Point·of·Care PARTNERS | HEALTH IT MANAGEMENT CONSULTANTS

The Da Vinci Project

A New Paradigm for the Rapid Advancement of Multi-Stakeholder Healthcare Collaboratives

Background

Historically, it has been highly difficult to bring together a diverse set of healthcare stakeholders to work cohesively and efficiently to solve pressing healthcare challenges. Whether from differing agendas or competitive differences, multi-stakeholder collaboratives can fail to achieve their goals. The HL7® Da Vinci Project, the subject of this paper, has reached and exceeded its business goals to date for advancing healthcare interoperability and supporting industry's shift to value-based care (VBC).

Da Vinci's timing could not have been better. According to one **estimate**, two-thirds of reimbursements now are based on value, while fee-for-service reimbursement should fall below 26% by 2021. Although payers and providers are reducing unnecessary medical costs by an average of 5.6% as a result of their VBC strategies, they lack satisfactory analytics and automation to better engage providers, operationalize their models, and assess effectiveness overall.[1]

Interoperability challenges have limited many stakeholders in the healthcare community from achieving better care at lower cost. Through the Da Vinci Project, stakeholders are working together to accelerate the adoption of HL7 Fast Healthcare Interoperability Resources (HL7® FHIR®) as the standard to support and integrate VBC data exchange across communities.

Point-of-Care Partners (POCP) was engaged in early 2018 to manage the Da Vinci Project. This paper looks at the nuts and bolts of how the Da Vinci Project has emerged as a VBC health IT catalyst and model for multi-stakeholder collaboration in less than 3 years. For insights about Da Vinci use cases, members and success stories, visit the **HL7 website** or Da Vinci **Confluence site**.

Table of Contents

[1]Finding the Value in Value-Based Care: The State of Value-Based Care in 2018, Accessed December 17, 2019.

SHARE THIS WHITEPAPER

The Da Vinci Challenge

The founding members of Da Vinci recognized the critical need to establish a rapid multi-stakeholder process for addressing VBC delivery use cases that could be implemented on a national basis. As a key participant and emerging leader in the very early days of the project, POCP soon took on the Program Manager role, championing and cheerleading the project's twelve early members representing payers, providers, and health IT vendors. These visionary leaders came to the table with diverse needs and challenges that POCP helped synthesize to gain consensus for Da Vinci's mission, governance structure, and initial use cases. Our consulting experience combined with program leadership, product management, and industry expertise helped us effectively address technical barriers and diverse stakeholder needs to:

- Advance transparency and interoperability by leveraging the collective expertise and efforts of industry experts using internationally recognized exchange standards to solve problems

- Enable VBC and digital transformation, focusing on high volume, manual activities that could be automated, thus creating efficient, and effective real-time data exchange

- Provide tools enabling participants to save money by minimizing the development of one-off, point-to-point solutions

