



# *Expanding Health Data Utility Models and Advancing Standards for Public Health*

*HIMSS Interoperability & HIE Community*

February 2, 2022 | 12:30pm-2pm CT

# *HIMSS Interoperability & Health Information Exchange Community*

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- Connecting professionals committed to transforming health through standards-based interoperability and health information exchange
- A dynamic community for sharing ideas, learning best practices and leveraging collaborative opportunities

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# *Our Leadership Team*



**Laura Young**  
*Interoperability  
Consultant*



**Gail Kocher, MPA**  
*Director, National Standards,  
Blue Cross Blue Shield Association*

# Meet Our Speakers



**David Horrocks**

*President and CEO at  
CRISP*



**Lisa Bari**

*CEO at Civitas Networks  
for Health*



**Claudia Williams**

*CEO at Manifest MedEx*



**Craig Newman**

*Public Health Interoperability  
Expert at Altrarum, Program  
Manager at HL7® Helios*

# *Learning Objectives*

- Recognize the key aspects of **public health informatics** and impact the field continues to have on the COVID-19 pandemic.
- Identify the value of **data utility models** and their ability to be used throughout many facets of the healthcare system.
- Follow the developing work of the new HL7® FHIR® Accelerator, Helios, as the initiative seeks out best practices for **data exchange standards to help advance public health.**



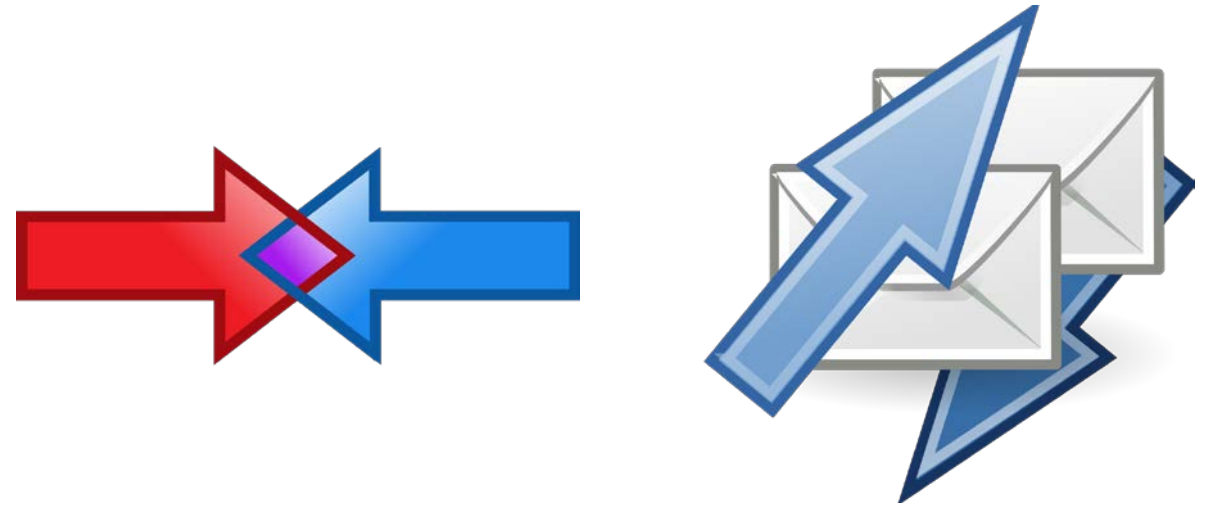
# *Health Data Utilities*

David Horrocks

President and CEO, CRISP

## *What does a Health Data Utility (HDU) do?*

1. An HDU combines data to enhance data
2. An HDU delivers data back to clinicians in the field
3. An HDU supports public health interoperability projects





# What characteristics make an HDU work?

## HDUs should be:

- Statewide, or matching the jurisdiction of the public health agency
- Officially designated through a method of the state's choosing
- Non-profit or independently governed state entities, broadly governed by a mix of public sector and private sector health leaders
- Connected to all important healthcare providers, especially hospitals
- Receiving some data by mandate or via the department of health
- Held to a high level of security and patient privacy protections

