Clinical Quality Framework Pilot Project Summary

Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic

Pilot Team

Motive Medical Intelligence

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Pilot Background

This quality measure, *Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic (PQRS Measure #204/NQF 0068)* was piloted in the Heath eDecisions (HeD) Initiative of the S&I Framework. This initial work demonstrated that an event-condition-action (ECA) rule could be represented in a standards-based format, consumed by a third-party EHR platform, and executed successfully against test patient data.

The Clinical Quality Framework (CQF) pilot of the *Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic* quality measure is a natural extension to the HeD Initiative work and will further demonstrate the effectiveness, portability, and utility of CDS artifacts represented in a standardized format.

Pilot Goal

Motive's primary goal is to support the development of a national standard for sharable, executable CDS artifacts and quality measures. This community effort and experience is critical to achieving outcomes-driven health care and providing clinicians with the tools they need to deliver high-quality care.

In this pilot, Motive will demonstrate that a shareable ECA rule can be created, deployed, and executed in at least one third-party clinical system, such as an electronic health record (EHR), or by a cloud-based CDS service, using the CQF standard for artifact representation.

This pilot will support the implementation and testing of the CQF data model (QUICK) and query language (CQL) in a real-world scenario and provide feedback and specifications for the standards documentation and implementation guide.

The clinical logic that will be implemented by *Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic* artifact is illustrated in figure 1, below.

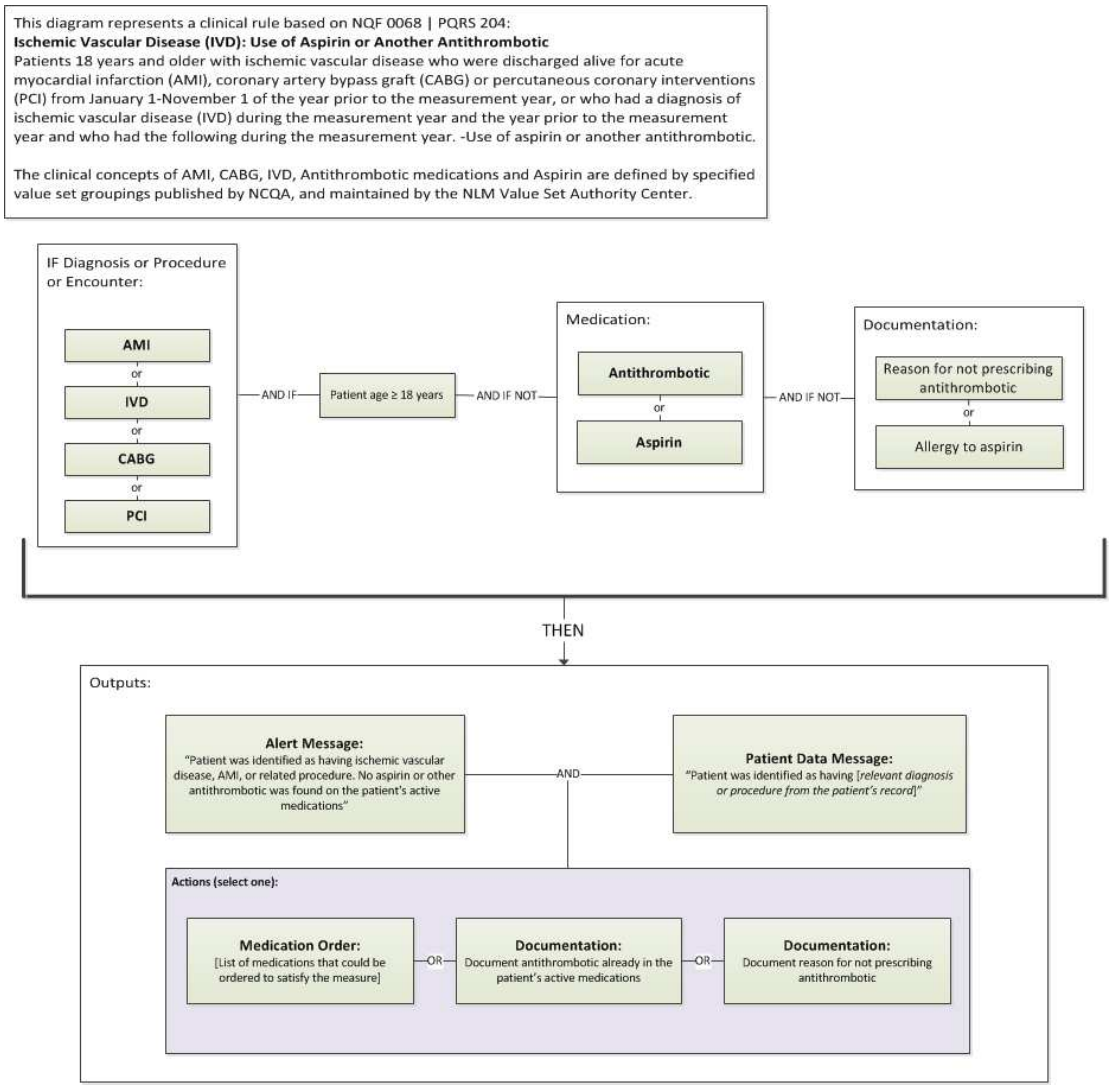

Figure 1: Schematic of the clinical logic of a CDS artifact for the NQF 0068 measure, *Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic*

This pilot will apply the standards for interoperability for sharing CDS and eCQM artifacts as presented in the *CQF Use Case* and illustrated in figures 2, 3, and 4, below.