- Encourage all to participate in an open process

Industry Embraces Da Vinci

At the onset of the Da Vinci Project, the organizers conservatively expected that it would take a year to develop the first couple of use cases. To add to the urgency and value of FHIR efforts, alongside founding discussions, Apple mobilized industry interest in FHIR when it **announced** that its **health app** would aggregate existing patient-generated data with data from a user's electronic health record (EHR) at participating hospitals. About the same time, Amazon, Berkshire Hathaway, and JPMorgan Chase announced **Haven**, a not-for-profit healthcare-focused entity that would use FHIR to bring together the resources and capabilities of the three companies to create better outcomes and lower costs for their US employees and families.
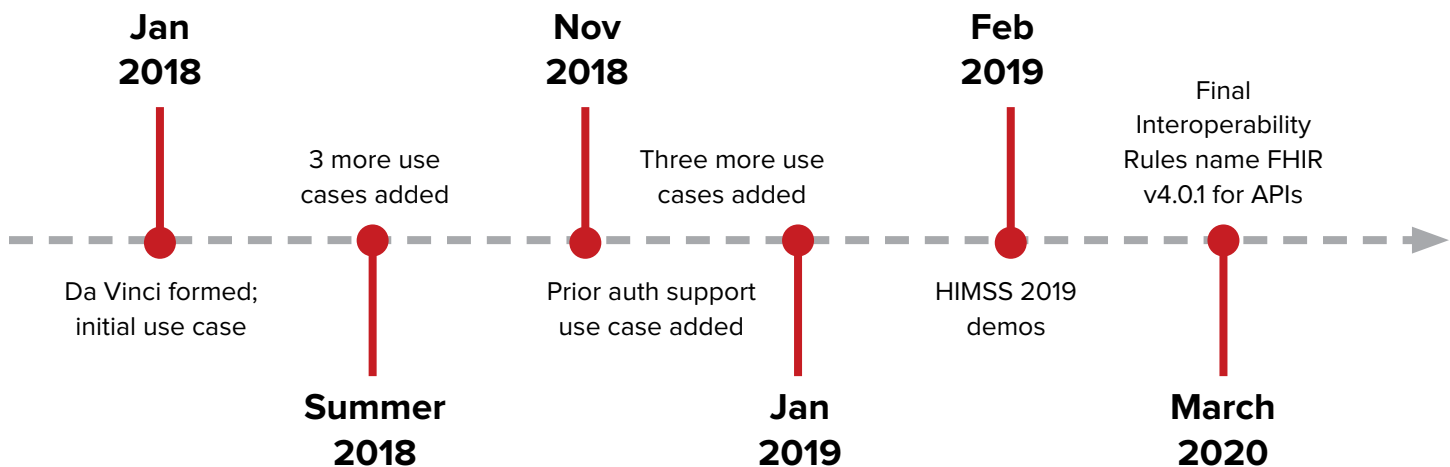
On the heels of these big announcements, within 3-4 months, Da Vinci rolled out business requirements for its first two use cases, Data Exchange for Quality Measures (DEQM) and Coverage Requirements Discovery (CRD) and successfully balloted them within 6 months.

Word about Da Vinci spread rapidly as its Project Team and early leaders began to speak at HIMSS18 and HL7 meetings and through word of mouth. By late 2020, Da Vinci was successful in bringing payer and provider technical, clinical, and business leaders to the HL7 FHIR Community:

- Nine Connectathons from January 2018 to date

- A dozen member working and education sessions

- Grew membership from 28 to 50 members

- Educated and evangelized Da Vinci progress at over a hundred industry events and organizations

- Announcements and member shares of initial production adoption beginning in 2019 encompassing hundreds of organizations participating on over a dozen workstreams and projects to move Da Vinci artifacts into real world-use across the US

Project Milestones

- January 2018: stakeholders approved the formation of Da Vinci and work began on the initial **use cases**. Da Vinci members identified payer/provider trading partners to develop and validate the artifacts and tools for two targeted use cases in 2018.

    – Data Exchange for Quality Measures (DEQM): aka Medication Reconciliation Post-Discharge (MRP)

- Summer 2018: the membership added three additional use cases:

    – Payer Coverage Decision Exchange (PCDE): support payer to payer continuity of care, required by 1/1/22

    – Document Templates & Coverage Rules

    – eHealth Record Exchange: Clinical Data (CDex)

    – eHealth Record Exchange: Payer Data Exchange (PDex)

- Fall 2018: initial two use case Implementation Guides were balloted at HL7. Both Guides and Reference Implementation Materials are available on the Da Vinci **Confluence Page**.

- November 2018: Da Vinci members added Prior Authorization Support use case

- January 2019: Da Vinci members add three new uses cases:

    – Gaps in Care & Information

    – Risk Based Contract Member Identification

    – Alerts: Notification (ADT), Transitions in Care, ER Admit/Discharge

- February 2019: Da Vinci **demonstrates progress** at HIMSS2019

Jan 2018 — Da Vinci formed; initial use case

Summer 2018 — 3 more use cases added

Nov 2018 — Prior auth support use case added

Jan 2019 — Three more use cases added

Feb 2019 — HIMSS 2019 demos

March 2020 — Final Interoperability Rules name FHIR v4.0.1 for APIs

- In March 2020, the Interoperability and Patient Access final rule (CMS-9115-F) finalized adoption of HL7 FHIR Release 4.0.1 as the foundational standard for APIs, including Patient Access and Provider Directory APIs. Da Vinci use cases supporting the final CMS/ONC Interoperability Rules include:

    – Payer Data Exchange (PDEX): Supports Patient Access APIs required by 1/1/2021 and the exchange of specific coverage/treatment decisions from one payer to another payer required by 1/1/2022

    – Provider Directory (Plan Net): Supports Provider Directory APIs required by 1/1/2021; enforcement 7/1/2021[2]

    – ADT Notifications (Clinical Data Exchange): Supports use of FHIR resources for hospitals to send patient admission and discharge information to other providers required by 5/1/2021

- Q3 2020: Initial production deployments

- Q4 2020: Initial implementation guides going to publish

Da Vinci Pillars of Success

Much of what POCP has applied as the program management organization for Da Vinci originated from our first **multi-stakeholder collaborative**, the Southeastern Michigan (SEMI) electronic prescribing Initiative and has been consistently observed in other successful multi-stakeholder collaboratives like Argonaut, CARIN Alliance and the ONC FHIR at Scale Taskforce (*FAST*).
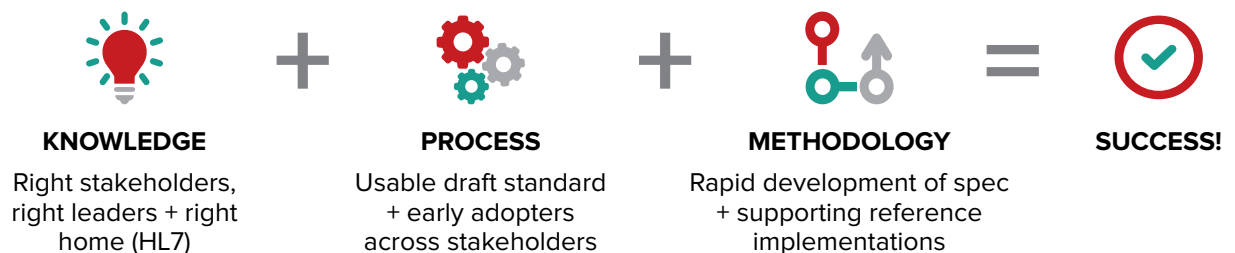
Much like Da Vinci is paving the way for more widespread healthcare interoperability, SEMI, Argonaut, CARIN Alliance and *FAST* was supported by a multi-stakeholder coalition. In the case of SEMI, employers, health plans, pharmacy benefit managers (PBMs), and industry leaders formally committed to working together. The success of Da Vinci and other successful initiatives we've managed or supported can be attributed to Six Key Pillars:

1

Establish a Project Champion

1. Establish a Project Champion. Successful coalitions must have a champion at the top. A good champion is passionate about the cause and a strong advocate for the changes that will ensue. In addition to driving the coalition and its work forward, these qualities are essential to weather the bumps in the road that are sure to arise along the way. Successful coalitions develop change and improve momentum by building around champions who have the standing in the industry and commitment to the cause. This in turn will help bring others on board and drive to success.

In the case of SEMI, General Motors initially fulfilled that role and subsequently helped maintain the program's momentum by providing peer-to-peer leadership, hosting steering committee meetings and, by extension, establishing a level of accountability that would have otherwise been unattainable.

Da Vinci's Formula for Success

KNOWLEDGE + **PROCESS** + **METHODOLOGY** = **SUCCESS!**

KNOWLEDGE	PROCESS	METHODOLOGY
Right stakeholders, right leaders + right home (HL7)	Usable draft standard + early adopters across stakeholders	Rapid development of spec + supporting reference implementations

The Da Vinci Project has multiple dedicated Project Champions from HL7 International and its diverse membership lending their industry leadership and expertise to validate the work accomplished to date. POCP works closely with HL7 and Da Vinci members fostering rapid development of use cases including specifications, testing, development of usable draft standards, evangelizing, and collaborating with early adopters across stakeholders.

Da Vinci provided a safe, collaborative environment for those of us already working to advance interoperability. These were individuals involved in the [HL7] Payer Summits, working on a variety of use cases and payers who were challenged with the number of use cases - and began to share lessons learned, bringing their unique strengths to the table to significantly advance the payer community interoperability priorities. HL7 leadership brought together the right people from the right organizations at the right time and under the right leadership to create a cost-effective, efficient way to achieve shared goals.