## *Examples of what a PHDU can do*

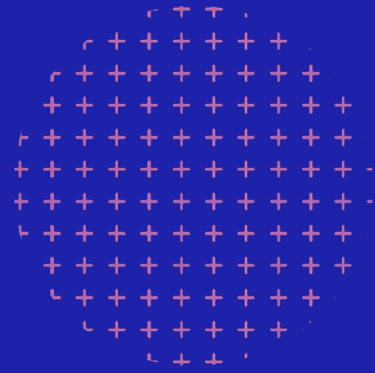
- ✓ Enhance the race and ethnicity data on reportable COVID cases, from low accuracy to over 90% accuracy
- ✓ Deliver school absentee data to a student's treating pediatrician
- ✓ Improve situational awareness of respiratory infection trends in a region, with ambulatory encounter data and not just hospitalizations
- ✓ Notify emergency department clinicians of a patient's prior diagnosis of a drug resistant infection
- ✓ Analyze COVID breakthrough infections, matching chronic conditions flags to reported cases among those previously vaccinated
- ✓ Inform prescribing clinicians when a patient has previously experienced an overdose

By combining existing data sets, these real-world examples are achieved without adding any new reporting burdens to healthcare providers.

## *More examples of what a PHDU can do*

- ✓ Calculate changes in rates of preventative healthcare services during a pandemic, by neighborhood and by demographic
- ✓ Alert EMS personnel regarding an infectious disease diagnosis for a recently served patient
- ✓ Maintain an up-to-date directory of organizations registered to provide certain services
- ✓ Operate a behavioral health bed registry which publishes real time bed availability to referring clinicians
- ✓ Provide immunization reports to individual practices, showing patient-by-patient immunization status in the state's immunization registry to support outreach
- ✓ Rapidly stand-up clinician referral and scheduling tools for state managed services such as COVID testing, immunization, or infusion centers

Even for tactical projects which might be done otherwise, a state's partnership with a PHDU can bring technical knowhow to bear more quickly.



# *Civitas Networks for Health*

## *HIEs, RHICs, and the Emerging Health Data Utility Model*

Lisa Bari

CEO, Civitas Networks for Health

# About **Civitas** Networks for Health

We're dedicated to transforming the healthcare system to improve affordability, access, quality, and health equity for people locally and nationally.