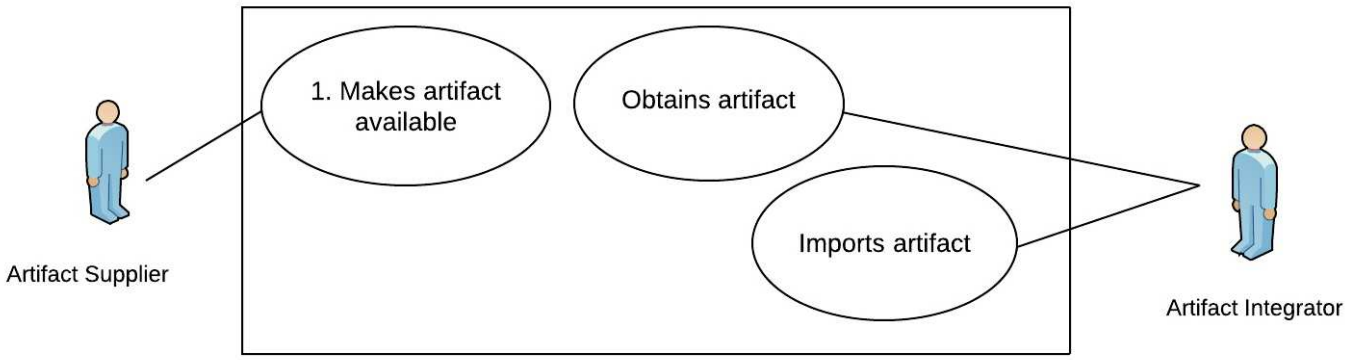

Figure 2: Use case diagram for artifact sharing for CDS and eCQM artifacts

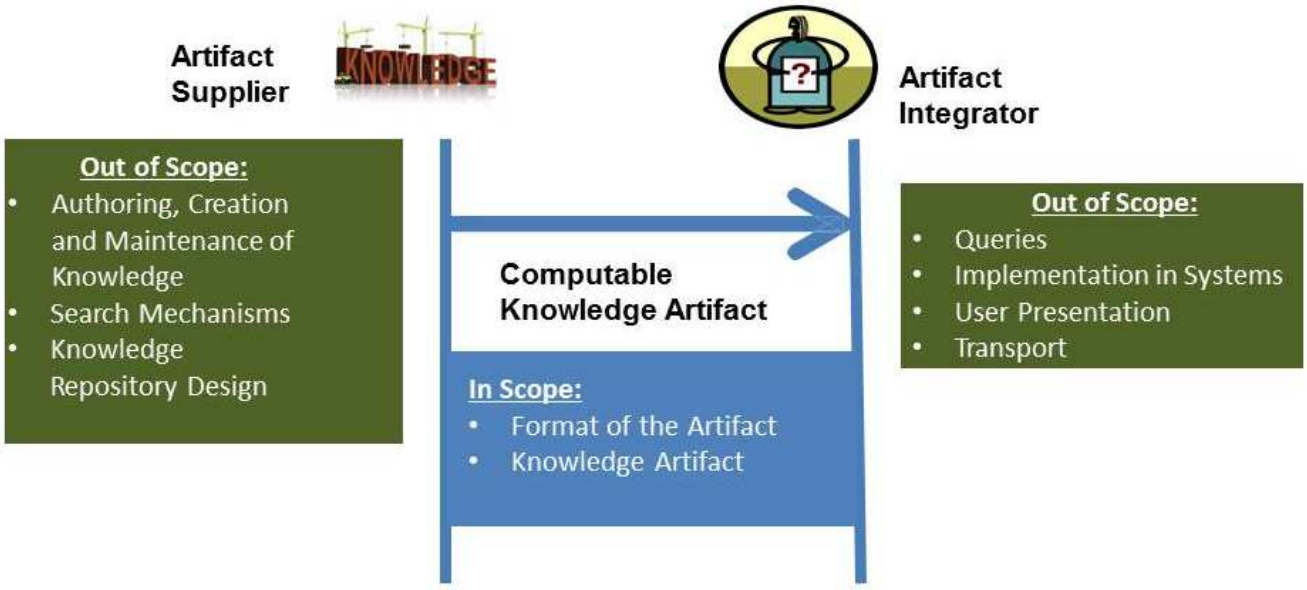

Figure 3: Context diagram for artifact sharing for CDS and eCQM artifacts

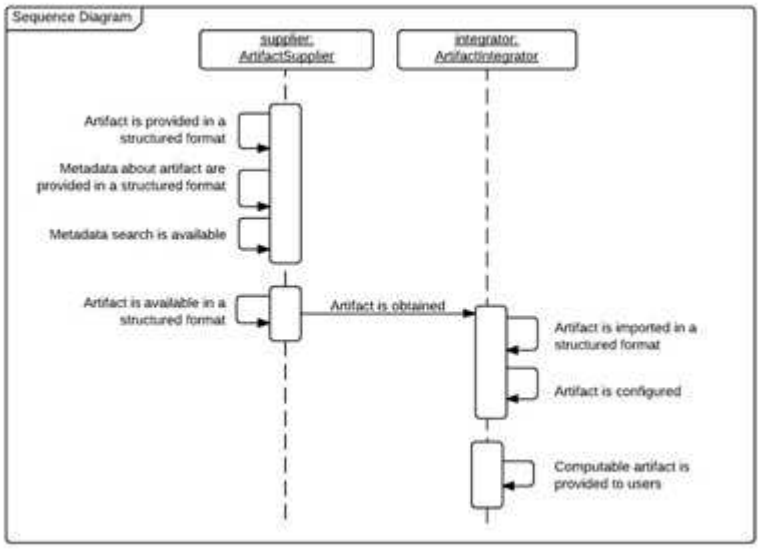

Figure 4: Artifact sharing sequence diagram

Use Case Aspects Being Piloted

The initial focus of this pilot is to demonstrate the artifact sharing sections and scenario of the *CQF Use Case* as detailed in the table below.

Section of the Use Case	Pilot Specifics
3.2.1 In-Scope: Artifact Sharing	• Demonstrate the use of CQF standards to structure and accurately represent medical knowledge in a shareable and executable format for use in CDS and quality measurement. • Artifact Type: Event-condition-action rule.
7.1 Post Conditions: Artifact Sharing	• The artifact supplier has sent the artifact to the requesting artifact integrator. • The artifact has been received by the artifact integrator and is available for processing.
10.1 Artifact Sharing Scenario	The pilot will demonstrate the following subcomponents of the use case: • 10.1.2 Activity diagram • 10.1.3 Base flow • 10.1.4.1 Functional requirements for information interchange • 10.1.4.1 System requirements for artifact repository and CDS system • 10.1.5 Sequence diagram

With the addition of both a CDS service and EHR system, this pilot could demonstrate the service-based evaluation sections and scenario of the *CQF Use Case*.

Use Case Actors:

- Artifact Supplier: CDS content supplier
- Artifact Integrator: CDS Service (participant required)
- Artifact Integrator: EHR Vendor (participant required)

Technical Implementation Plan

Motive recommends a multiphase approach to this pilot.

Phase 1: Artifact production, translation and execution

- A CDS artifact for NQF 0068, which is currently in the HL7 *CDS Knowledge Artifact Specification, Release 1.2* standard, will be produced in the CQF standard using QUICK and CQL and made available as an XML file for consumption.
- The CQF version of the artifact will be manually translated to Drools and tested against synthetically generated patient data within a test CDS environment.

