

The Health Information Exchange Landscape in California: Overview

Presentation to Assembly Health Committee

November 10, 2020

Walter Sujansky
Sujansky & Associates, LLC
Menlo Park, CA

Outline

- **What is “Health Information Exchange” (HIE)?**
- **Need for and value of HIE**
- **Alternative technology models for enabling HIE**
- **Current infrastructure for HIE in California**
- **Remaining HIE gaps in California**

What is Health Information Exchange?

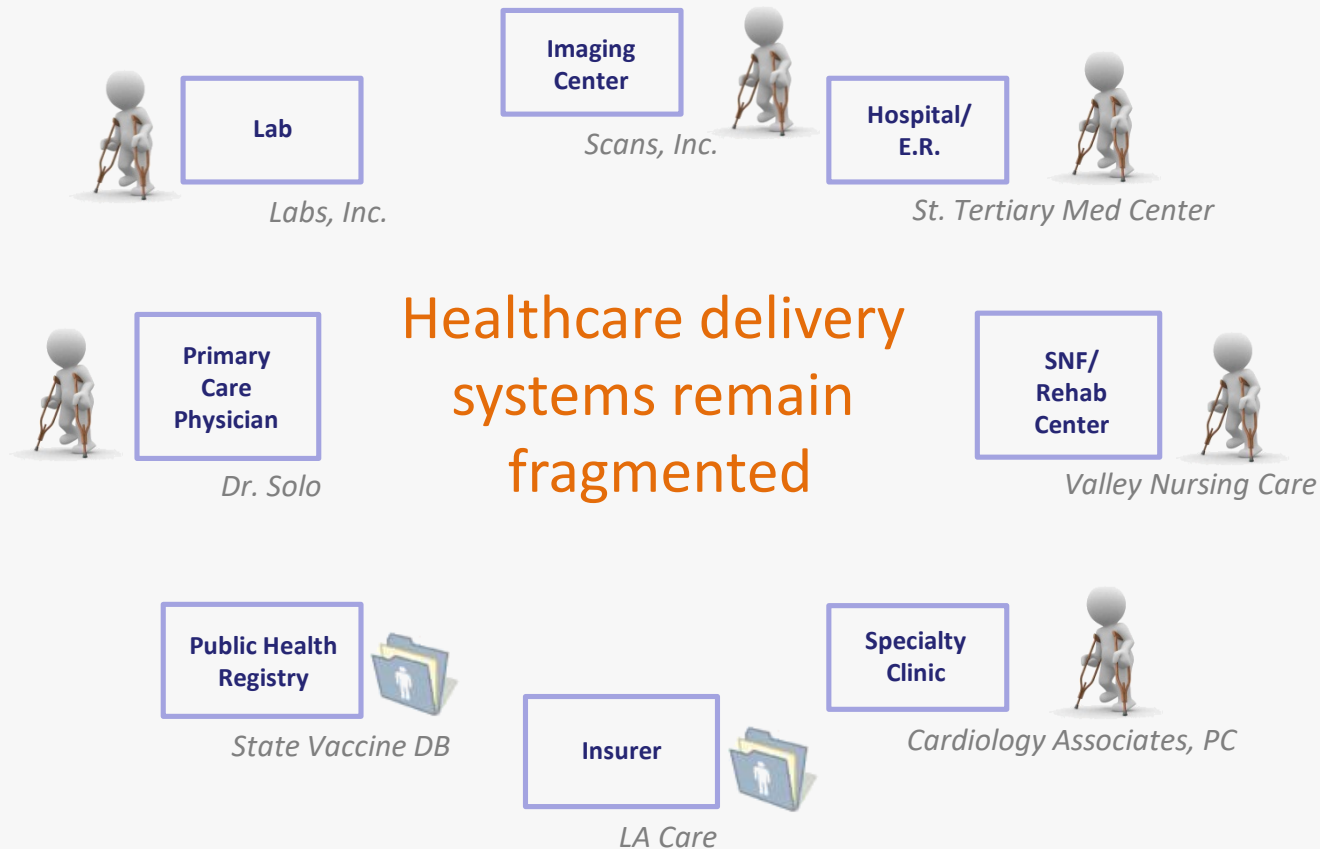
- “HIE”, the verb:

- The electronic sharing of patient data among disparate health care enterprises
 - Assumes computer-to-computer transmission of patient-specific data
 - Does not assume any specific technical architecture or organizational model to achieve it
- “We’d like to be able to do more health information exchange”

- “HIE”, the noun:

- A central organization that provides technology infrastructure and/or services to enable health information exchange
 - Commonly serves a specified region or group of participants
- “We’d like to join a health information exchange”
- *To avoid confusion, let’s use “Health Information-Exchange Organization” (HIO) when referring to the noun*

Why Do We Want and Need HIE (the verb)?



- Many distinct organizations/entities providing services
- Limited vertical and horizontal integration of clinical processes/systems (although increasing through provider consolidation)

HIE Use Cases (Examples)

■ Transfer of care...

- A physician sees a new patient and needs to understand her medical history
- A physician refers a patient to a specialist who needs relevant information
- A patient with several chronic diseases is seen in an emergency room
- A patient is discharged from a hospital to a skilled nursing facility

■ Notification of care...

- A physician is notified when his patient was seen in the emergency room or discharged from the hospital
- An insurer is notified when its covered member is admitted to the hospital
- A physician is notified whether his patient visited the cardiologist she was referred to

HIE Use Cases (cont'd)

- Coordination/oversight of care
 - An insurer tracks whether patients received needed preventive care and screening tests (e.g., for HEDIS measures)
 - A physician's accountable care organization (ACO) tracks whether patient's received needed preventive, therapeutic, and follow-up care (to reduce complications and hospitalizations and costs)
 - A community clinic tracks whether patients have received behavioral health care, substance-abuse treatment, housing assistance, and/or other social services
 - Social service agencies track recipients' use of health care services
- Timely and efficient communication of routine data
 - Lab orders and results, imaging orders and results, immunization records, case reports

Value of HIE

■ Clinical quality improvement

- Promptly provide relevant patient information to all physicians
 - Current diagnoses and medications, past lab and imaging results, past treatments and procedures, drug allergies
- Track required preventive services (immunizations, screening tests)
- Measure/report quality of care across physicians (with appropriate risk adjustment)

