2017 North American Health IT Value-based Care Management Product Leadership Award
Contents

Background and Company Performance ................................................................. 3

Industry Challenges ............................................................................................ 3

Product Family Attributes and Business Impact ................................................. 4

Conclusion .......................................................................................................... 7

Significance of Product Leadership ................................................................. 8

Understanding Product Leadership .................................................................. 8

Key Benchmarking Criteria .............................................................................. 9

Best Practices Award Analysis for Caradigm ...................................................... 9

Decision Support Scorecard .............................................................................. 9

Product Family Attributes .............................................................................. 10

Business Impact ............................................................................................... 10

Decision Support Matrix .................................................................................. 11


The Intersection between 360-Degree Research and Best Practices Awards .... 13

Research Methodology ..................................................................................... 13

About Frost & Sullivan ...................................................................................... 13

Copyright ......................................................................................................... 13
Background and Company Performance

Industry Challenges

The concept of value-based care (VBC) was established to address critical challenges encountered by all healthcare stakeholders, such as government, providers, health plans, and patients. Historically, the US healthcare system has largely focused on treating patients with immediate needs. In most cases, the market has failed to manage at-risk patients successfully and has indirectly catalyzed incremental demand for healthcare services.

Frost & Sullivan ongoing research shows that some of the critical factors that prompted the population health management (PHM) concept in the United States are as follows:

- The shift in population demographics, coupled with the rising demand for evidence-based care, is driving the need for better prediction and management of population health, especially for chronic care patients’ pre, during, and post care.
- The need to build a broader, coordinated, and patient-specific healthcare ecosystem that connects siloed systems, improves process efficiency, and drives better outcomes requires the adoption of VBC IT solutions.
- Patients’ willingness and ability to collaborate with providers across the continuum of care support the requirement of value-driven digital intervention, which promotes convenience and drives secure and reliable communication across the entire care continuum.

Frost & Sullivan observes how these impending market challenges have necessitated innovation in the way healthcare should be perceived, delivered, and optimized. In fact, regulations and payment incentives are being established to promote digital care coordination and outcomes improvement, which include enabling the movement away from fee-for-service (FFS)/volume models to outcomes-based systems that advocate accountable care. The Centers for Medicare and Medicaid Services (CMS) aims to link almost 50% of Medicare FFS models to alternative payment models by 2018, and commercial payers have introduced outcomes-centric care delivery guidelines for provider members. In addition, CMS’s final rule on the Medicare Access and CHIP Reauthorization Act (MACRA) streamlines clinician payment for the next 5 years, based on the performance on four key parameters: quality of patient care, cost of patient service, clinical outcomes, and data interoperability. Inaugural payment adjustments in the form of either an incentive or a penalty will be initiated in 2019, based on the quality standards reported during 2017.

Frost & Sullivan points out that the need to improve how patients are tracked and coordinated across various care settings is emerging as one of the critical needs in an era of value-based, accountable care. Only a few leading vendors are expected to stand out from the fragmented North American market, as they offer a full suite of comprehensive solutions with demonstrable return on investment (ROI).
Product Family Attributes and Business Impact

Match to Needs: Offering quality solutions that are highly reliable

Frost & Sullivan independent analysis of value-based care management indicates that approximately half of all US-based providers demonstrate both willingness and ability to integrate the culture of VBC within their core care delivery ecosystem. Despite strong interest in VBC initiatives, most US-based providers have not reported substantial growth in corporate revenue.

Frost & Sullivan’s market investigation reveals that most providers still pursue care coordination at a department level and don’t effectively coordinate care between in-patient, out-patient, and long-term care settings. Providers also struggle to benchmark patient risk profiles in real time, and develop customized health plans that complement each patient’s care expectation.

Caradigm has pioneered the best practice of managing care for both high-risk and at-risk patients who would report better clinical outcomes if intuitively stratified and proactively intervened with a holistic patient-care approach. Provider-specific care management workflow is supported by a range of next-generation healthcare IT solutions that successfully capture and assess multiple factors, including clinical, financial, behavioral, and social, in real time to assign an evidence-based risk score to each patient undergoing treatment.

Risk-adjusted patient populations are grouped digitally and treated as a condition-specific cohort to support personalized care management. Caradigm’s software suite remains modular to support the integration with third-party predictive risk models (to accommodate new condition and comorbid out-of-the-box lists) to customize risk identification activities in accordance with the evolving care coordination objectives of US-based healthcare providers.