Lenel James – Business Lead – Health Information Exchange & Innovation, Blue Cross Blue Shield Association

2

Create a Paid Model and Incentives

2. Create a Paid Model and Incentives. Da Vinci utilizes paid facilitators who have deep subject matter expertise as well as "Community Elements" that provide the structure needed to rapidly advance project goals.

Da Vinci Paid Facilitators Have Deep Subject Matter Expertise

Da Vinci Community Elements

- *Operating Committee*
- *Weekly Community Meetings*
- *Connectathons and hands-on working sessions*
- *Vendor and Participant Storytelling*
- *Playbook and Artifacts*
- *Reporting/Dashboards*
- *Onboarding and hands-on day-to-day support provided by POCP*
- *Monthly Da Vinci Roundtable Meetings*

3

Build a Broad and Diverse Membership

3. Build a Broad and Diverse Membership. Coalitions must have stakeholder members representing a range of views and business interests. Unfortunately, many multi-stakeholder initiatives fall short of goals and objectives because the right people aren't consistently in the room or they don't have a say in decision making.

In the case of SEMI, the coalition membership represented all key stakeholders impacted by the adoption and use of health IT, even in the early days of ePrescribing. The health plans held the contracts with the physicians; the pharmacy benefit managers, or PBMs, represented the claims processing perspective; EHRs delivering ePrescribing functionality to providers and employers were paying for the benefit and represented the interests of member lives (ie, the automakers' employees and families).

Similarly, the founding members of Da Vinci realized it was critical to have national leaders who had both the backing of their organizations and the emotional intelligence to bring the project to fruition. Having cross-functional representation from providers, payers, EHRs and their vendor partners at the table to agree to the initial use cases has been critical to the project's success thus far.

3

Build a Broad and Diverse Membership

Da Vinci provided critical mass and brought together the "just the right people at the perfect time – when the industry was moving from a document to data mentality. It's a collaborative forum for problem solving, where success defines the effort and its members can work in partnership in an agile manner to create a leapfrog development effect.

John Kelly
Principal Business Advisor, Edifecs

Da Vinci Membership

- Learning organizations with high capacity for early failure and experimentation
- Represent all key stakeholder groups and serve as catalysts for specific use cases. Includes cross-functional representation from all VBC stakeholders: providers, payers, health information exchanges (HIEs), EHRs, and their vendor partners
- Members have mindset focused on improving their services and solutions vs. simply establishing broader connectivity and transport

Da Vinci individual team members:

- Work to address reciprocal business challenges within their organizations
- Operational, business, and technical subject matter experts (SMEs) spanning multiple levels of their organization
- Are willing to put in time needed to advance common industry goals
- Understand their efforts will be more effective as part of the industry stakeholder group vs. with company partners alone

4

Driven by Standards and Real-World Problems

4. Driven by Standards and Real-World Problems. The successful multi-stakeholder collaboratives described share a common thread: tapping and improving upon industry standards, rigorous testing, and use case development. Da Vinci is focused on developing multiple use cases to automate high volume, manual activities that are needed to support common workflows for VBC as well as provide tools for developing use cases to solve real-world problems and improve patient care within existing provider workflows using FHIR.

> ### *Da Vinci Toolkit includes:*
>
> - *Reference implementation code as a sample for implementers to test against or use as a starting point for their own implementations*
> - *Test scripts that ensure implementations are testable and that code conforms to the implementation guides*
> - *Member and public forums where implementers can share progress, lessons learned, and ask questions of other implementers*

