KLAS RESEARCH | K2 Collaborative

Points of Light

Operationalizing Bulk FHIR for Scalable Quality Measurement

Points of Light 2026 Case Study 20

April 2026

KLAS 2026 K2 Collaborative A Payer/Provider Initiative POINTS OF LIGHT AWARD

Case Study 20

Operationalizing Bulk FHIR for Scalable Quality Measurement

Executive Summary

The collaborators in this case study replaced manual chart reviews and fragmented record requests with automated, group-based data sharing (Bulk FHIR) aligned to national digital quality standards. Using a secure, TEFCA-aligned network and a single connection between organizations, the teams built and tested systems that could exchange large volumes of standardized clinical data for quality reporting. Through ongoing validation and governance, they successfully shared data for more than 5,000 members while ensuring privacy protections were in place. The effort reduced chart-chasing costs, improved record-procurement performance, and shortened reporting timelines.

The Collaborators

Healthcare Organization 20

Anonymous
Location: WA
Sizing: 15,000+ physicians

Payer Organization 20

Anonymous
Location: ID, OR, UT, WA
Sizing: 3.4 million members

NCQA Measuring quality. Improving health care.

Headquarters: Washington, DC
Segment: Interoperability, clinical data exchange

eHealth Exchange™

Headquarters: VA
Segment: Interoperability, clinical data exchange

Points of Friction—Challenges to Be Solved

- **Quality measurement has historically depended on manual chart reviews, point-to-point interfaces, and inconsistent data feeds, resulting in administrative burden and delays in HEDIS reporting:** As organizations transition toward digital quality measurement, retrieving complete patient rosters across organizational boundaries remains operationally complex, particularly when relying on one-to-one record requests instead of Group-level bulk transactions. Additionally, accurate roster attribution presents a barrier, as payers and providers require high-confidence patient matching to ensure that only active members are included in Group-based exports. Although the HL7 Da Vinci Member Attribution (ATR) implementation guide (IG) exists, it has not been broadly tested in production environments and therefore requires continued interpretation, validation, and refinement.
- **Variability in FHIR implementations further complicates digital measurement efforts:** While EHR vendors are certified at the product level, implementation-level differences often result in proprietary value sets, incomplete mapping to standardized terminologies (e.g., LOINC, SNOMED), and inconsistent resource placement. These inconsistencies undermine data usability for digital HEDIS calculations and prior authorization workflows. Compounding this challenge, most EHR infrastructure was not originally designed to support high-volume Bulk FHIR data exports. Production systems are typically optimized for one-at-a-time patient retrieval; scaling to thousands of members introduces performance constraints related to indexing, compute capacity, and data modeling.
- **Operational complexity is heightened by compliance and downstream ingestion barriers:** Evolving state-level regulations require organizations to identify and suppress sensitive data categories (e.g., behavioral health, reproductive health, gender-affirming care) from automated exports to mitigate regulatory risk across state lines. At the same time, payer ingestion barriers persist because many HEDIS-certified vendors do not yet accept FHIR-native inputs, requiring additional mapping from FHIR resources into proprietary vendor formats before quality calculation can occur.

Action Plan—How the Collaborators Worked Together to Reduce Friction

- **NCQA convened the Bulk FHIR Quality Coalition to generate real-world evidence on regulated Bulk FHIR endpoint performance and data quality:** As the HEDIS steward, NCQA aligned the work with their Digital HEDIS FHIR IGs, codified measures in Clinical Quality Language (CQL), and advanced digital measurement standards through their Digital Quality Implementers Community (DQIC).
- **The collaborators operationalized Group-based Bulk FHIR exchange aligned with HEDIS FHIR IGs and leveraged TEFCA-aligned infrastructure and Da Vinci attribution standards:** Participants conducted iterative data-validation cycles, reconciled attribution

discrepancies, refined export configurations, and held weekly governance meetings to address performance bottlenecks and policy alignment.