Additionally, Frost & Sullivan appreciates how Caradigm proposes a robust provider identity and access management platform that is seamlessly interoperable with its underlying care management platform. The integrated software suite primarily allows customers to protect patient data and privacy within a disparate electronic health record (EHR) ecosystem. Healthcare providers undergoing changes in ownership status due to market consolidation or accepting third-party health IT integrations to digitize care workflow strive to minimize both security and compliance risks by incorporating Caradigm’s integrated software suite.

Caradigm’s multi-disciplinary care management approach caters to providers’ progressive VBC needs as well, such as quality reporting under MACRA or episodic cost management under bundled payment programs. The solution enables customers to auto generate patient-specific care plans and prioritize interventions to improve outcomes, resulting in a positive return on payments earned through these programs.

Frost & Sullivan acknowledges that Caradigm currently provides a highly sophisticated VBC management solution portfolio capable of facilitating secured, cross-continuum care management for North American providers.
Product Design and Positioning

Frost & Sullivan notes that value-based PHM is a progressive concept that needs to be conceived and benchmarked with precision. Leading health IT vendors ensure that their products and services are positioned according to end users’ most pertinent patient-care objectives.

Caradigm has successfully designed its product portfolio around the most important healthcare stakeholder: the patient. The company’s flagship healthcare IT portfolio is positioned to help providers identify and stratify patient populations receptive to VBC. As a result, these providers can manage and coordinate care (e.g., Medicare fee for service, merit-based incentive payment system (MIPS), bundled payment, and comprehensive joint replacement) for a wide variety of patients across multiple settings - from enrollment to closure.

To ensure optimal outcomes, Caradigm supports every patient touch point across the care journey, starting from the patient-eligibility assessment to patient-workflow automation and finally the inclusion of a pathway that indicates the timely closure of the support loop.

Product and Service Value

A full-fledged VBC strategy requires a long-term strategic commitment from all provider stakeholders (e.g., clinicians, care managers, and C-suite executives). Many health systems that begin to assess the potential and applicability of VBC dedicate substantial monetary resources to pursue it effectively. Naturally, obtaining tangible value benefits through the implementation of enterprise-wide VBC initiatives is a key priority of top healthcare providers in the United States.

Caradigm remains a strategic VBC partner for approximately 1,500 hospitals in the United States. The company draws patient evidence from over 400 source systems and provides healthcare solutions to almost 1.3 million end users. Such wide-scale market penetration is achieved since the vendor can facilitate enterprise-wide PHM through unmatched health information exchange (HIE), care coordination, provider identity management, patient reach-out, and performance management.

Caradigm’s customers benefit tremendously from deploying its solutions that generate actionable intervention strategies at the point-of-service in real time, based on the accurate assessment of each patient’s unique clinical requirements and financial risk. The vendor can auto identify gaps in care and highlight the best plan of action to ensure that customers demonstrate comprehensive quality compliance and achieve the targeted results.

Growth Potential

Frost & Sullivan, as a growth partner of leading healthcare stakeholders worldwide, is quite confident that Caradigm is poised to remain a leading care management vendor for the North American healthcare market. The vendor successfully caters to arguably the most diversified health systems in the United States by engaging with integrated delivery
networks, community hospitals, and large physician groups that need to comply with challenging VBC criteria.

Apart from the Comprehensive Care for Joint Replacement (CJR) and Bundled Payments for Care Improvement (BPCI) programs, Caradigm proposes tailored IT solutions to improve the financial results for providers that plan to accept the following:

- Cardiac Rehabilitation Incentive Payment Model
- Oncology Care Model
- Comprehensive End-stage Renal Disease (ESRD) Care model

Caradigm’s entire healthcare IT solution portfolio is constantly transforming as a result of new industry collaborations and internal research and development (R&D) efforts that strive to promote data interoperability, provider access management and evidence-based PHM. Caradigm provides a highly experienced product and service team that developed the following value-added solutions for its esteemed clients:

- **Caradigm Care Management** enables a multi-disciplinary care team to provide coordinated care for high-risk and rising-risk patient populations while working at top of license. It enables organizations to create and employ evidence-based assessments that can auto-generate care plans and recommend mitigations, and helps care managers plan their day and prioritize tasks.