> *Da Vinci was born out of HL7's Partners in Interoperability, industry-focused events to enable business leaders to identify opportunities to leverage FHIR to solve real-world challenges. Payers quickly identified value-based care as the focus area and worked to identify common challenges in exchange of clinical data between payers and providers. HL7, bouyed by the success of the Argonaut Project, worked with the early group of payers, providers, and vendors to propose the Da Vinci project in Fall of 2017. Early payer/provider members focused on common real-world problems and identified critical business challenges that became the basis for Da Vinci's initial use cases. By creating the unique stage for members to break out of organizational silos and to share lessons learned, this newly formed team was able to drive immediate value and to demonstrate the ability of cross-functional collaboration. This group, from disparate backgrounds, successfully developed unique FHIR artifacts, while overcoming business challenges and answering the market's need for patient access APIs within the framework of the CMS proposed rules. Doing so ensured payers, vendors, and providers were ready when FHIR was named into regulation by ONC in the 2020 final interoperability rule and the 2021 implementation deadlines.*
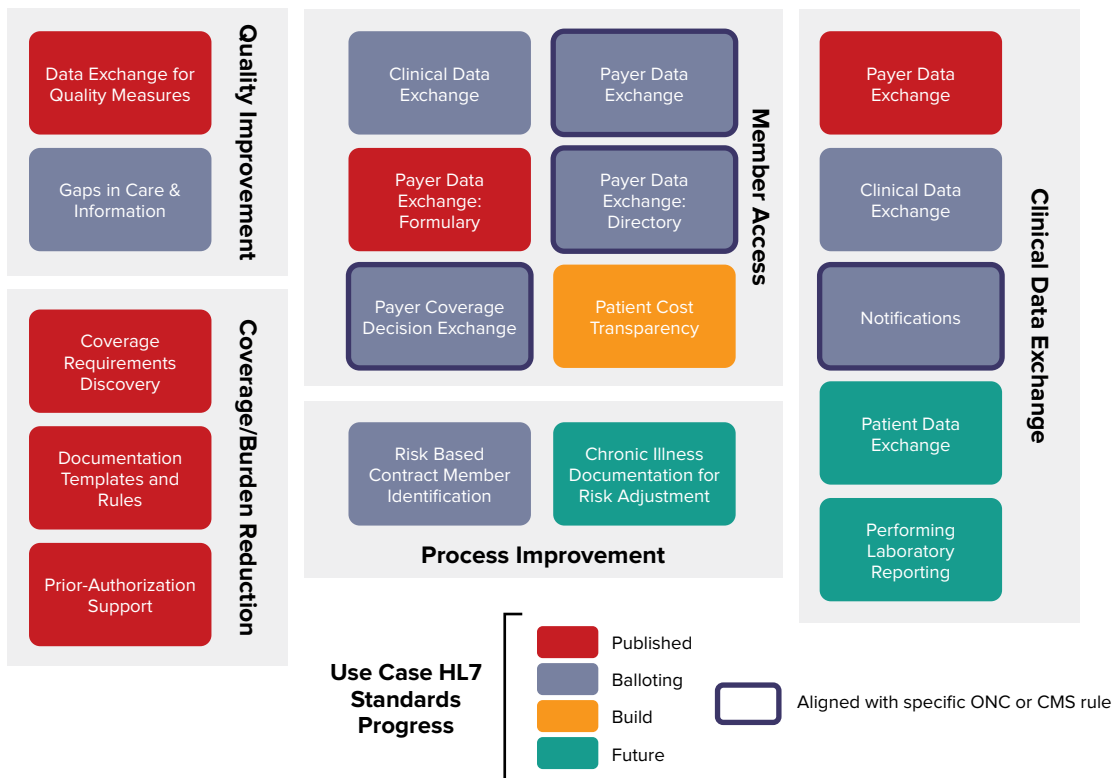>
> *Chuck Jaffe, MD, PhD*
> *CEO, HL7 International*

4

Driven by Standards and Real-World Problems

Da Vinci use cases leverage HL7® FHIR® to solve five core VBC challenges:

Use Case Focus Areas

Quality Improvement
- Data Exchange for Quality Measures
- Gaps in Care & Information

Coverage/Burden Reduction
- Coverage Requirements Discovery
- Documentation Templates and Rules
- Prior-Authorization Support

Member Access
- Clinical Data Exchange
- Payer Data Exchange
- Payer Data Exchange: Formulary
- Payer Data Exchange: Directory
- Payer Coverage Decision Exchange
- Patient Cost Transparency

Process Improvement
- Risk Based Contract Member Identification
- Chronic Illness Documentation for Risk Adjustment

Clinical Data Exchange
- Payer Data Exchange
- Clinical Data Exchange
- Notifications
- Patient Data Exchange
- Performing Laboratory Reporting

Use Case HL7 Standards Progress
- Published
- Balloting
- Build
- Future
- Aligned with specific ONC or CMS rule

For the most current view of Da Vinci uses cases, visit https://confluence.hl7.org/display/DVP/Da+Vinci.