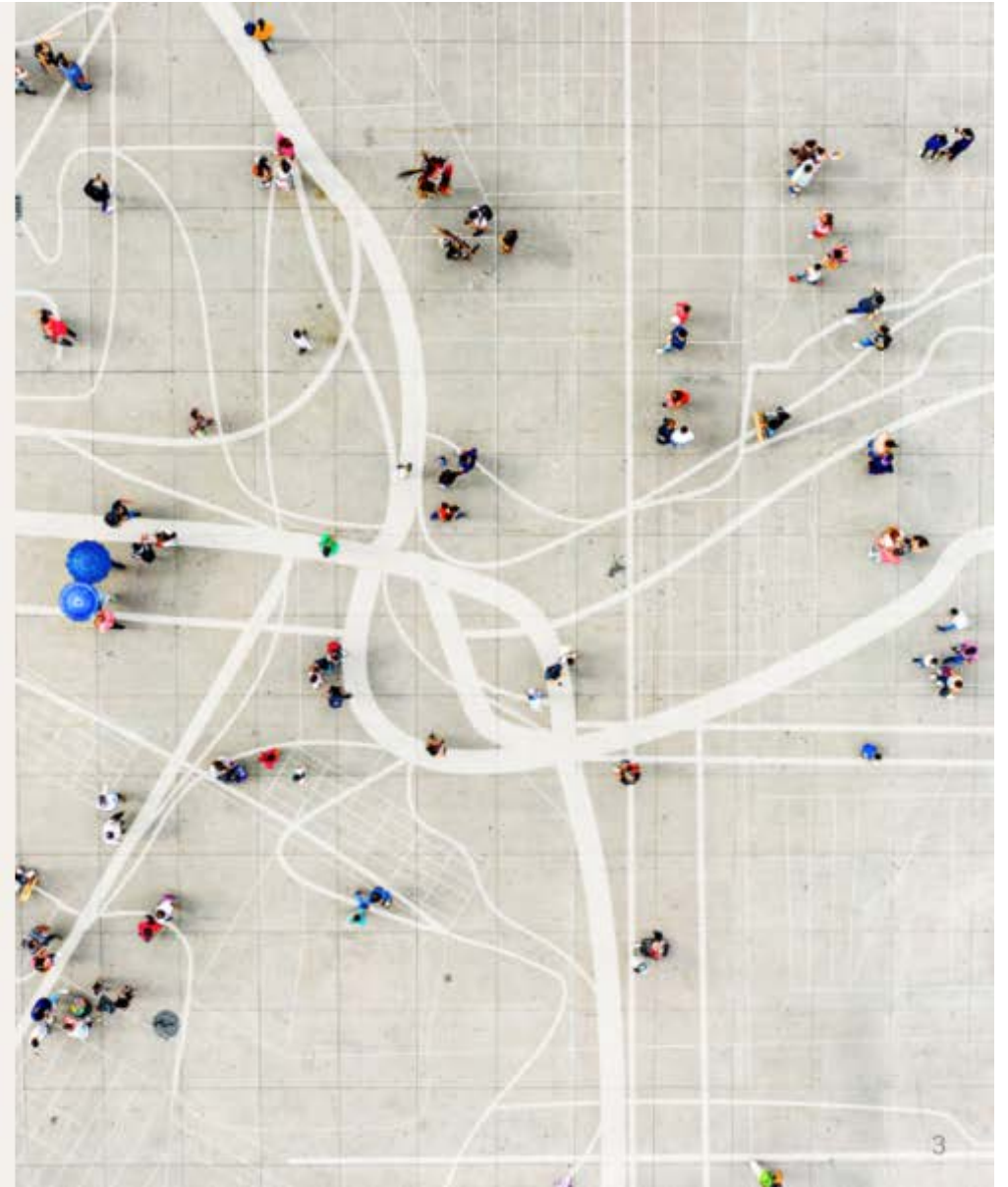


# Regional innovation, **national impact.**

We stand for community and data-led health improvement and information exchange to tackle the most challenging healthcare issues.

**Collaborative. Connected.  
Data-driven.**

**CIVITAS**  
Networks for Health





## Our Coming Together

The COVID-19 crisis has shown us more than ever before just how critical local healthcare is in America. Nearly every community in the U.S. developed its own approach to the pandemic, from public health messaging, to mask policies, testing sites, field clinics, and vaccine distribution. Incredible learnings emerged along with new healthcare leaders and new ways of building community health.

## Health Information Exchanges (HIEs)

HIEs provide technology for the secure digital exchange of data by medical, behavioral, and social service providers to improve the health of the communities they serve. HIEs can be statewide, regional and community; government-run, for-profit and nonprofit; large and small; and hybrids that involve collaborations among diverse organizations.

## Regional Health Improvement Collaboratives (RHICs)

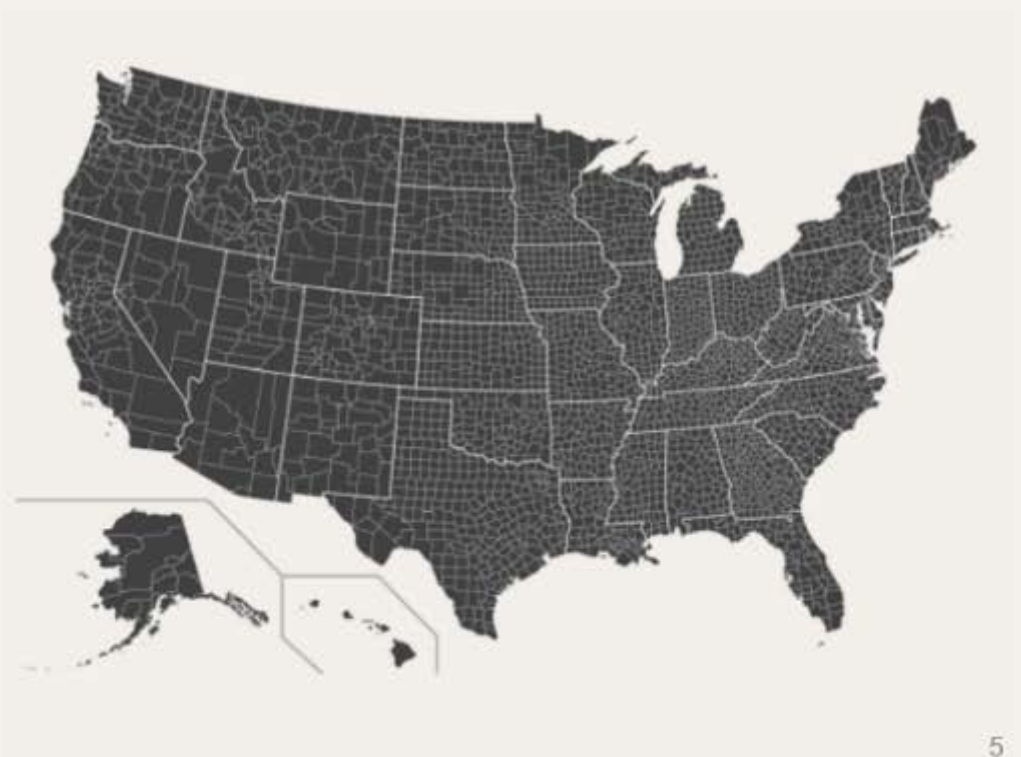
A RHIC provides a neutral, trusted mechanism through which the community can plan, facilitate, and coordinate the many different activities required for successful transformation of its healthcare system. A RHIC does not deliver healthcare services directly or pay for such services.