■ Cost control

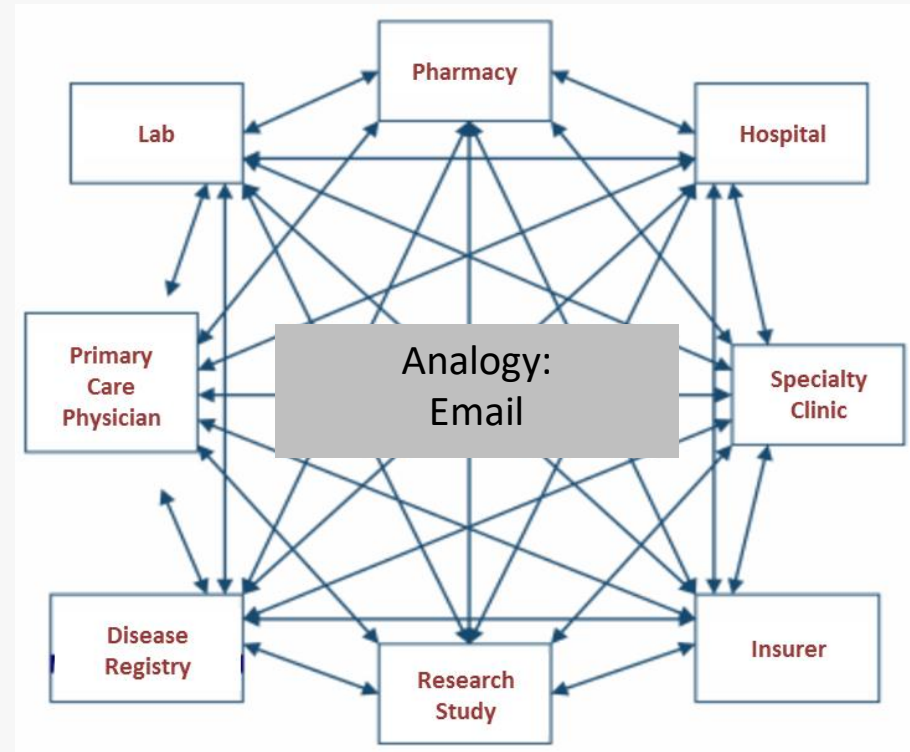
- Reduce duplication of testing procedures
- Reduce hospitalizations / re-hospitalizations through better care and earlier interventions in outpatient setting
- Reduce administrative overhead for paper-based communications

■ Public Health

- Improved efficiency and data completeness for disease surveillance, epidemiology, immunization tracking, contact tracing

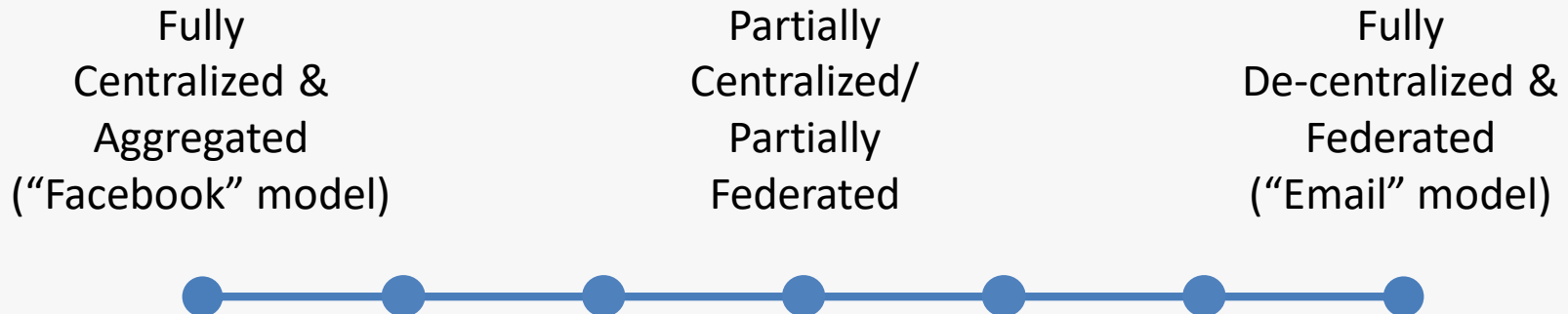
How Does HIE Happen?

- In general, a spectrum between *centralized* and *de-centralized* technology models



How Does HIE Happen?

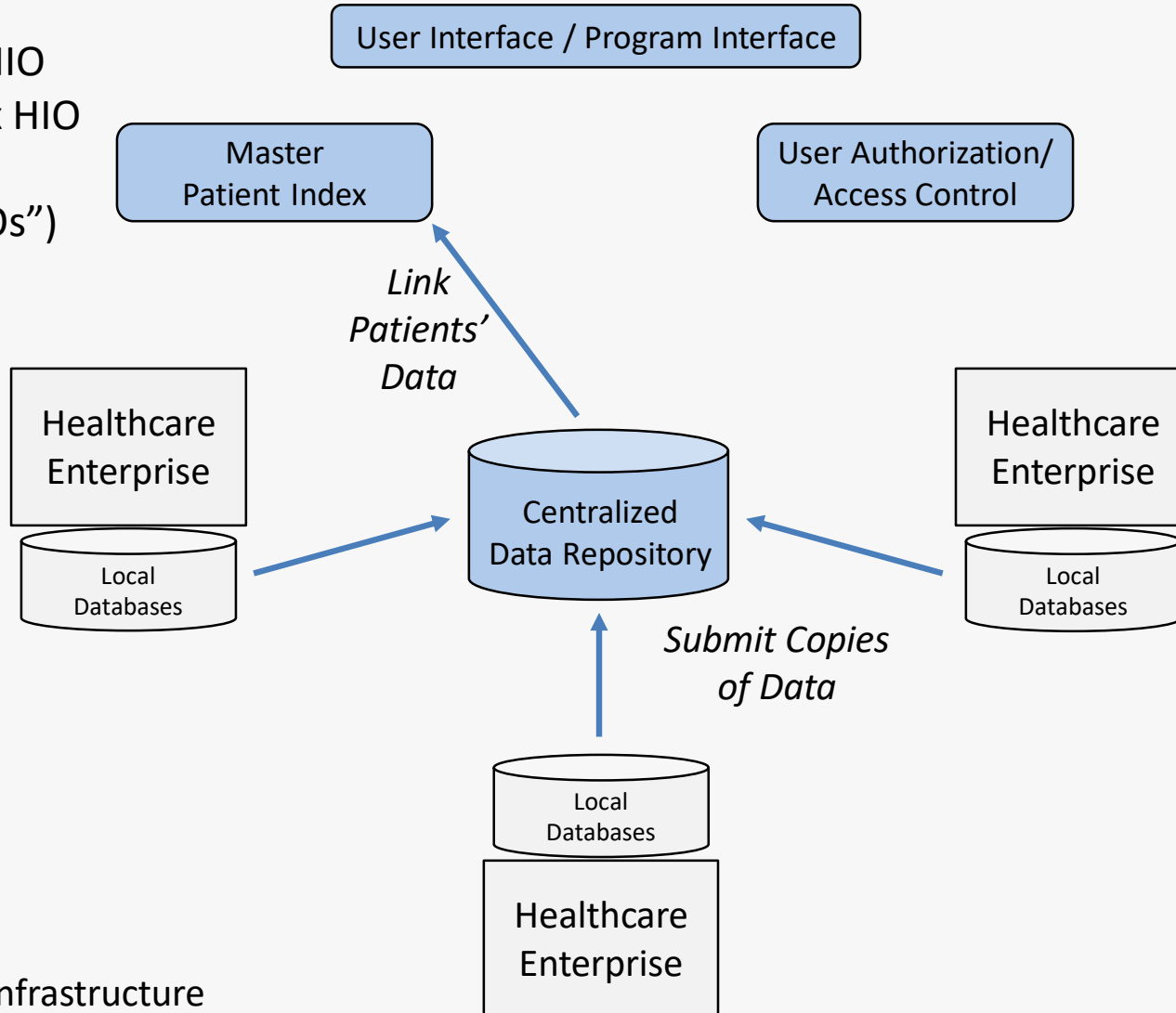
- In general, a spectrum between *centralized* and *de-centralized* technology models