5

Establish the Right Governance and Oversight

5. Establish the Right Governance and Oversight. Da Vinci's Governance Structure
that follows has been designed to build what's needed through real-world pilots that are iterative and adapted based on input from participating members. It is vital that the governance committee let members to share responsibility for the project's success yet allow them to retain an active voice in establishing priorities. To ensure these goals are met, the Governance Committee fosters a steering model that is nimble, creating relationships that evolve based on member and industry challenges.
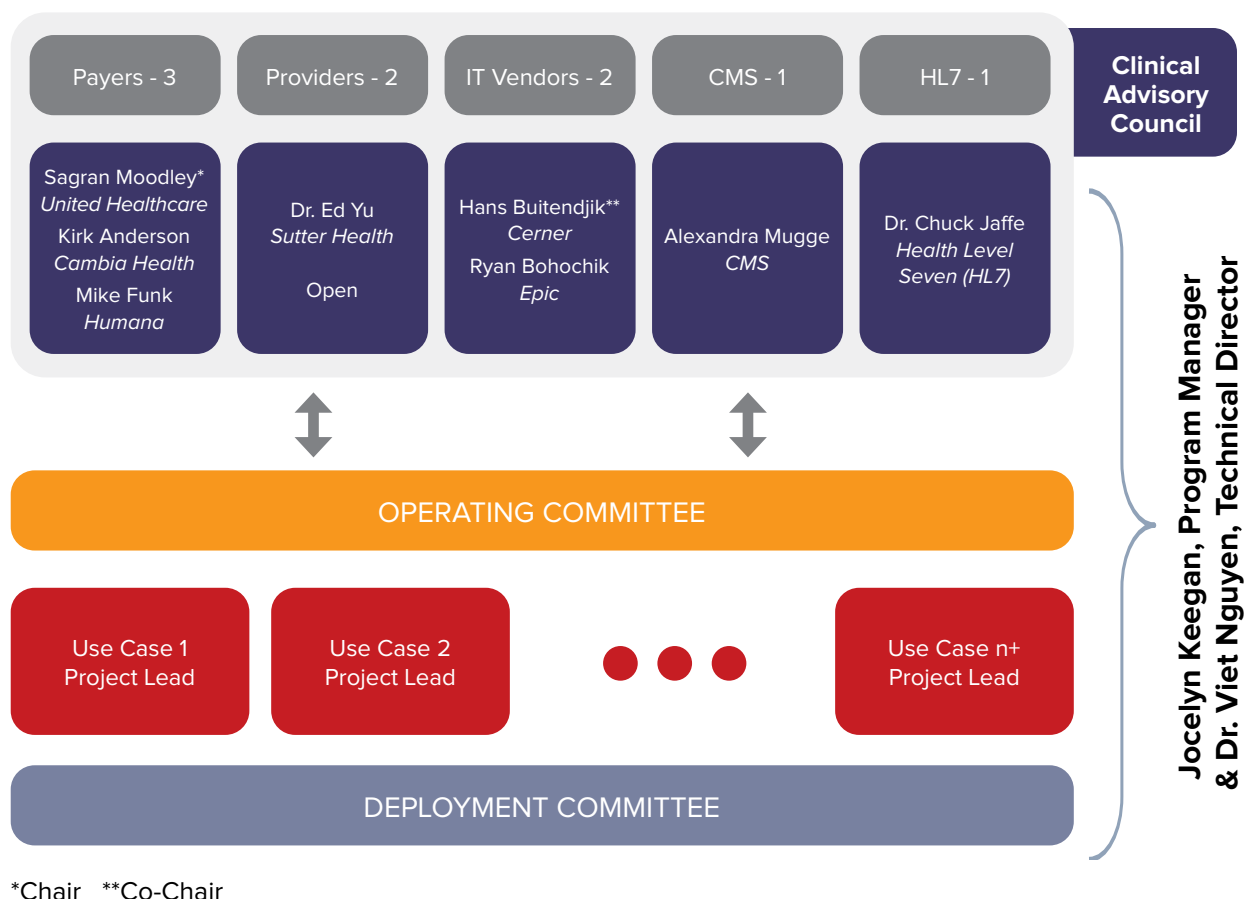
As the Project Manager, POCP fosters a noncompetitive, value-focused environment that ensures funding member resources are used in the most efficient manner possible and that each member has a stake in and responsibility for the program's success.

