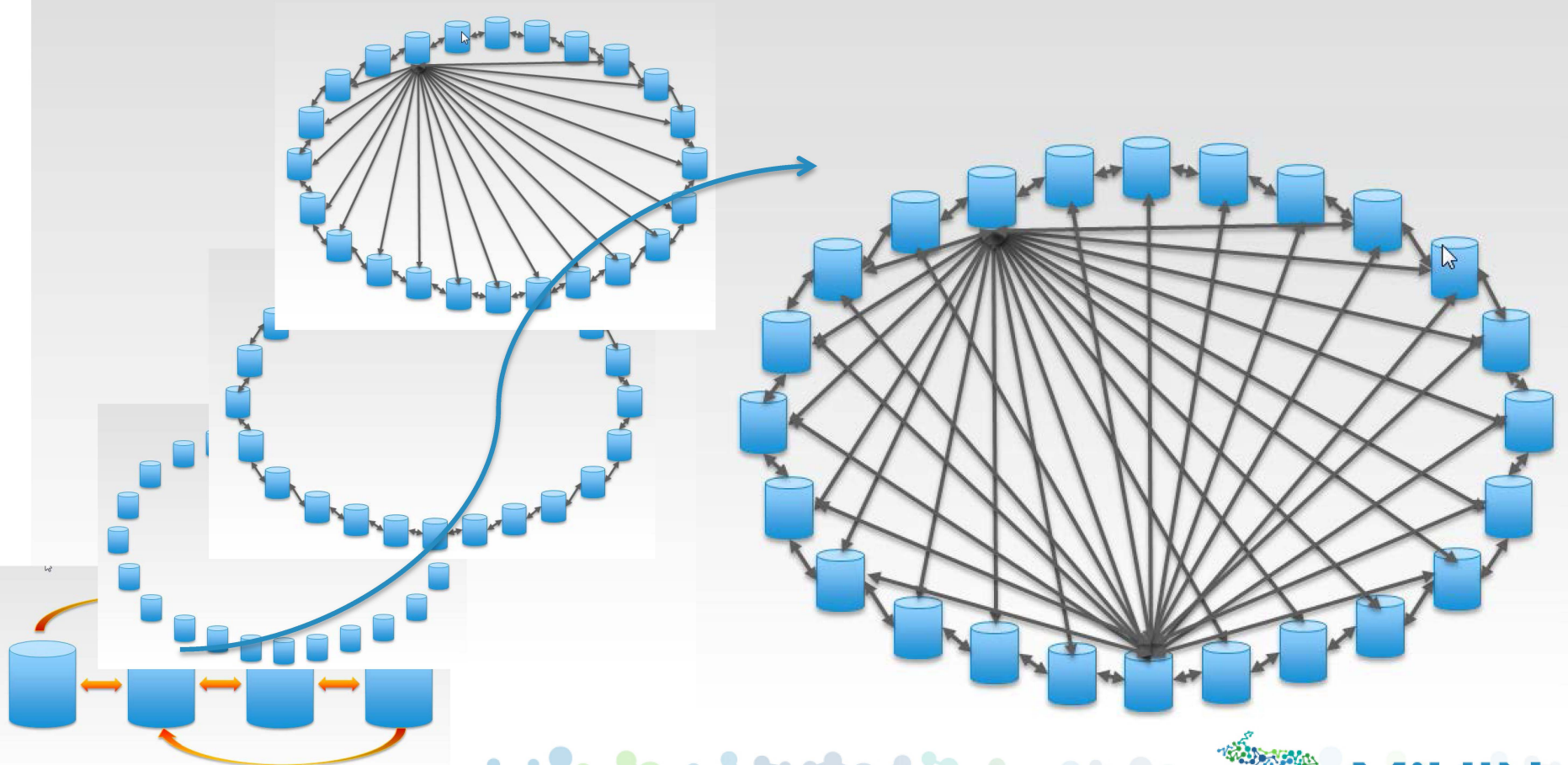
Three infrastructure questions:

- Did you build your own word processor?
- Did you or are you building your own spreadsheet tool?
- Are you or your vendor building your own provider directory?