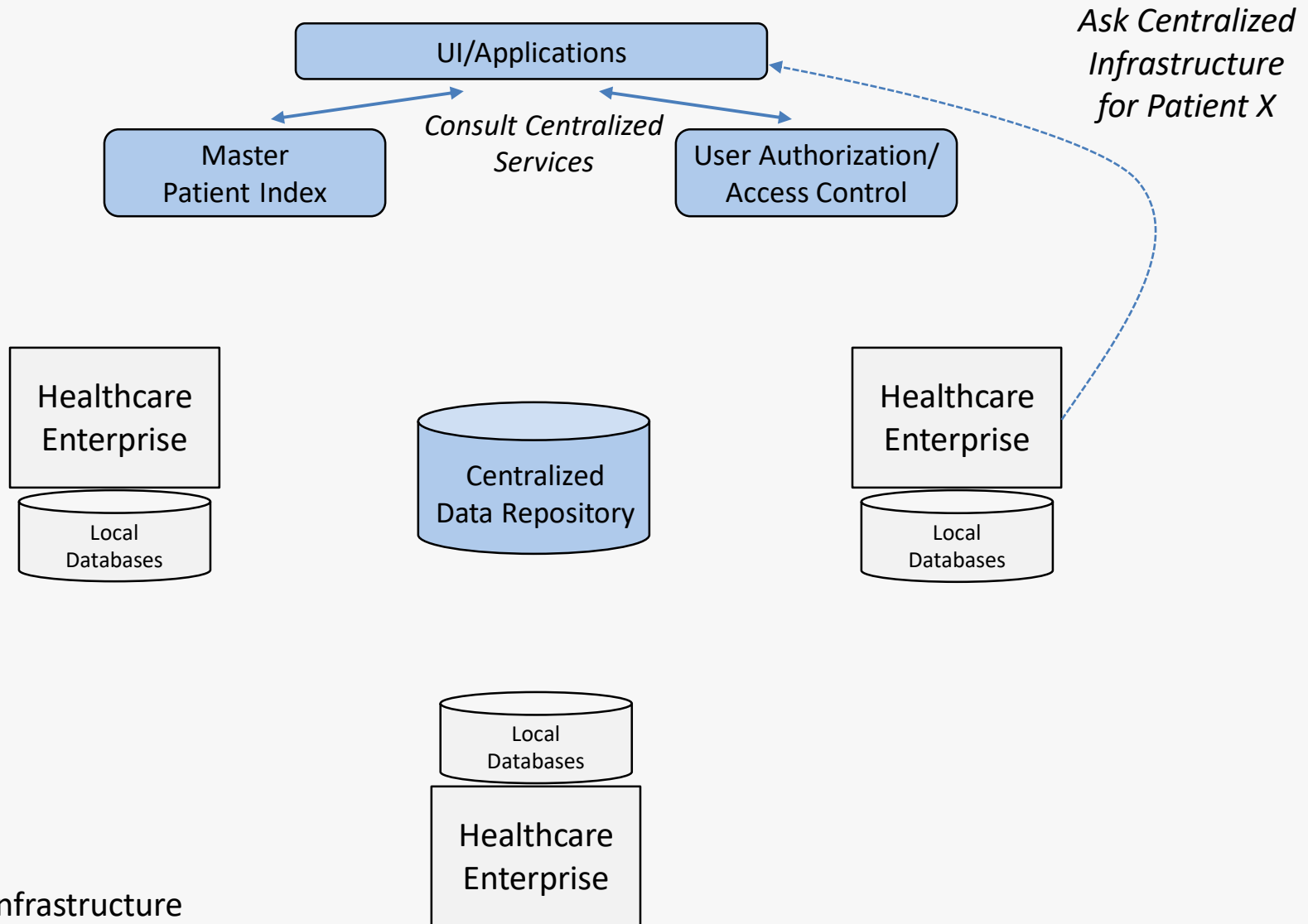
Fully Centralized & Aggregated

Examples:

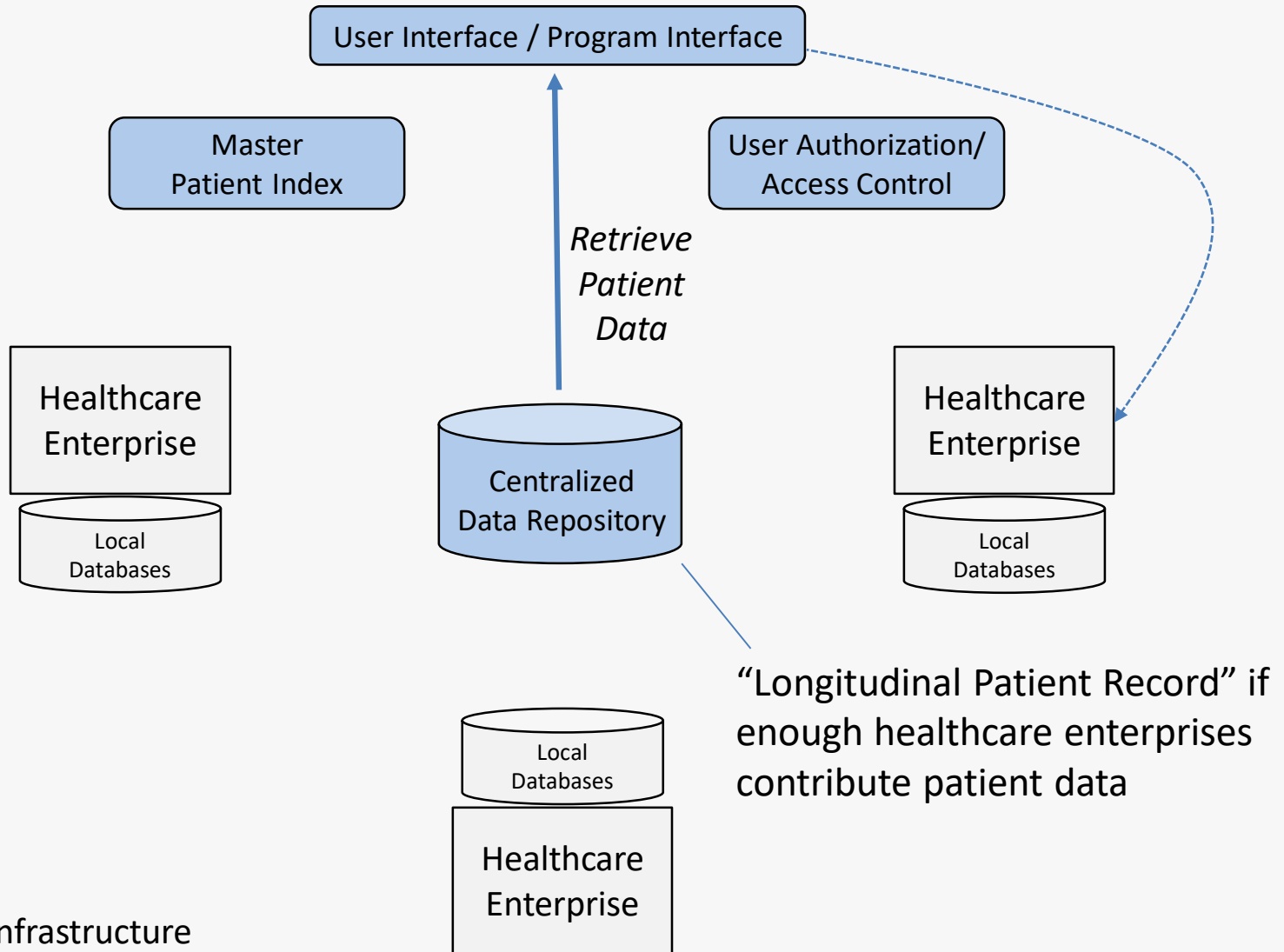
- Santa Cruz HIO
- Manifest Mx HIO
- Some IDNs
("Private HIOs")



