Exploring FHIR to Reduce Burden for Quality Measurement

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Quality Improvement Ecosystem

- **Researcher and Public Health Surveillance**
  - Analyze what is happening

- **Clinical Practice Guidelines**
  - What should happen

- **Clinical Decision Support**
  - Making it happen

- **Patient, Provider, Population, Public**

- **Reporting**
  - Reporting what happened

- **Measurement & Analytics**
  - Measuring what happened

- **Clinical Care**
  - Clinician & Patient Workflow

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Common Shared Standards for Measures and Clinical Decision Support
# Quality Measure Standards Ecosystem

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\(^1\) QRDA – Quality Reporting Document Architecture  
\(^2\) DEQM – Data Exchange for Quality Measures
Standards Development Timeline

- 2009: virtual Medical Record (vMR)
- 2010: Quality Data Model (QDM)
- 2011: Quality Improvement Core (QI-Core)
- 2012: US Core
- 2013: Fast Healthcare Interoperability Resources (FHIR)
- 2014: Clinical Quality Language (CQL)
- 2015: Health eDecisions (HeD)
- 2016: Health Quality Measure Format (HQMF)
- 2017: Decision Support Service (DSS)
- 2018: CDS Hooks
- 2019: FHIR Clinical Reasoning
- 2020: ?
- 2021: ?
- 2022: ?
- 2023: ?
- 2024: ?
- 2025: ?
- 2026: ?
FHIR Quality Measure Ecosystem
2 QI-Core Profiles

The following table lists the QI-Core profiles that are part of the IG, which USCore profile they are derived from, if any, and the underlying FHIR resources:

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Data Exchange for Quality Measures

1 Home

1.1 Introduction

The purpose of this implementation guide is to support value based care data exchange in the US Realm. However, this Implementation Guide can be usable for multiple use cases across domains, and much of the content is likely to be usable outside the US Realm.

Interoperability challenges have limited many stakeholders in the healthcare community from achieving better care at lower cost. The dual challenges of data standardization and easy information access are compromising the ability of both payers and providers to create efficient care delivery solutions and effective care management models. To promote interoperability across value-based care stakeholders and to guide the development and deployment of interoperable solutions on a national scale, the industry needs common information models and data exchange standards. The intent of the framework defined in this guide is to enable automatic data collection and submission limiting the need for manual processing and intervention. Ultimately, a national standard based on FHIR for data structure and exchange will reduce the burden on clinicians of transforming data between systems.

This Implementation Guide is supported by the Da Vinci® initiative which is a private effort to accelerate the adoption of Health Level Seven International Fast Healthcare Interoperability Resources (HL7® FHIR®) as the standard to support and integrate value-based care (VBC) data exchange across communities. Like all Da Vinci Implementation Guides, it follows the HL7 Da Vinci Guiding Principles® for exchange of patient health information. The guide is based on the prior work from the US Core®, QI Core®, and HEDIS® Implementation Guides and the IQRCA® Category I and III reporting specifications. Changes to this specification are managed by the sponsoring HL7 Clinical Quality Information (CQI)® and Clinical Decision Support (CDS)® workgroups and are incorporated as part of the standard HL7 balloting process.

1.2 How to read this Guide

This Guide is divided into several pages which are listed at the top of each page in the menu bar.

- **Home**: The home page provides an introduction and background for the Clinical Quality Measures Ecosystem and The Data Exchange For Quality Measures.

- **Framework**: These pages provide guidance on the use of FHIR terminologies that provide a general framework to enable the exchange of measure data.
1 Quality Measure Implementation Guide

1.1 Summary
The Fast Healthcare Interoperability Resource (FHIR) Quality Measure Implementation Guide (this IG) describes an approach to representing electronic Clinical Quality Measures (eCQMs) using the FHIR Clinical Reasoning Module and Clinical Quality Language (CQL) in the US Realm. However, this Implementation Guide can be usable for multiple use cases across domains, and much of the content is likely to be usable outside the US Realm.

The implementation guide is based upon the previous generation of eCQM representation standards, the HL7 V3-based Health Quality Measure Format (HQMF) and accompanying implementation guides. As an HL7 FHIR Implementation Guide, changes to this specification are managed by the sponsoring Clinical Quality Information Work Group and are incorporated as part of the standard balloting process.

1.1.1 Examples
Refer to the Qi-Core implementation guide for examples of how to represent data involved in calculation of quality measures.

1.2 How to read this Guide
This Guide is divided into several pages which are listed at the top of each page in the menu bar:

- **Home**: The home page provides the summary and background information for the FHIR Quality Measure Implementation Guide
- **Introduction**: The introduction provides a more detailed overview of quality measurement and the background for this guide

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Electronic clinical quality measures (eCQMs) progress through multiple lifecycle stages.

- Measure Conceptualization
- Measure Specification
- Measure Testing
- Measure Implementation
- Measure Use, Continuing Evaluation, and Maintenance

The CMS Measures Management System Blueprint outlines core processes for measure developers to follow when moving through the Measure Lifecycle for the quality measures used in various quality initiatives and programs.

Opportunities are available for the public to engage in the different stages of the Measure Lifecycle including Call for Measures, Technical Expert Panels (TEPs), testing, and Public Comments.

https://ecqi.healthit.gov/ecqm-lifecycle