- **Caradigm Knowledge Hub** is a patient-knowledge repository that can be integrated within providers’ incumbent EHR workflows for patient-context management at the point-of-service. It can comprise longitudinal patient records arranged in order of unique clinical and financial risk-relevance for each patient.

- **Caradigm Quality Improvement** is the automated assessment of gaps in care and provider performance, benchmarked against targeted VBC metrics, in reference to accountable care organizations (ACO) qualification, physician quality reporting system (PQRS), MIPS scores, and the National Quality Forum (NQF) ranking for different clients.

- **Caradigm Patient Outreach** is the automated attribution of patients to customized outreach programs across the care continuum, including the delivery of multimedia-enabled healthcare content to promote self-care and encourage medication adherence.

- **Caradigm Utilization and Financial Analytics** is the real-time benchmarking of patient-specific healthcare utilization and related cost contributions at an enterprise level.

- **Identity and Access Management** paves the way for comprehensive enterprise context management through a central software platform that facilitates better care management, provider governance and patient access authentication within a cross-continuum care setting.
Frost & Sullivan firmly believes that because of the utility of these solutions, Caradigm is well positioned to help providers devise and implement superior care management initiatives, thus continuing the company’s positive growth.

Conclusion
The transition towards value-based care is paving the way for new data-driven technologies that help providers demonstrate a favorable impact on population health. Results-oriented healthcare IT solutions, such as data analytics, care coordination, patient engagement, and quality reporting platforms, are drawing executive attention from all ecosystem-level participants (providers, payers, governments, and investors).

Caradigm properly strives to ensure that its healthcare clients thrive amid the ongoing transformation of the core realm of VBC in the US healthcare marketplace. This vendor is a 100% subsidiary of GE and can remain highly interoperable with other major EHR and PHM vendors, such as Cerner Corporation, Epic Systems Corporation, McKesson Corporation, and Medical Information Technology Inc (Meditech), further strengthening its value proposition for US-based healthcare providers. In addition, Caradigm’s ability to source/review data of almost 170 million patients across North America is truly best in class.

With its strong overall performance, Caradigm has earned the 2017 Frost & Sullivan Product Leadership Award.
Significance of Product Leadership

Ultimately, growth in any organization depends upon customers purchasing from a company and then making the decision to return time and again. A comprehensive product line, filled with high-quality, value-driven options, is the key to building an engaged customer base. To achieve and maintain product excellence, an organization must strive to be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.

Understanding Product Leadership

Demand forecasting, branding, and differentiating all play a critical role in finding growth opportunities for a superior product line. This three-fold focus, however, must be complemented by an equally rigorous focus on pursuing those opportunities to a best-in-class standard. Customer communications, customer feedback, pricing, and competitor actions must all be managed and monitored for ongoing success. If an organization can successfully parlay product excellence into positive business impact, increased market share will inevitably follow over time.
Key Benchmarking Criteria

For the Product Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Product Family Attributes and Business Impact—according to the criteria identified below.

**Product Family Attributes**
- Criterion 1: Match to Needs
- Criterion 2: Reliability and Quality
- Criterion 3: Product/Service Value
- Criterion 4: Positioning
- Criterion 5: Design

**Business Impact**
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

**Best Practices Award Analysis for Caradigm**

**Decision Support Scorecard**

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation. Ratings guidelines are illustrated below.

**RATINGS GUIDELINES**

The Decision Support Scorecard is organized by Product Family Attributes and Business Impact (i.e., These are the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard.). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.
The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key participants as Competitor 2 and Competitor 3.

<table>
<thead>
<tr>
<th></th>
<th>Product Attributes</th>
<th>Business Impact</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caradigm</strong></td>
<td>9.0</td>
<td>9.0</td>
<td>9.00</td>
</tr>
<tr>
<td><strong>Competitor 2</strong></td>
<td>8.5</td>
<td>8.5</td>
<td>8.50</td>
</tr>
<tr>
<td><strong>Competitor 3</strong></td>
<td>7.0</td>
<td>7.5</td>
<td>7.25</td>
</tr>
</tbody>
</table>

**Product Family Attributes**

**Criterion 1: Match to Needs**
Requirement: Customer needs directly influence and inspire the design and positioning of the product family.

