

Structuring Interoperability to Eliminate Double Data Entry and Improve Reporting Processes at Sedgwick County Health Department

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Introduction

- Sedgwick County Health Department (SCHD) has separate, disparate electronic systems, each one being integral to providing critical services to the community, a challenge shared by many public health agencies.
- When providing services to the community, staff often perform double data entry and navigate the challenges of disconnected workflows.
- In 2024, SCHD launched a data modernization project to improve and create interoperability across its internal software systems and with external partners.
 - Interoperability (IOP) refers to the ability of different information systems to share, interpret, and utilize data across platforms.
- SCHD partnered with HLN Consulting (HLN) to develop a modern, standards-based interoperability plan, based on Fast Healthcare Interoperability Resource® (FHIR®) standards and aligned with SCHD's interoperability objectives.
 - FHIR® is a standard for electronic health data exchange developed by Health Level Seven International® (HL7®) and has the potential to close data exchange gaps currently experienced by state and local public health agencies.¹

Project Objectives

- Identify opportunities for improved interoperability
- Reduce manual processes and duplicate data entry
- Simplify workflows and reporting processes

Methods

SCHD and HLN used a structured approach guided by the Public Health FHIR® Playbook¹ to:

- Conduct an assessment of existing systems
- Create a five-year Interoperability Plan, Staff Training Plan, Data Governance Roadmap, and Pilot Project Plan

Results

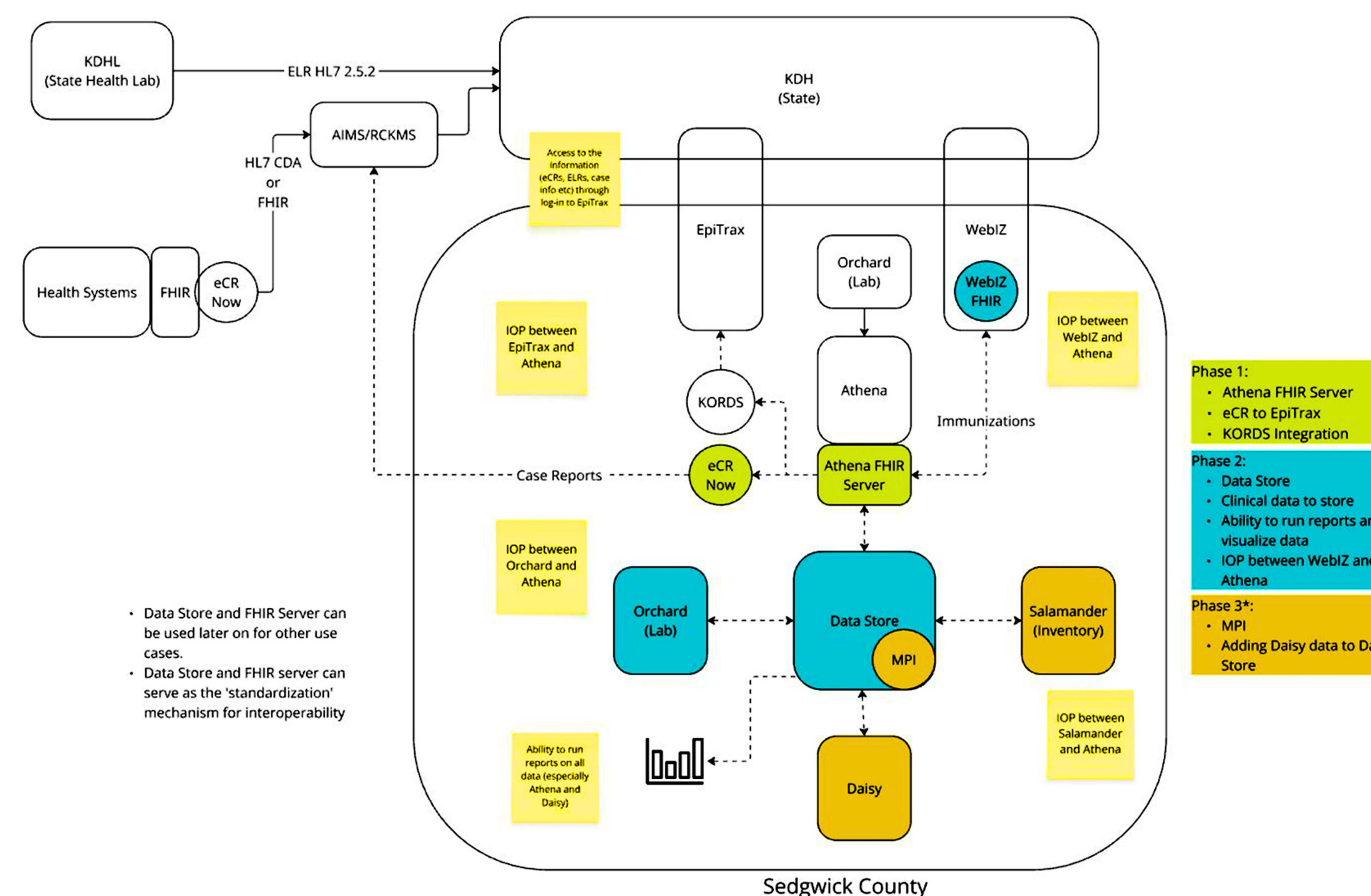
- The assessment evaluated and identified each system's capability for interoperability and the extent to which the datasets align with FHIR® resources.
- The assessment found:
 - Minimal interoperability between systems.
 - Data entry redundancy and challenges with data reporting.
 - 62 systems in use by SCHD (Figure 1)
 - These included cloud-based, server-based, and desktop software applications, as well as Excel spreadsheets used independently or alongside other software applications.

Results

Figure 1: Selected Applications Identified during the Systems Assessment



Figure 2: Diagram of System Connections in the SCHD Interoperability Plan



Results

- The assessment informed the development of a five-year Interoperability Plan which outlined a flexible data interface approach to connect systems to a centralized "hub" (Figure 2).
- The connections occurred with Application Programming Interfaces (APIs).
- The hub connected to an internal data warehouse for analysis and reporting.
- A targeted Staff Training Plan was tailored to build FHIR® literacy across different staff levels.
- A Data Governance Roadmap was designed to establish and maintain processes for proper management of data.
- A Pilot Project Plan was created and customized for SCHD's specific needs and capabilities.

Conclusions

- The assessment was a necessary first step in shaping the Interoperability Plan.
- The Interoperability Plan positioned SCHD to provide FHIR® literacy training to staff, build a sustainable data governance model, and launch multiple pilot projects in 2025.
- Local health departments can adapt this planning model to achieve streamlined workflows and ensure timely, accessible data for both daily operations and strategic decision-making.

Next Steps

In 2025, SCHD, HLN, and the Sedgwick County Division of Information Technology (SCIT) began work on two pilot projects:

eCR Now (Electronic Case Reporting) Pilot Project

- eCR Now will enable automated reporting of notifiable diseases from athenaOne (an electronic health record or EHR) to the KDHE's disease reporting system (EpiTrax).
- Implementing eCR Now is expected to reduce staff workload and improve the timeliness of notifiable disease reporting.

Vaccine Inventory System Pilot Project

- SCIT is developing an in-house system that uses FHIR® standards and the athenaOne EHR to track vaccine inventory and administration.
- Implementing the new in-house system is expected to reduce staff workload and improve accuracy.

¹ The Public Health FHIR® Playbook: https://www.cdc.gov/data-interopability/media/pdfs/PHFIC_Public-Health-FHIR-Playbook.pdf