Phase 2a: Systematic translation of the artifact and execution in a test environment

- Auto-translation of the knowledge artifact to Drools rules and associated data model.
- Execution and testing of the translated version in a test CDS environment.

Phase 2b: Validation of translated knowledge artifact with patient data

- Execution of the translated knowledge artifact in a production system (CDS service or EHR).
- Validation of performance of the CDS artifact against real clinical data.

Timeline

Target Date	Milestone
September 26, 2014	Identify a CDS test environment for phase 1
November 28, 2014	Complete phase 1
December 12, 2014	Document findings and recommendations for revisions to the standard resulting from phase 1
January 30, 2015	Identify partners for phase 2a and phase 2b
March 31, 2015	Complete phase 2a
April 30, 2015	Document findings and recommendations for revisions to the standard resulting from phase 2a
July 31, 2015	Complete phase 2b
August 31, 2015	Document findings and recommendations for revisions to the standard resulting from phase 2b

Success Criteria

This pilot will successfully implement one ECA rule for *Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic* and demonstrate the ability to execute it from at least one EHR system or CDS service provider against patient data.

In Scope/Out of Scope

The following items will be out of scope for this pilot:

- Representation of the NQF 0068 measure as an eCQM artifact in the CQF standard
- Translation and execution of and eCQM artifact
- Service-based evaluation of the CDS artifact

Questions/Needs

The successful implementation of this pilot requires the following capabilities:

- Resources to code a version of the artifact in Drools
- A CDS test environment with synthetic patient data
- A system to translate CQF artifacts to Drools automatically
- A production CDS environment or EHR platform running Drools with access to patient data

Helpful References

- Use Case: https://docs.google.com/document/d/171MYGI-bEDe_3XdwOg9wZtL_b3YF6b0e_uPdjW_rcCM/pub
- Pilots Wiki Page: http://wiki.siframework.org/Clinical+Quality+Framework+Pilots