**Criterion 2: Reliability and Quality**
Requirement: Products consistently meet or exceed customer expectations for performance and length of service.

**Criterion 3: Product/Service Value**
Requirement: Products or services offer the best value for the price, compared to similar offerings in the market.

**Criterion 4: Positioning**
Requirement: Products or services address unique, unmet need that competitors cannot easily replicate or replace.

**Criterion 5: Design**
Requirement: The product features an innovative design, enhancing both visual appeal and ease of use.

**Business Impact**

**Criterion 1: Financial Performance**
Requirement: Overall financial performance is strong in terms of revenues, revenue growth, operating margin, and other key financial metrics.

**Criterion 2: Customer Acquisition**
Requirement: Product strength enables acquisition of new customers, even as it enhances retention of current customers.

**Criterion 3: Operational Efficiency**
Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard.
**Criterion 4: Growth Potential**
Requirements: Product quality strengthens brand, reinforces customer loyalty, and enhances growth potential.

**Criterion 5: Human Capital**
Requirement: Company culture is characterized by a strong commitment to product quality and customer impact, which in turn enhances employee morale and retention.

**Decision Support Matrix**
Once all companies have been evaluated according to the Decision Support Scorecard, analysts then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.
**Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices**

Frost & Sullivan analysts follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

<table>
<thead>
<tr>
<th>STEP</th>
<th>OBJECTIVE</th>
<th>KEY ACTIVITIES</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Monitor, target, and screen</td>
<td>Identify Award recipient candidates from around the globe</td>
<td>Pipeline of candidates who potentially meet all best-practice criteria</td>
</tr>
</tbody>
</table>
|      |           | • Conduct in-depth industry research  
• Identify emerging sectors  
• Scan multiple geographies | |
| 2    | Perform 360-degree research | Perform comprehensive, 360-degree research on all candidates in the pipeline | Matrix positioning of all candidates’ performance relative to one another |
|      |           | • Interview thought leaders and industry practitioners  
• Assess candidates’ fit with best-practice criteria  
• Rank all candidates | |
| 3    | Invite thought leadership in best practices | Perform in-depth examination of all candidates | Detailed profiles of all ranked candidates |
|      |           | • Confirm best-practice criteria  
• Examine eligibility of all candidates  
• Identify any information gaps | |
| 4    | Initiate research director review | Conduct an unbiased evaluation of all candidate profiles | Final prioritization of all eligible candidates and companion best-practice positioning paper |
|      |           | • Brainstorm ranking options  
• Invite multiple perspectives on candidates’ performance  
• Update candidate profiles | |
| 5    | Assemble panel of industry experts | Present findings to an expert panel of industry thought leaders | Refined list of prioritized Award candidates |
|      |           | • Share findings  
• Strengthen cases for candidate eligibility  
• Prioritize candidates | |
| 6    | Conduct global industry review | Build consensus on Award candidates’ eligibility | Final list of eligible Award candidates, representing success stories worldwide |
|      |           | • Hold global team meeting to review all candidates  
• Pressure-test fit with criteria  
• Confirm inclusion of all eligible candidates | |
| 7    | Perform quality check | Develop official Award consideration materials | High-quality, accurate, and creative presentation of nominees’ successes |
|      |           | • Perform final performance benchmarking activities  
• Write nominations  
• Perform quality review | |
| 8    | Reconnect with panel of industry experts | Finalize the selection of the best-practice Award recipient | Decision on which company performs best against all best-practice criteria |
|      |           | • Review analysis with panel  
• Build consensus  
• Select recipient | |
| 9    | Communicate recognition | Inform Award recipient of Award recognition | Announcement of Award and plan for how recipient can use the Award to enhance the brand |
|      |           | • Present Award to the CEO  
• Inspire the organization for continued success  
• Celebrate the recipient’s performance | |
| 10   | Take strategic action | Upon licensing, company is able to share Award news with stakeholders and customers | Widespread awareness of recipient’s Award status among investors, media personnel, and employees |
|      |           | • Coordinate media outreach  
• Design a marketing plan  
• Assess Award’s role in future strategic planning | |
The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan’s 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan’s research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit http://www.frost.com.

Copyright

This research is owned by Frost & Sullivan. No part of this research may be disclosed to external parties without formal written permission from Frost & Sullivan. Furthermore, no part may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of Frost & Sullivan.