Fully Centralized & Aggregated



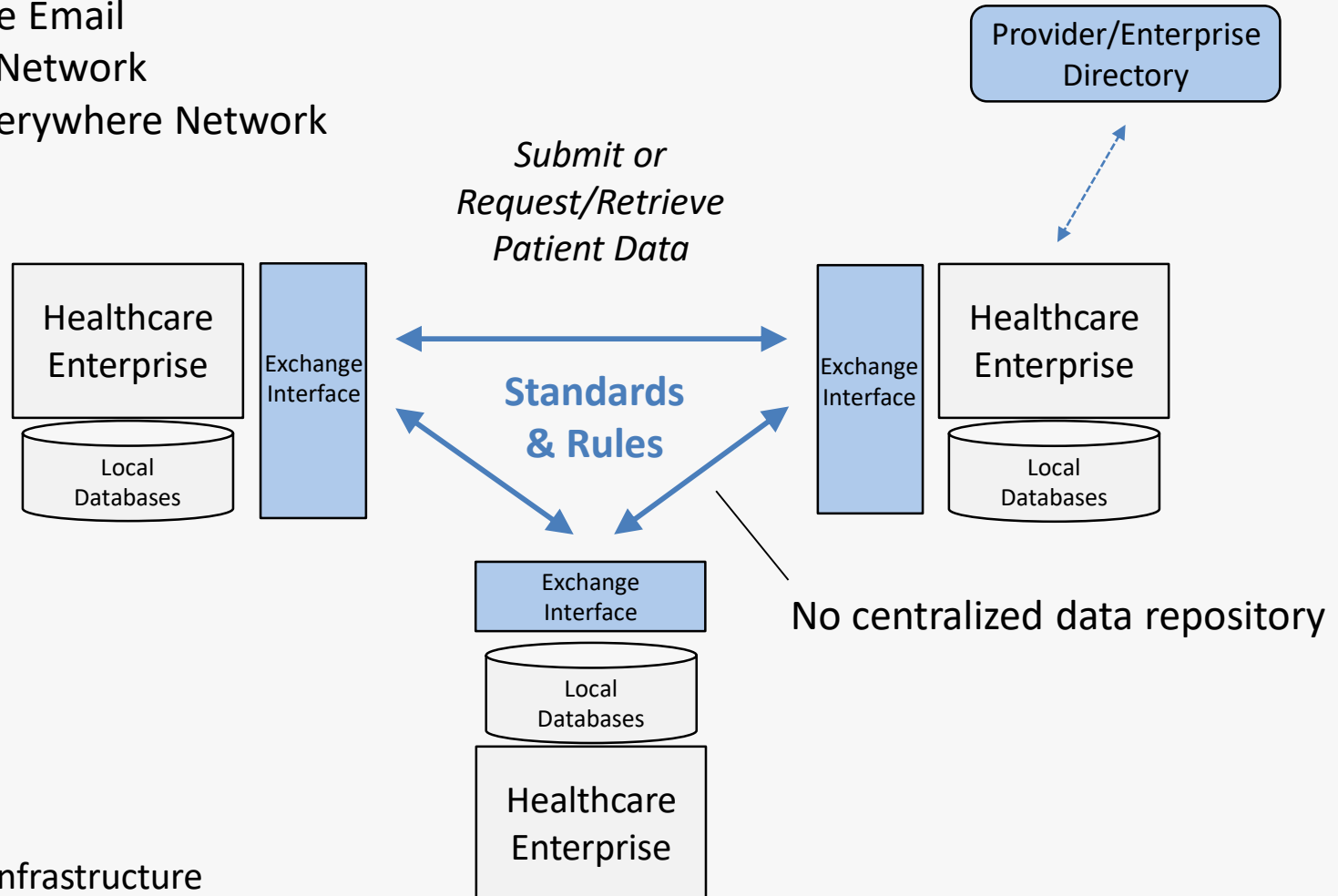
Fully Centralized & Aggregated



Fully De-Centralized & Federated

Examples:

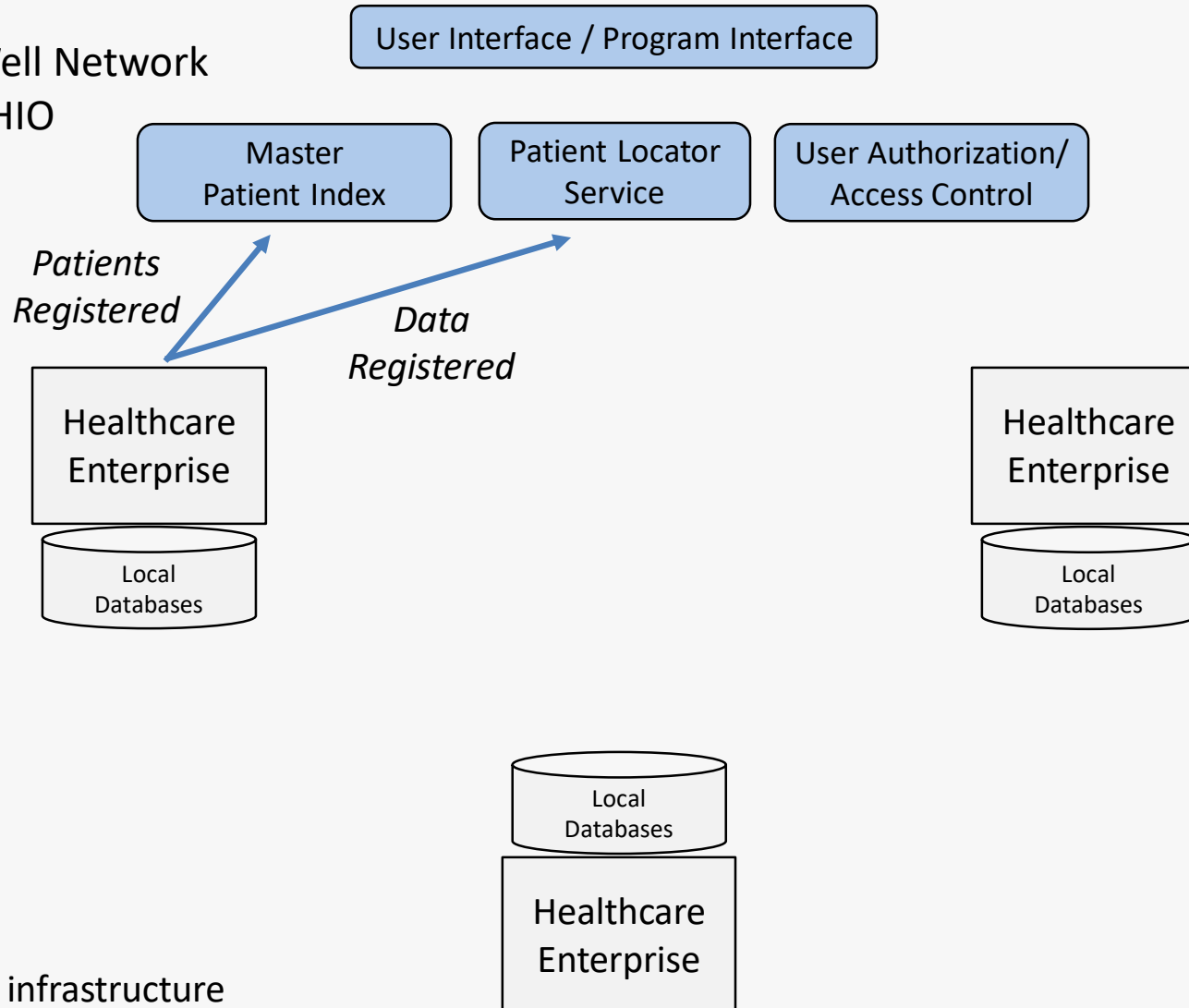
- HL7 point-to-point messaging
- Direct Secure Email
- Carequality Network
- Epic Care Everywhere Network