# Our Reach & Purpose

The largest network of its kind in the country, Civitas represents local health innovators moving data to improve outcomes that together cover more than **95%** of the U.S. population.

## Our Guiding Principles

- ✓ We strive for win-win solutions recognizing that change is required by all.
- ✓ We believe the best solutions come from data informed, multi-stakeholder input.
- ✓ The status quo of our healthcare system is not acceptable in terms of its quality, safety or cost.
- ✓ We commit to advancing health equity for all.





# Our Mission

Civitas Networks for Health convenes **action-oriented thought leaders** and implementers at the local, regional, state, and national level. To achieve our mission, we drive cross-sector, multi-stakeholder, and data-informed initiatives by:

- ✓ Increasing collaboration and shared learning within and across communities that use data to ensure better health outcomes and drive health equity.
- ✓ Educating public and private entities regarding the benefits, functions, and roles of Health Information Exchanges (HIEs), All-Payer Claims Databases (APCDs), Regional Health Improvement Collaboratives (RHICs), and combined organizations.

## *Why a Health Data Utility Model of HIE?*

- HITECH funding ending in 2021 left a gap in funding for critical work, and new funding should be appropriated/granted, with objectives and guardrails for the modern environment
- HIE organizations do much more than “just” clinical data exchange now
- HDUs combine and enhance clinical, claims/administrative, public health, SDoH, and other community-generated data. They serve as neutral data conveners for their regions and states and help bridge data silos to solve critical public health (and many other) use cases.

## *What's Next for the HDU Model?*

- Civitas Networks for Health is coordinating with its HIE and RHIC members to advocate for the funding and further development of this model.
- Civitas and its members are building out and defining use cases, requirements, and conditions, and responding to ever-evolving legislative and regulatory actions that could affect the future of HDU.