- **eHealth Exchange served as the interoperability intermediary, architecting a single-connection model that eliminated bespoke point-to-point integrations:** The network provided routing, authentication, authorization, and secure Group-level Bulk FHIR data ($export) capabilities, enabling Healthcare Organization 20 and Payer Organization 20 to transact Bulk FHIR data within a TEFCA-aligned trust framework.
- **Healthcare Organization 20 implemented a production-grade Bulk FHIR endpoint within their Azure API and Epic ecosystem and leveraged a cloud-enabled data repository to support high-volume export requests:** The organization configured Group identifiers aligned to the Da Vinci ATR standard, conducted performance testing, validated FHIR outputs against US Core and HEDIS IG specifications, and developed sensitive-data filters to comply with state and federal regulations.
- **Payer Organization 20 generated full attributed member rosters using the ATR framework, initiated Bulk FHIR export requests, and built ingestion pipelines to retrieve and validate NDJSON bundles:** The payer validated completeness and integrity against US Core and NCQA HEDIS FHIR IG requirements and mapped standardized FHIR outputs into their HEDIS-certified vendor's proprietary calculation environment.

Points of Light—Outcomes Achieved Through Collaboration

- **Payer Organization 20 and Healthcare Organization 20 successfully exchanged HEDIS-relevant clinical data for over 5,000 attributed members**, validating data completeness for quality reporting.
- **Healthcare Organization 20 reduced chart-chasing costs by approximately $50 per chart and improved medical record procurement performance by 175%** compared to baseline manual workflows.
- **Automated polling and retrieval reduced bulk export timelines from days or weeks to minutes**, significantly accelerating quality reporting cycles.
- **The collaboration achieved cross-sector production alignment across a national health information network, a quality steward, a payer organization, and a healthcare organization, demonstrating that regulated APIs and shared FHIR profiles can operate consistently at scale:** The pilot confirmed Bulk FHIR is operationally scalable when supported by governance, attribution standards, and data-quality validation.

Lessons Learned—What Best Practices Can Other Organizations Replicate?

- **Organizations must prioritize data quality from the outset:** Certification at the EHR product level does not guarantee implementation-level consistency, and provider-level validation frameworks are essential to ensure usable standards-aligned data for digital measurement.
- **Accurate patient attribution is foundational:** Implementing the Da Vinci ATR standard for roster management enables scalable Group-based queries and reduces reconciliation errors between payer and provider systems.
- **Sensitive data governance must be proactively addressed before go-live:** Automated exports require clear filtering logic aligned to evolving state regulations. This review process is time-intensive but essential for compliance.
- **Digital HEDIS calculation requires alignment of code systems and mappings between FHIR resources and quality measure specifications:** One-time mapping investments create long-term scalability across multiple payer relationships.
- **It is critical to have cross-sector collaboration with clear communication, trust, and alignment across technical teams, clinical leadership, and policy stakeholders:** Regular validation cycles and open dialogue accelerate resolution of performance and interoperability issues. All stakeholders had to be agile and accountable in the process.
- **Adoption will initially be incremental:** Bulk FHIR scalability depends on EHR vendor road map alignment and federal incentives, but once required or incentivized, deployment will likely accelerate rapidly.

What's Next?—Vision for the Future

- **The coalition plans to expand adoption of Bulk FHIR quality exchange across additional payer-provider pairs** using the same networked model and standardized attribution framework.
- **The collaborators aim to work with EHR vendors to improve bulk performance capabilities and socialize proven implementation approaches**, including sensitive-data suppression models and standardized attribution workflows.
- **NCQA will continue advancing Digital HEDIS, expanding CQL engine alignment through DQIC, and refining certification pathways for digital data-quality validation.**
- **Payer Organization 20 and Healthcare Organization 20 anticipate extending Bulk FHIR exchange beyond HEDIS to broader healthcare operations use cases**, including claims reconciliation and care management workflows.
- **Collectively, the collaborators envision a healthcare ecosystem in which standardized FHIR APIs replace manual chart abstraction and fragmented point-to-point interfaces**, enabling scalable, frictionless clinical data exchange nationwide.