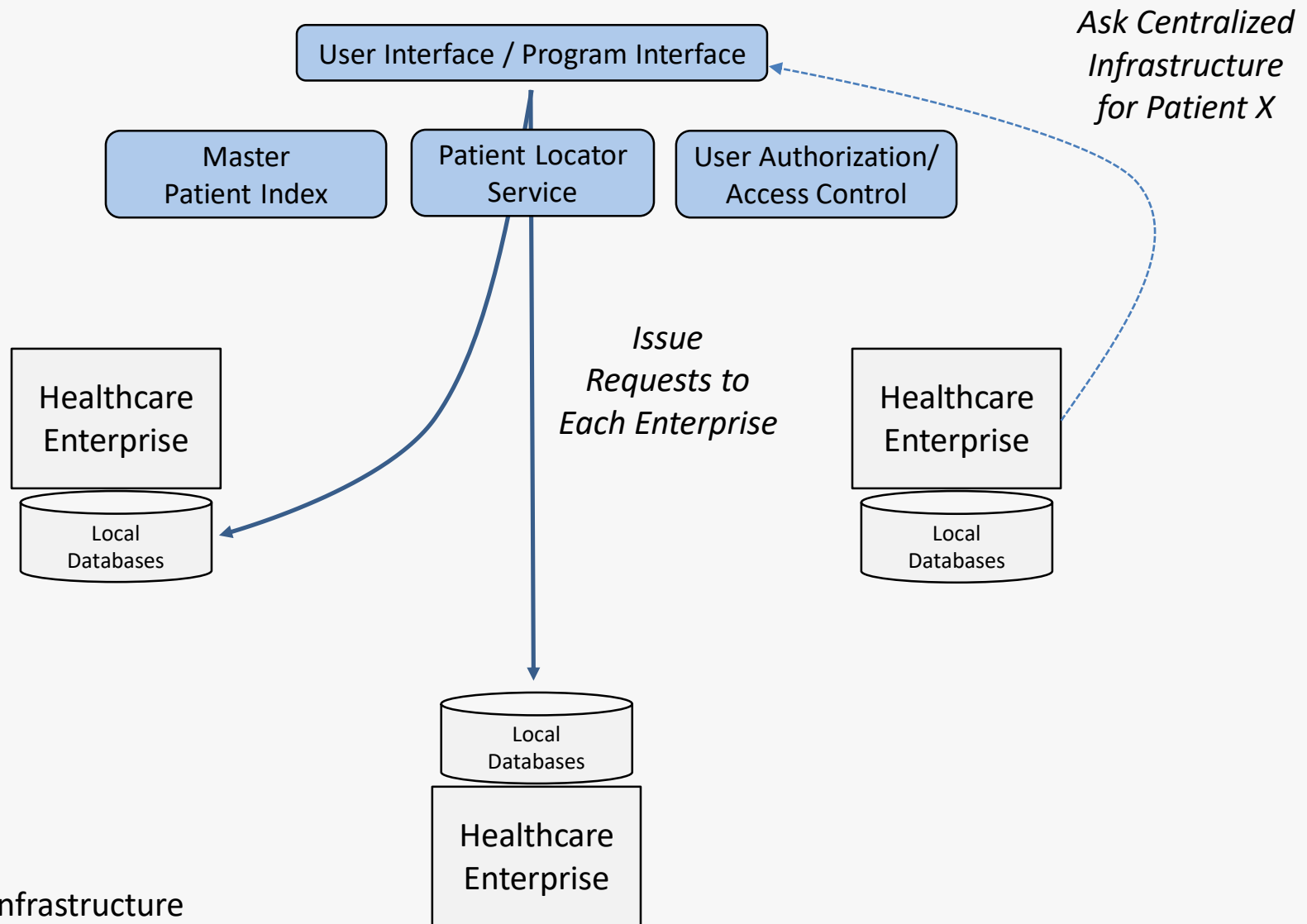
Partially Centralized / Partially Federated

Examples:

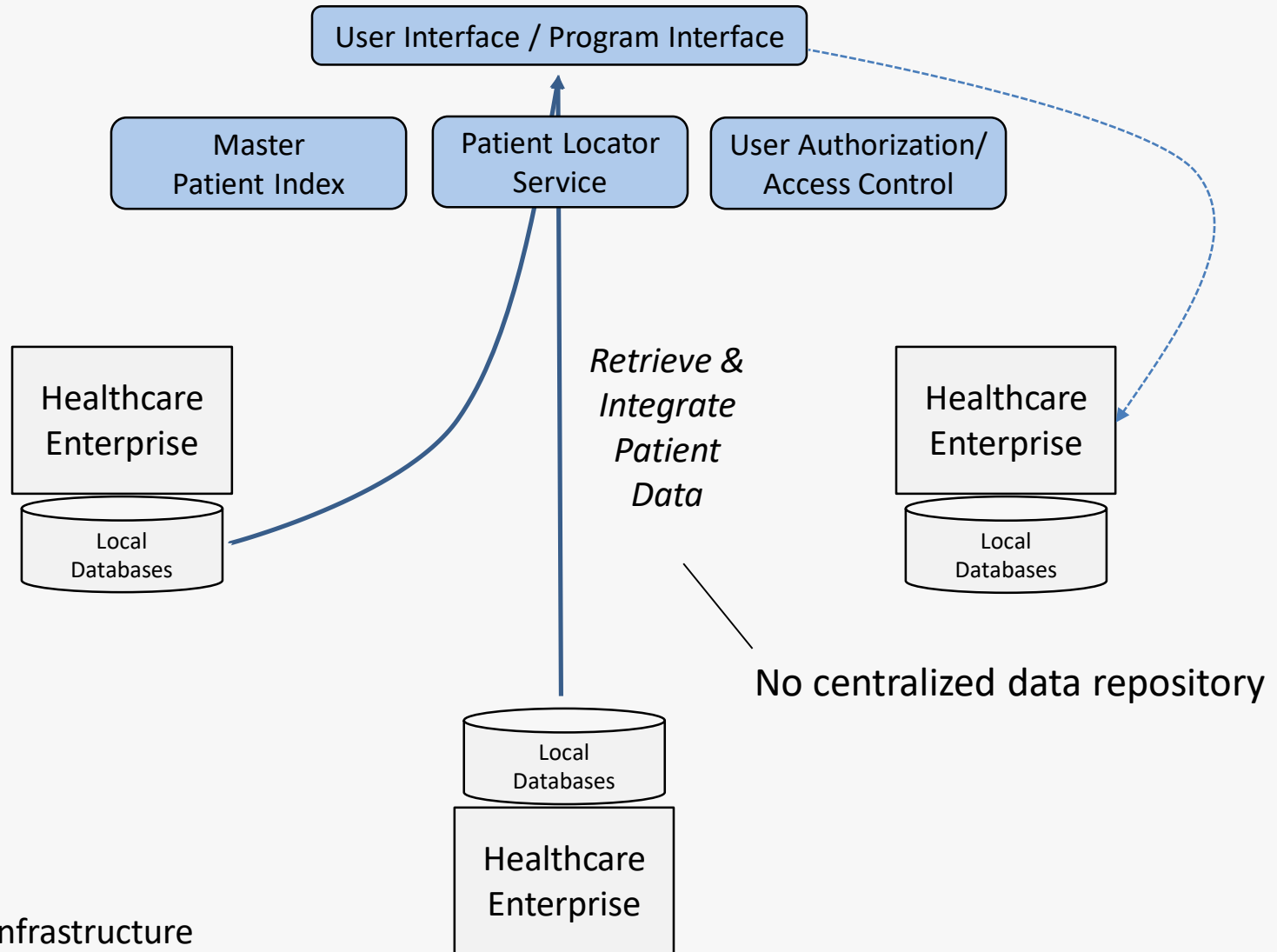
- CommonWell Network
- San Diego HIO



Partially Centralized / Partially Federated



Partially Centralized / Partially Federated



HIOs in California: Overview

- Regional HIOs (9 different ones)
 - Highly variable is size, participation rates, HIE services, financial posture
 - Generally provide on-demand clinical data sharing
 - Some provide a central repository, notification services, population-management services, and connectivity to labs, imaging centers, public health registries, and social services agencies
- Integrated Delivery Network HIOs
 - Connect and serve integrated business partners only (hospitals, clinics, etc.)
- Health IT Vendor HIOs
 - Carequality (AthenaHealth, eClinicalWorks, Epic, NextGen, + other EHRs)
 - CommonWell (AthenaHealth, Cerner, eClinicalWorks, Greenway, Meditech, + others EHRs)
 - Epic Care Everywhere (specific to Epic EHRs)
 - Direct Secure Email (most EHRs, some insurers)
 - Generally provide on-demand clinical data sharing only (“CCDA” documents)

HIOs in California: Distribution



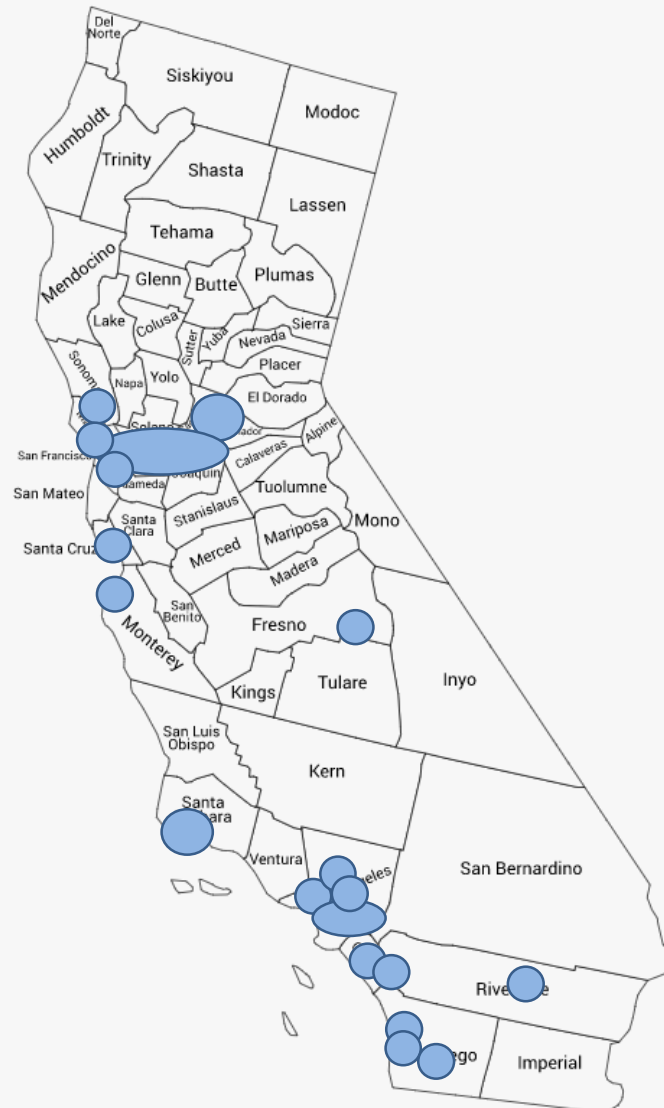
Regional HIOs in California

Regional HIOs

-  Connect Healthcare
-  LANES
-  Manifest Medex
-  North Coast Health Info Network
-  OCPRHIO
-  Redwood Mednet
-  Sac Valley MedShare
-  San Diego Health Connect
-  Santa Cruz HIE
-  No Regional HIO



Integrated Delivery Network HIOs



HIO's Governed/Operated by Health I.T. Vendors

Carequality
Network
Members



CommonWell
Network
Members



Epic
Care Everywhere
Network



Direct
Secure
Email
Network



Remaining HIE Gaps in California: Not That Simple

- Organizations within a geographic area that has a regional HIO may still lack HIE capabilities (can't or don't participate)
- Organizations within a geographic area that has an HIO but don't participate in the HIO can still achieve some HIE via other means
- Organizations within a geographic region that lacks an HIO can still achieve some HIE capabilities via other means
- Organizations that participate in different HIOs may not be able to exchange patient data

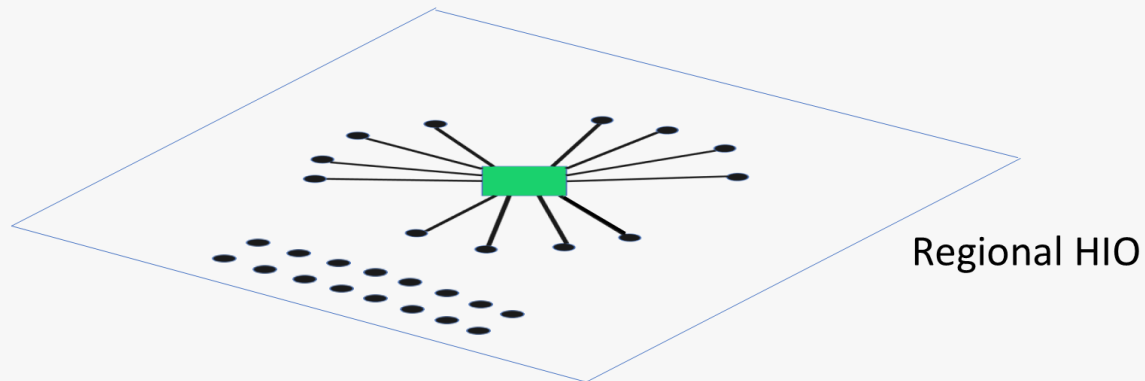


HIE Gaps

- Organizations in a geographic area with a regional HIO may still lack HIE capabilities (cannot or do not participate)