5

Establish the Right Governance and Oversight

The creation of the Da Vinci Project presented a unique opportunity to design a participation and governance structure that was highly responsive to the needs of its members. The Project needed to have representation from all of the members on specific topics affecting the direction of the project and still have a small and nimble executive decision-making group that was responsible for strategic and financial decisions. The ability to have all members represented led to the creation of an operating committee with one representative from each member company and the formation of a steering committee with representation from each sector (Providers, Payers, HIT vendors) of the Da Vinci Project membership. To ensure that the project maintained continuity with Federal direction and close ties with HL7 executive structure, CMS and HL7 both have a permanent position on the steering committee. The final step was to establish a Program Management Office and populate it with individuals with deep experience in value-based care and technology to ensure that the project was able to learn from their collective experience.

Robert (Bob) Dieterle
Governance

Payers - 3	Providers - 2	IT Vendors - 2	CMS - 1	HL7 - 1	Clinical Advisory Council
Sagran Moodley* *United Healthcare* Kirk Anderson *Cambia Health* Mike Funk *Humana*	Dr. Ed Yu *Sutter Health* Open	Hans Buitendjik** *Cerner* Ryan Bohochik *Epic*	Alexandra Mugge *CMS*	Dr. Chuck Jaffe *Health Level Seven (HL7)*	

OPERATING COMMITTEE

| Use Case 1 Project Lead | Use Case 2 Project Lead | ••• | Use Case n+ Project Lead |

DEPLOYMENT COMMITTEE

Jocelyn Keegan, Program Manager & Dr. Viet Nguyen, Technical Director

*Chair   **Co-Chair

6

Professional, Neutral Program Management Team

6. Professional, Neutral Program Management Team. Da Vinci is led by a professional program management team with relevant skills and a deep understanding of the pain points and perspectives of various stakeholders. The Da Vinci Program Management Organization (PMO) team is able to conceptualize the needs of the diverse stakeholders and manage the layers of governance required to develop emerging draft standards across more than a dozen implementation guides as well as working across over now 40+ members and the larger HL7 community and infrastructure. The artifacts, methodologies, and practices developed and used by our PMO team members are being shared and replicated across 6 new HL7 FHIR Accelerator programs.

Point-of-Care Partners Team Members leverage their deep subject matter expertise on Payer/Provider collaboration; proficiency in solving business challenges associated with implementation of emerging standards like HL7 FHIR; and leadership across industry, standards, and government-led initiatives to:

- Provide consistent and accurate communications to the coalition members
- Organize and facilitate weekly committee and small group meetings and providing consistent monitoring of milestones and progress
- Share information on project barriers and challenges
- Gather and analyze project and budget data
- Provide neutral evaluation and measurement and suggest as-needed mid-course adjustments
- Track against steering committee-determined objectives

PROJECT PROCESS

Define requirements (technical, business, and testing)

➡ Create Implementation Guide

➡ Create and test Reference Implementation (prove the guide works)

➡ Pilot the solution

➡ Deploy the solution

Jocelyn Keegan
Program Manager

Dana Marcelonis
Senior Consultant

Vanessa Candelora
Project Manager

Phung Matthews
PharmD-
Informatics Analyst

Kathy Moncelsi
Graphic Artist

As former product management, clinicians, and marketing staff from across healthcare organizations, the POCP team members supporting the Da Vinci Project have extensive knowledge of user-centered design, technical, and business process underpinnings to building solutions that will be used by the market. Individual SMEs bring deep knowledge of care coordination, patient care, prior authorization, clinical data exchange, and what it means to curate data for consumption, quality metrics, and other key performance metrics.