# *The Role of HIEs in Supporting Public Health: Lessons Learned from Covid-19*

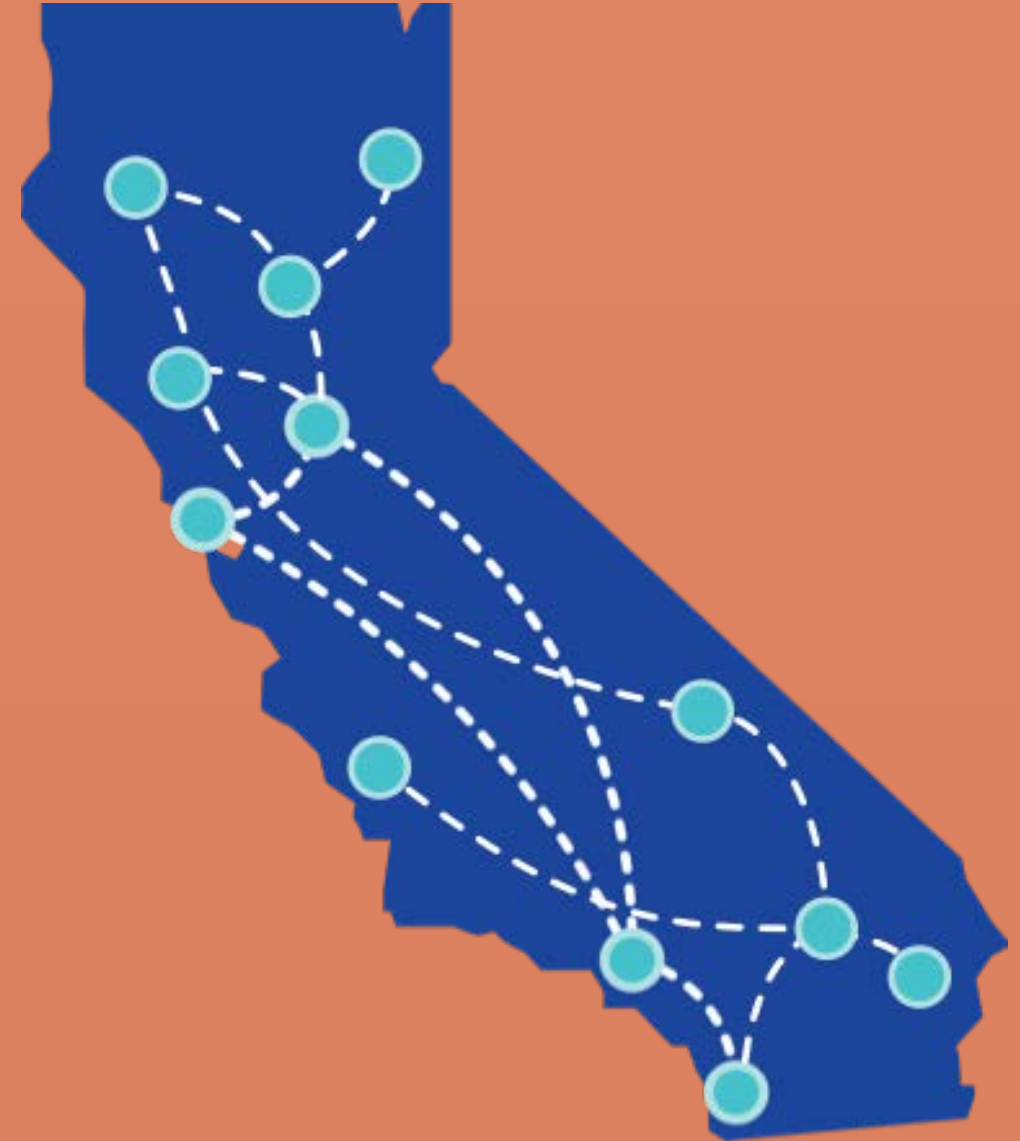
Claudia Williams

Chief Executive Officer, Manifest MedEx

## *Manifest MedEx is CA's largest health information network*

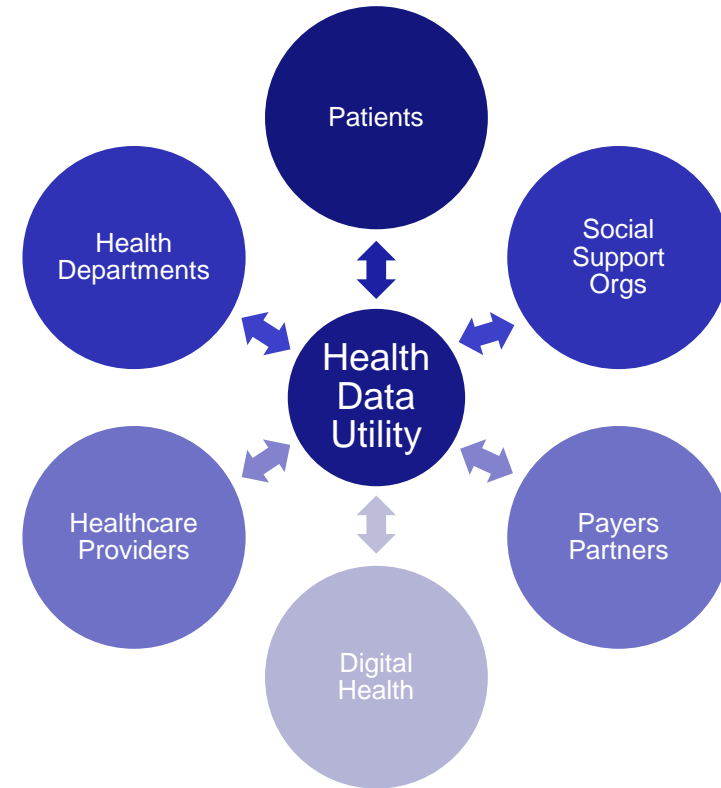
Helping California's health leaders improve care and reduce costs

- Independent non-profit
- 120+ California hospitals connected
- Claims data from 10 health plans, including Aetna, Anthem Blue Cross, Blue Shield of California, and HealthNet
- 30 million longitudinal patient records
- 1,800+ organizations in the network