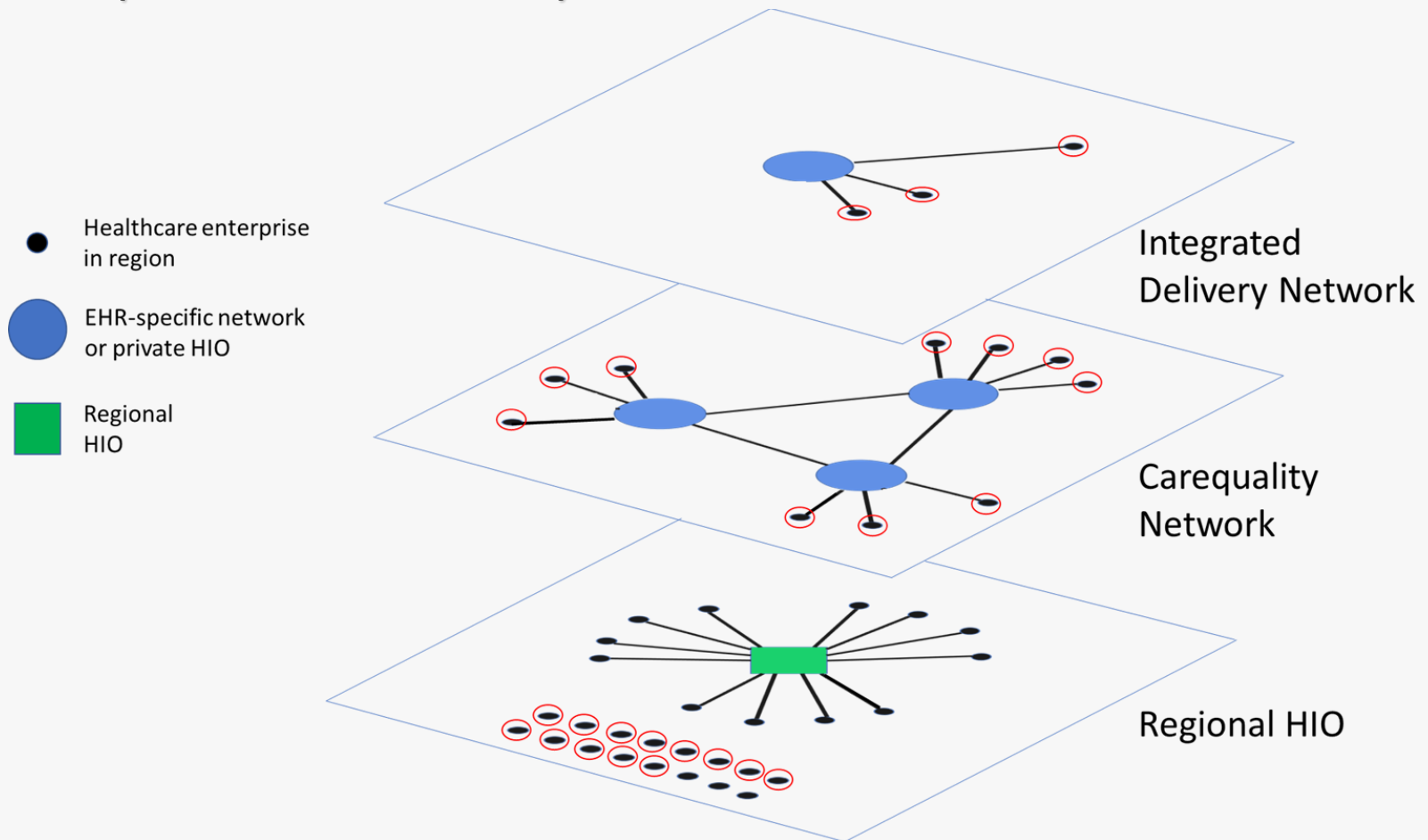
● Healthcare enterprise
in region

■ Regional
HIO



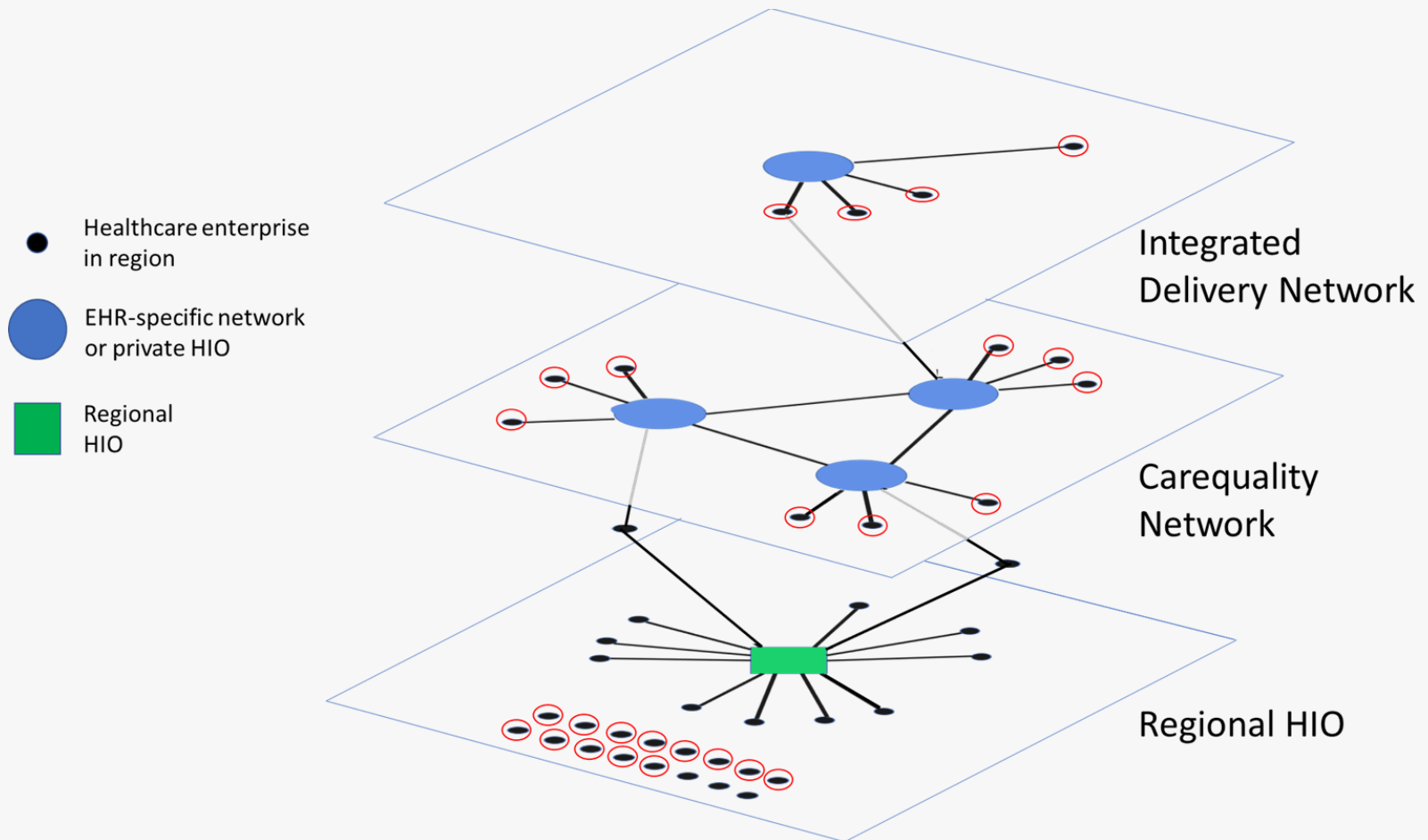
HIE Gaps

- Organizations in a geographic area with an HIO that don't participate in the HIO may still achieve some HIE via other means