Applying the Success of Da Vinci

Since the launch of Da Vinci, POCP has applied the Da Vinci Pillars to support the following additional multi-stakeholder collaboratives:

ONC FHIR at Scale Taskforce (*FAST*): *FAST* — convened at the request of industry leaders by the Office of the National Coordinator for Healthcare Information Technology (ONC)— brings together stakeholders and health IT experts to identify FHIR scalability gaps and establish an interoperability architecture to support scalable FHIR Solutions. In a program support role, the POCP team is working with industry thought leaders and ONC staff on the *FAST* initiative to document and simplify the challenges, barriers, and potential solutions in human-readable formats to ready the industry for the API-based revolution. The team is expanding the universe of participants in review, editing, and implementation of the solutions being proposed by industry led focus-area dedicated Tiger Teams.

CodeX: POCP is providing program and governance support to CodeX, a multi-stakeholder community addressing the need to obtain high-quality, computable data for cancer care and research. CodeX stands for the Common Oncology Data Elements eXtensions and was launched within the HL7 Fast Healthcare Interoperability Resources (FHIR) Accelerator program at the end of 2019. Leveraging the **mCODE™ FHIR Implementation Guide** standard (minimal Common Oncology Data Elements), CodeX will expand around this core to address new use cases and accelerate opportunities to create a learning health system based on interoperable data and improved patient care.

CARIN Alliance: POCP team members are driving the development, publishing, and subject matter expertise on CARIN's Real Time Benefit Check use case and FHIR Implementation guide, working between HL7 and the National Council for Prescription Drug Programs (pharmacy industry standards bearer) to solve the challenge of consumers being able to access "just in time" information about their specific coverage on a medication-by-medication basis. POCP is leading the effort, acting as lead with standards processes and coordinating the vendor, EHR, provider and payer communities to get the right information available in a standard way.

CMS Deploys Two Da Vinci Use Cases

From September 2019 through May 2020, the Centers for Medicare and Medicaid Services (CMS), pilot tested a Medicare Fee for Service (FFS) Documentation Lookup Service (DRLS) anchored by two Da Vinci use cases:

- Coverage Requirements Discovery (CRD): The provider EHR asks the payer system if there are documentation and/or prior authorization (PA) requirements, receiving a "yes" or "no" response

- Documentation Templates and Rules (DTR): The electronic health record (EHR) requests and receives documents and rules from the payer system

The CMS DRLS allows healthcare providers to discover PA and documentation requirements at the time of service in their EHR or integrated practice management system through electronic data exchange with a payer system. DRLS' Stakeholder Leadership Group (SLG) comprises 50+ members from state and federal government, commercial payers, healthcare providers, EHR vendors, DME suppliers, and associations. It plans to continue DRLS testing and development through 2021, including engaging stakeholders to drive DRLS awareness and buy-in.

Source: https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/LookupServiceInitiative

Conclusion

The Da Vinci Project is proving vital to advancing VBC. Its model provides a blueprint for achieving rapid success for a multi-stakeholder initiative. In less than 3 years, the Da Vinci Project has been embraced by healthcare leaders as the model and way to meet increase in payer to provider communication to support VBC and all lines of business.

Da Vinci committees continue to add and evaluate new use cases based on input from the member community. As implementation guides move to production and Da Vinci use cases become part of the fabric of daily healthcare delivery, the story will continue to unfold.

The healthcare community is vital to driving adoption of existing use cases and identifying new use cases. If you would like to join the community effort or would like additional information about implementation guides, visit the HL7 Confluence site or contact Jocelyn Keegan, Da Vinci Program Manager at jocelyn.keegan@pocp.com.

The POCP PMO team is honored to have helped to shape and define Da Vinci's revolutionary way to get standards built at the pace needed by industry. If you have a current business challenge that requires broad community support, contact us to discuss how your organization could apply these Pillars to achieve rapid success in your industry and internal transformation work.

About Point-of-Care Partners

Point-of-Care Partners (POCP) is a leading management consulting firm assisting healthcare organizations in the evaluation, development, and implementation of winning health information management strategies in a rapidly evolving electronic world.

References: 1. Finding the Value in Value-Based Care: The State of Value-Based Care in 2018, Accessed December 17, 2019. **2.** CMS Interoperability and Patient Access final rule (link to: https://www.cms.gov/Regulations-and-Guidance/Guidance/Interoperability/index), CMS, Accessed October 23, 2021.