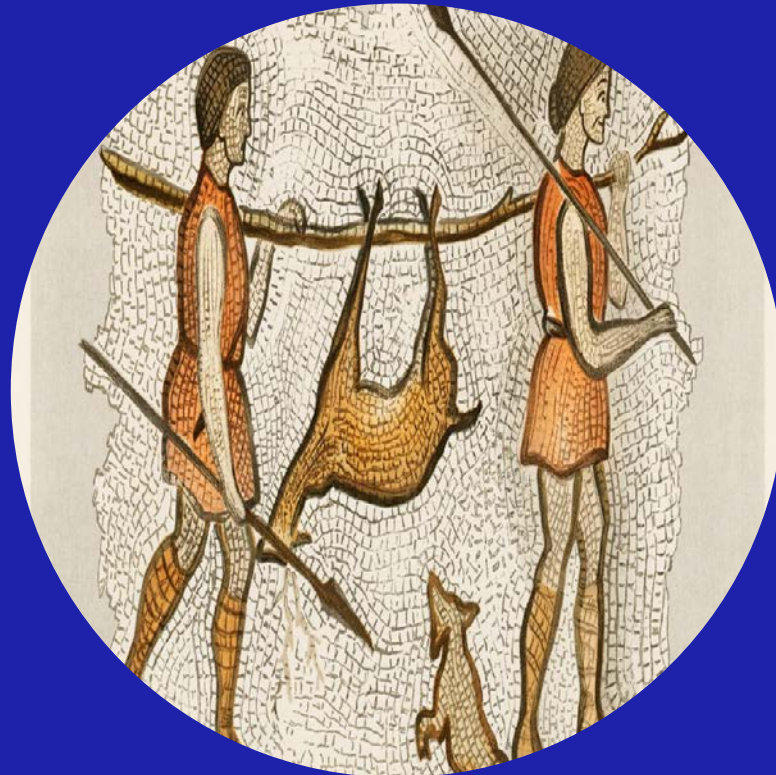


# Why Health Data Is Good Infrastructure

- One of the lessons from Covid-19 is the gaping divide between public health and clinical care
- HIEs have evolved to meet those needs, serving as hubs for clinical data and increasingly sharing social service and claims data with provider, health plan and hospital partners



*HIEs are evolving from  
“hunters and  
gatherers” to data  
“cultivators”*



## *Data and Tools for Insight and Action During the Pandemic*

- ✓ *Reaching People at Highest Risk*
- ✓ *Increasing Vaccination for Vulnerable Groups*
- ✓ *Health System Tracking*



## Case Study #1

### Reaching People at Highest Risk

- Riverside County Public Health Department came to us for help identifying high-risk COVID patients in their region and providing contact information.
- By zip code, we identified **850,000** of the county's 2.4 million residents in our nonprofit network.
- Filtering for high-risk conditions (like diabetes, respiratory conditions), we brought the list down to **175,000** residents.
- We identified the subset of patients with 10% or greater chance of being hospitalized in the next 12 months, trimming the list to **73,000** at highest-risk.



## Case Study #2

### Increasing Vaccination for Vulnerable Groups

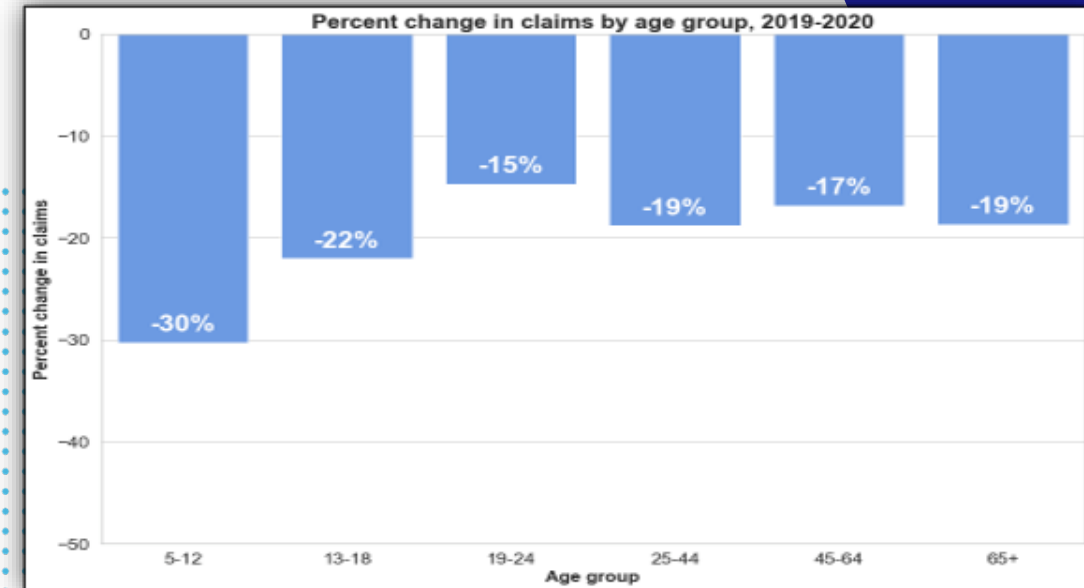
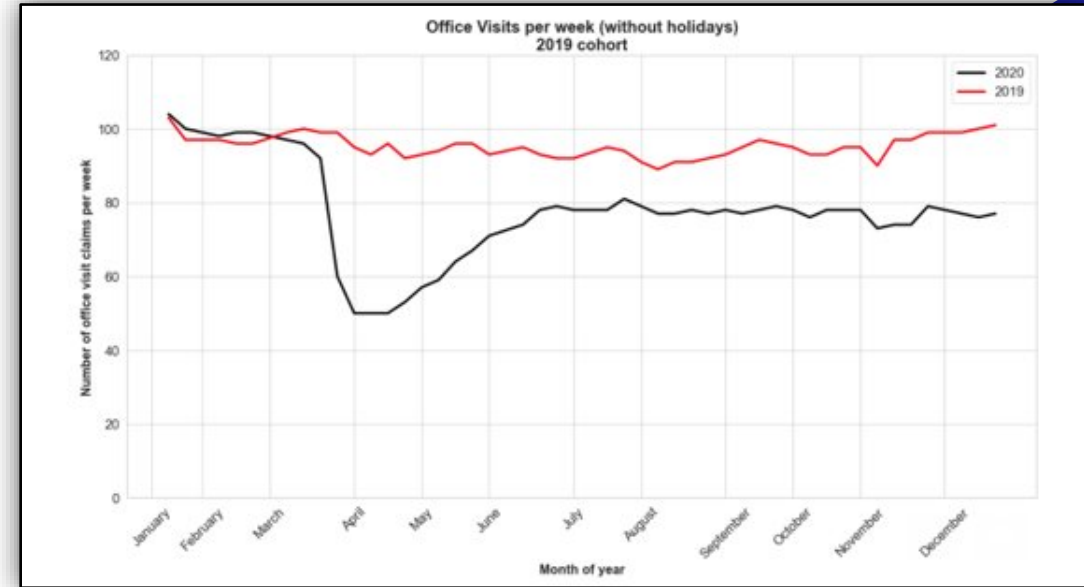
- A large Medicaid health plan reached out to MX to help prioritize members for COVID vaccination outreach.
- Using our risk-scoring methodology – we identified members at higher risk to target for vaccination.
- The race/ethnicity, language, address, and contact information helps the plan reach out to members and underserved communities with personalized communications.
- Vaccination reports are delivered to PCPs for their assigned members, and vaccine information is integrated into our platform so it can be queried.