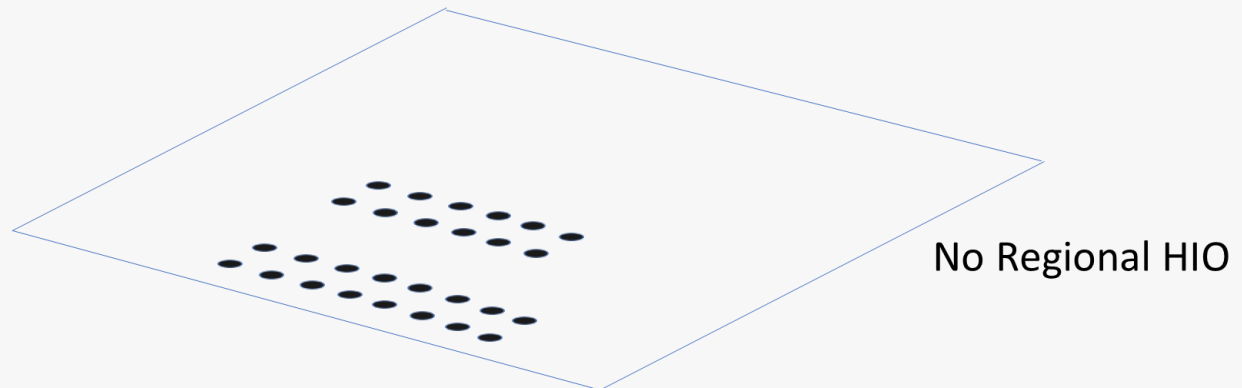
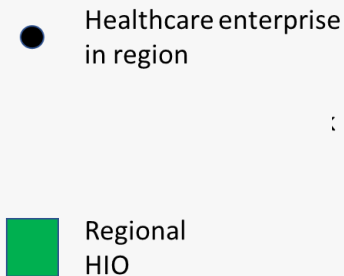
HIE Gaps

- Certain organizations (especially hospitals) participate in multiple HIOs



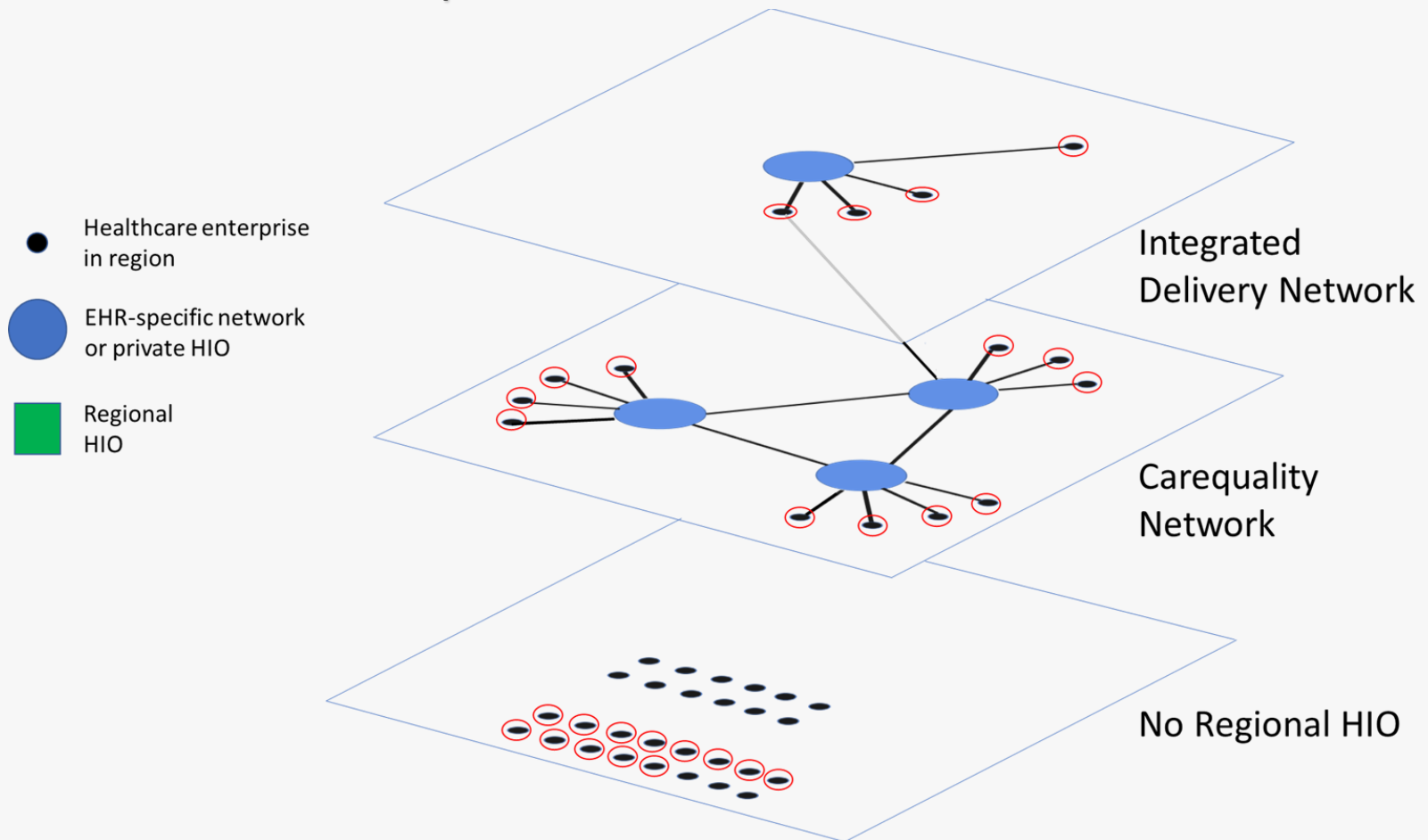
HIE Gaps

- Organizations in a geographic region without an HIO may still achieve some HIE capabilities



HIE Gaps

- Organizations in a geographic region without an HIO may still achieve some HIE capabilities



Key Takeaways

- HIE is valuable for improving quality of care, reducing costs, and promoting public health
- Different technical models for providing HIE exist, with different advantages and limitations
- Different HIOs operate concurrently in California
 - Some are specific to a region, others span across regions
 - Multiple HIOs often operate within a single region
- Gaps remain in healthcare enterprises' ability exchange patient data, for various reasons
- It's complicated!

Thank you

Questions?

