



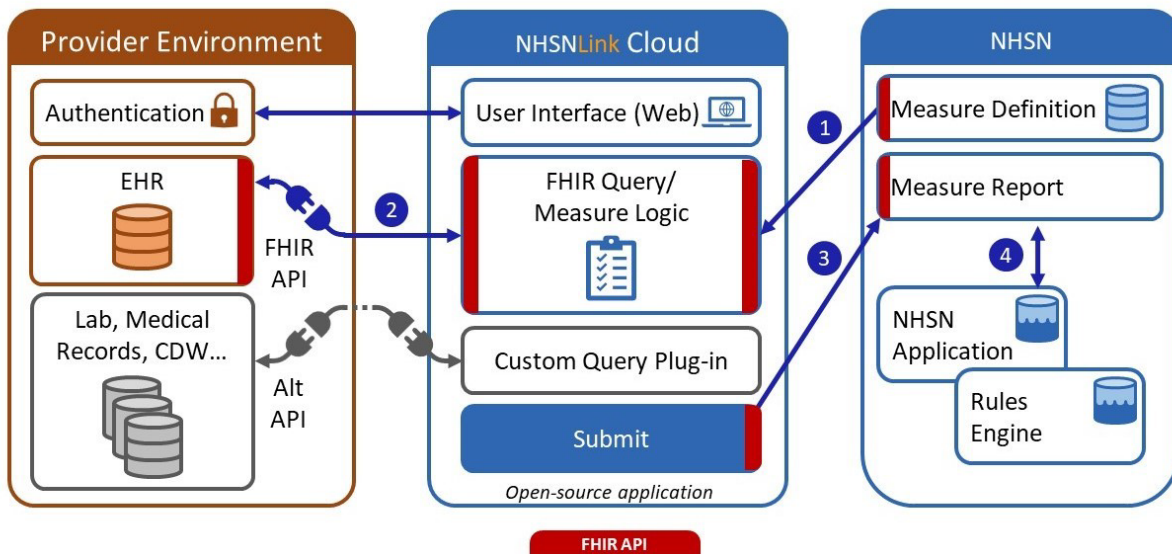
A Reference Implementation for Public Health Reporting

Introduction

NHSNLink is an open-source Health Level 7® Fast Healthcare Interoperability Resources (FHIR) reference application for public health reporting. Through an extensible, configurable query engine, NHSNLink’s multi-component architecture securely connects (via cloud-based or on-site integration) to a healthcare facility’s electronic health record (EHR) system to extract data, evaluate the data using pre-defined measures, generate measure and line-level reports, and submit data directly to the Center for Disease Control and Prevention’s National Healthcare Safety Network (NHSN).

As a FHIR Reference Implementation, NHSNLink is freely available as a model to implement or customize. The FHIR open Application Programming Interface (API) for healthcare data exchange is gaining ground with EHR vendors.

How it Works



- 1 App requests/receives measure definition
- 2 App receives patient IDs → Queries for data on measure-defined population → Evaluates data according to measure (Option: Infection Professional reviews/amends report)
- 3 App bundles and sends report *plus* line-level data
- 4 NHSN does full measure evaluation and analysis including line-level data
- 5 (Not shown: end user has view of data from within NHSN Application)

Data Acquisition During a Pandemic: Challenge and Opportunity

Challenge: The COVID-19 pandemic presents a significant data-gathering challenge for public health organizations: How to radically shorten the data acquisition timeframe while minimizing the data-reporting burden on provider facilities? Roadblocks to acquiring timely, accurate data include:

- Long EHR vendor product cycles
- Redundant keyboard entry (burdensome and error prone)
- Inflexible specifications
- Non-automated measure specifications
- Lack of access to line-level data

Opportunity: Given the pandemic-fueled awareness of the key role of public health information, we can take advantage of the FHIR API to streamline public health data reporting and create a pathway to automate reporting to NHSN. The FHIR API can overcome the challenges listed above and:

- The groundwork has been laid by EHRs' adoption of prior standards for structured data.
- There is growing maturity and uptake of the HL7 FHIR API.
- Minimum FHIR compliance is defined in US Core Data for Interoperability (USCDI).
- Measure/report specifications are not dependent on EHR vendor product cycles.
- Provide access to crucial line-level data.

Ongoing Development

The process of integrating measure development, feasibility testing, application testing, and managing pilot site deployment is uncharted waters in the healthcare information exchange industry. As such, Lantana is working closely with NHSN, healthcare providers, infection preventionists, and EHR vendor partners to navigate the intricacies of measure development (e.g., not all required data is in FHIR, not all data in EHR is accessible, not all data is in the EHR) and remaining obstacles to automating case identification and reporting.

To stay up to date on progress against these objectives during the NHSNLink pilot phase, use the link below or visit www.lantanagroup.com/our-software-products/nhsnlink.

Built by Lantana Consulting Group under contract to NHSN, NHSNLink has been tested at Connectathons, exhibited at this year's HIMSS Showcase, integrated with Cerner Millennium EHR software, and is in alpha pilot with Epic EHR deployments at Yale New Haven Health and another academic medical system. Contact us at NHSNLink-contact@lantanagroup.com for more information.