## Case Study #3

### Health System Tracking

- MX examined the impact of COVID-19 on healthcare utilization in California in 2020, using a cohort of just over 5.3 million Californians, about 12.5% of population.
- Between March and mid-April, ambulatory visit volumes across the state fell by over 50%, remaining about 20% below baseline levels for second half of the year.
- Declines for children (30%) and adolescents (22%) were substantially greater than for adults.
- Volumes of preventive services such as mammography, colorectal cancer screening, and cervical cancer screening fell 20 – 41% in 2020.



## *What's Next?*

### **Improving race and ethnicity data**

- “First and foremost, we need accurate data. We can’t fix what we don’t know, and we can’t measure progress without a baseline.
- Reporting on race, ethnicity, language, disability status, and sexual orientation and gender identity are inconsistent at best—as are clear, consistent and comparable stratification of critical quality and outcome metrics across the program.
- CMS will work with states to improve measurement of health disparities across a core set of stratified metrics.”

*Chiquita Brooks-LaSur and Daniel Tsai, Centers for Medicare and Medicaid Services*

*A Strategic Vision for Medicaid and the Children’s Health Insurance Program, November 2021, Health Affairs*

## *What's Next?*

### **Public health alerts to prevent congenital syphilis**

- Real-time notifications alert case managers that pregnant patients were admitted for delivery and enable earlier intervention for screening and treatment.
- Prevents catch-up care, when case managers are notified only after the patient has been delivered and discharged.
- Goal is to expand to other infectious diseases like tuberculosis and Hepatitis C to support tracking and early intervention.



# *Helios FHIR Accelerator*

## *FHIR for Public Health*

Craig Newman

Program Manager - Helios

# *Fast Healthcare Interoperability Resources (FHIR)*



Increasingly, public health is being expected to process more data, much more quickly, from many more sources

While significant progress has already been made in sharing data, challenges remain that must be addressed.

## Manual Work

"We spend inordinate amount of time babysitting and doing QA on our data streams."

## Messy Data

"We want to describe what's happening in our community and efficiently target our efforts, but the data is too messy."

## Out-of-Date Information

"We're not sure what our intervention shows because the data is so far behind."

## Turn to Alternatives

"If we can't answer the questions our executives have, they go elsewhere to get the information and pass up public health."



# *Adaptable, Automated and Aligned*



## *Adapt*

How can public health systems be more flexible and resilient? What “building blocks” would allow these systems to evolve more easily and continuously? How can new approaches help yield “compounding interest” over time?