Is there a faster solution than federating directories?

- N provider silos with $N*(N-1)/2$ interfaces (where $N > 100$)



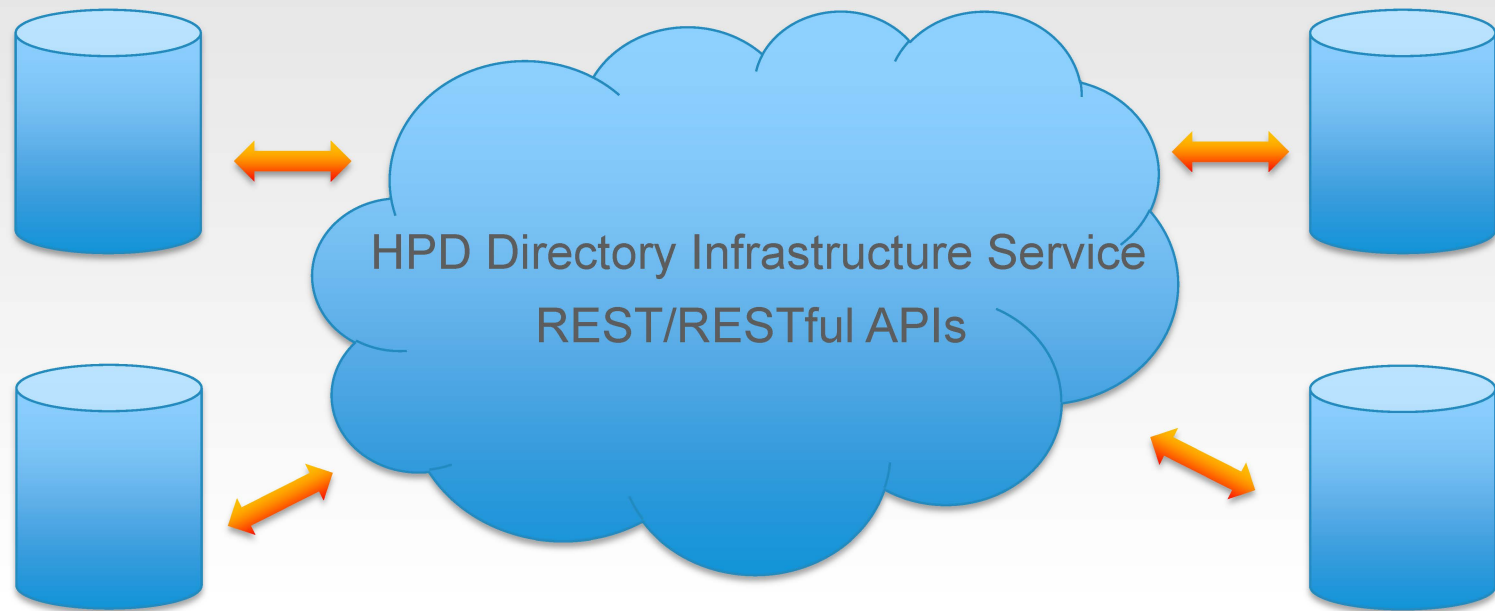
What Would Make This Go Faster?

- One possible way to ***accelerate directory success***:
 - Take existing solution that conforms to new standard
 - Connect to existing, high traffic healthcare web site
 - Tie in leading directory efforts and data sources
 - NPPES Redux
 - DirectTrust Directory
 - Commercial data (e.g. Surescripts, CAQH Universal Provider Directory)
 - Real-time credentialing service
 - State licensing data
 - Enable “update once, update everywhere”