## *Automate*

How can we minimize dependencies on human entered data and manual processes? How can public health accommodate large influxes of data from sensors, smartphones, and other widely distributed sources?



## *Align*

How can public health be more compatible and connected with healthcare and the private sector? What standards could make it easier to create scalable solutions that are tailored to the needs and workflows of public health?

# *Enable a Culture of Continuous Evolution*

Optimize what exists

Mobilize for what's coming



## *Provide Value*

Address long standing pain points and deliver greater value. Focus on delivering value faster.



## *Have Focus*

Be intentional about when & how to pivot. Start small. Figure out what works in a public health context.



## *Readiness*

Which laws, regulations, or policies facilitate or mandate the use of the standard? Is the supply of people who are learning and applying the standard sufficient to put interoperability into practice?

# *Promote Widespread Implementation*

- Helios is a multi-sector alliance for the advancement of public health with a focus on exchanges with healthcare, other sectors, & the public
  - Committed to developing, testing, and supporting widespread implementation of FHIR APIs and FHIR applications
  - Focus on compatibility with US Core Profiles and other existing building blocks



## Benefits

- Advance mutual interests across sectors.
- Make it easier for public health, providers and others to use FHIR to share data.
- Identify and overcome barriers to implementation through extensive real-world testing.

# Members

## Who

- ❑ Participating members will represent a wide variety of viewpoints and roles in the collection, exchange and use of Public Health data

## Expectations

- ❑ Agree to participate in and recruit for pilot implementations to the extent feasible
- ❑ Provide resources to support development, real-world testing, and adoption of solutions
- ❑ Strongly encouraged to become members of HL7 and to participate regularly in the broader HL7 FHIR community

# *Proposed Governance Structure*

## Steering Committee

- Responsible for strategic direction of Helios
- Made up of individuals representing a diversity of viewpoints

## Operating Committee

- Responsible for the ongoing activities being performed by the Accelerator and acts as a forum for discussion of issues and reaching consensus
- Made up of representatives of member organizations

## Project Teams

- Semi-transient groups created to accomplish the goals and deliverables associated with a given use case
- Will be diverse and open groups made up of members with the skill sets necessary to carry out the work

# *Other Relationships*

## Advisors

- ❑ Additional input from community subject matter experts may be sought where necessary

## HL7

- ❑ Close relationship with Work Groups, particularly the Public Health Work Group
- ❑ Collaboration with other FHIR Accelerators
- ❑ Work closely with HL7's newly formed Standards Implementation Division to help promote a high level of rigor, transparency, and compatibility across the global FHIR community

## Allied Projects

- ❑ Collaboration with other projects (e.g. the FHIR Test Collaborative, USCDI+) to ensure synchronization of Public Health interoperability goals and approaches

# Selecting Use Cases

## Good Use Case Qualities

- Originate with groups that are actively using FHIR and have testing and implementation partners already lined up
- Are supported by open-source development
- Conform with FHIR APIs and profiles that are going into production related to the 21st Century Cures Act
- Address critical gaps that need to be filled to enable public health interoperability

## Process

- Gather input from STLTs, associations, providers, HIT vendors, sponsors and others on potential use cases and the impact of each on the public health community
- Curate and further document use cases
- Receive accelerator input from the Operating Committee to identify recommended use cases
- Approval of the use cases by the Steering Committee
- Assemble project teams and develop technical goals, deliverables and timelines

# Possible Use Cases

## Pregnancy Health Outcomes

- ❑ Provide Public Health programs (Vital Records, Birth Defect Surveillance, Newborn Screening, etc) with access to data related to an individual's pregnancy, delivery, post-partem care episode for a mother-child pair

## Real-Time Case Investigation & Outbreak Response

- ❑ Capture real-time, actionable information from healthcare and from patients directly on exposure history, travel history, vaccination history (if applicable), clinical signs and symptoms to help determine when public health needs to act right away

## Data Enrichment

- ❑ Supplement lab reports (including reports from "at-anywhere" tests) by querying EHRs and other sources for Race & Ethnicity information, and other SDOH/demographics needed to facilitate public health action



# *Contacting Helios*

Contact Us: [Helios@hl7.org](mailto:Helios@hl7.org)

Helios Homepage: <http://www.hl7.org/helios/>

Helios ListServ: [helios@lists.hl7.org](mailto:helios@lists.hl7.org)

Join Helios ListServ: <http://www.hl7.org/myhl7/managelistservs.cfm>

Helios Zulip Chat: <https://chat.fhir.org/#narrow/stream/307807-Helios-Accelerator>

# Q&A



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*Public Health Interoperability  
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# *Thank you!*

**Contact email:**

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