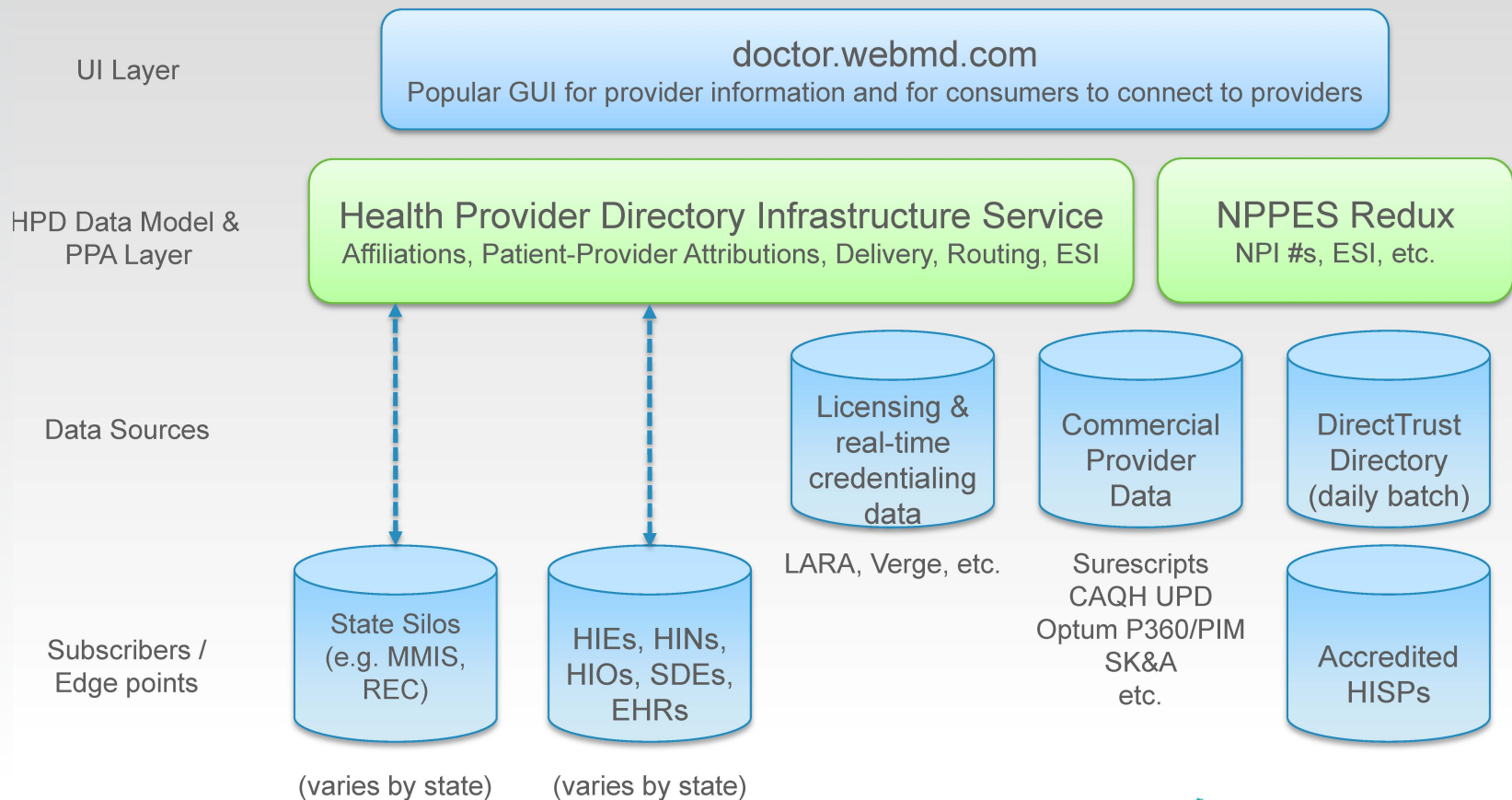


Concept: Virtual Open Directory

- What if **fewer large** silos updated each other in real time via one standard HPD Directory Infrastructure Service and a common, popular GUI?



The Open Directory Collaborative: A National Virtual Provider Directory



This is Possible...

- Growing support for a national provider directory
- Organizations, standards are moving in right direction
- Collective - not owned or controlled by one organization
- Everyone wants a working directory...now



Thank you!

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Complaints: complaints@yahoo.com

