

IDC MarketScape

IDC MarketScape: U.S. Customer-360 Data Platforms for Payers 2020-2021 Vendor Assessment

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THIS IDC MARKETSCAPE EXCERPT FEATURES SMILE CDR

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape U.S. Customer-360 Data Platforms for Payers Vendor Assessment



Source: IDC, 2020

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: U.S. Customer-360 Data Platforms for Payers 2020-2021 Vendor Assessment (Doc # US46997020). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

This IDC study represents the vendor assessment model called IDC MarketScape. This research is a quantitative and qualitative assessment of the characteristics that explain a vendor's current and future success. This study assesses the capability and the business strategy of several prominent customer-360 vendors found in payers that use that software to document members. This evaluation is based on a comprehensive framework and a set of parameters expected to be most conducive to success in providing customer-360 software today and in the future. A significant and unique component of this evaluation is the inclusion of buyers' perception of both the key characteristics and capabilities of these vendors.

The customer-360 data platforms market for payers includes a top-down approach to physical data architecture that is based on a data management life cycle. Data is loaded, curated, stored, accessed, aggregated, and archived. Applications and analytics are quickly spun up and down once the data, workflow, and services are in place. This approach centers on a "canonical data model" and is based on standards (such as the HL7, FHIR, and the Office of the National Coordinator for Health Information Technology [ONC] U.S. Core Data for Interoperability [USCDI]) or the Observational Medical Outcomes Partnership (OMOP) data model, which is an approved OSCDI model that is mappable with public information to FHIR standards.

The customer-360 data platform not only is the structure of the data but also includes the workflow around ingestion, mapping, cleansing, codifying, and verifying person identification and data quality. Once staged, services layers or applications can point to the data in its various forms of aggregation and content. Services are enabled for analytic workbenches, models, reports, dashboards, and machine learning opportunities.

These are new architectural paradigms that traditional architectures simply cannot handle, so new software and procedures have emerged from a set of vendors. Key findings from this analysis of vendors include:

- The vendors came from many roots toward this recent customer-360 branding for payers. A desire for a unified view of patients/members/consumers, prevalent in other industries, has now hit healthcare. Payers, some with a blended "payvider" role need this lens, and vendors are reacting. This analysis found vendors with previous experience in:
 - Other industries (finance, sales, and CRM)
 - Horizontals (application programming interface [API], data exchange, and workflow management)

- Payer health administration (care, utilization, population health management, and cost/quality analytics)
- Payer core administration (enrollment, claims, and appeals)
- Data management (data factories, data warehousing, and NoSQL databases)
- Health information exchange, EDI, and interoperability
- Electronic health records
- FHIR and other standards
- Many vendors are emphasizing the customer-360 in the context of the short-term need for payers to adhere to the CMS Interoperability standards that payers must meet over the next couple of years. Since this analysis was a "plumbing" analysis, vendors that responded nimbly to the CMS Interoperability mandates and showed potential to respond deftly and thoroughly to other consumer or regulatory demands fared well.
- Many references reported vendors using only parts of solutions, indicating that the "customer-360" is not in place at many payers; therefore, the ability for a vendor to support the "customer-360" is fairly untested. This is exemplified in the analysis that shows a lot of "Major Players" but few "Leaders." Because of this fragmentation and the comprehensive nature of the concept, it is very hard to compare the "products" that the vendors offer.
- Some vendors offer "services" as at least an optional part of their offerings, confusing the study.
- Some references reported that vendors use one solution for analytics, one for data warehousing, and one for sales/marketing/customer service. This is an emerging market. Early payer adopters had to go to a variety of vendors to meet their needs, and now find there is an enterprise reason to unify (they have to disclose the quality of their data because of the interoperability mandates) and are searching for preferred suite vendors.
- A vendor's context (care management, interoperability, CRM, etc.) matters. This customer-360 ecosystem will equate with core processing in longevity at a payer. Choosing a resilient vendor counts much.
- Data warehouse/platform vendors that are adapting to healthcare did well in this analysis, but that does not mean that the healthcare expertise required to be effective in the payer/payviders world is adequate. Again, this was a plumbing analysis, showing the capability to manage data. Whether a vendor should be partnered with to move forward in the fast-moving healthcare space must factor in healthcare subject matter expertise.
- The care management vendors participated in the study did not fare as well in this iteration of the analysis. As care becomes less fee for service and episodic and more continuous with the adoption of virtual care and the continuity that care management provides, look for the care management companies in this set of vendors to accelerate their customer-360 value proposition in future years as they understand healthcare, workflow, and the levels of data (summary/details) needed to execute the entire patient and customer journey, both internally and externally.
- While many vendors qualified and participated in the formal analysis, the companies in an upcoming IDC "Vendors to Watch for Customer-360 for Payers" study are particularly relevant and should be considered in any evaluation.
- Clients generally have a positive outlook on the capabilities of their vendors, particularly in supporting domain expertise, and support for the baseline operational requirements of most payer organizations.

- Weaknesses in seamless integration to sales/marketing/customer service systems were prevalent.
- Few IDC MarketScape Leaders were derived from the analysis. A complete customer-360 is the evaluation criterion, and few vendors were found comprehensively as a product. The lack of complete data, workflow, consent, standardization of format, the murkiness around the line between products and labor-hour services, and the emerging nature of this market drove this conclusion.

IDC MARKETSCOPE VENDOR INCLUSION CRITERIA

This research includes analysis of 12 software providers that offer both on-premises and cloud-based customer-360 data platform solutions to payers for the purpose of coordinating and orchestrating customer data around the payer enterprise. IDC believes that the vendors in this study generate a majority of the revenue in this market.

The customer-360 data platforms market for payers includes a top-down approach to physical data architecture that is based on a data management life cycle. Data is created, lives, is read, is updated, and dies in a stewarded fashion. It is loaded, curated, stored, accessed, aggregated, and archived. Applications and analytics are quickly spun up and down once the data, workflow, and services are in place. This approach centers on a "canonical data model," is based on standards (such as the HL7, FHIR, and ONC U.S. Core Data for Interoperability), and has a translator layer to/from which all existing services exchange data with other services. The following are the criteria to be in this IDC MarketScope.

The data platform not only is the structure of the data but also includes the workflow around:

- **Ingestion.** The utilities and workflow and scheduling for fast, predictable, and repeatable data landing
- **Mapping.** The utilities, tables, and translation rules that connect source files to enterprise meaning
- **Cleansing.** The utilities, tables, lookups, and verification sources to indeed identify "truth" using standards such as RXNORM, SNOMED, and HL7
- **Identification.** The utilities, maps, and stochastic and deterministic rules that assign data to a person (member/provider) or other enterprise entity
- **Data quality management.** The ongoing management and monitoring of ingestion, curation, and mapping to identify and resolve outliers

Once staged, services layers or applications can point to the data in its various forms of aggregation and content. Services are enabled for analytic workbenches, models, reports, dashboards, and machine learning opportunities.

The constellation of legacy and new applications can be pointed directly or via mapping to the data platform.

Embedded into the workflow, payers need enhancements "activated" with the platform, such as:

- **Activated applications.** The connections and maps to allow the workflows, user interfaces (UIs), and reporting of (versions of) applications to effectively use the data platform
- **Activated analytics.** The aggregations, slices, extracts, and rules around such to enable the analysts, data scientists, modelers, statisticians, and inquirers to do effective analysis
- **Activated access.** The ability for all enterprise personnel to securely, auditably, predictably, and reliably get to the needed data using standard protocols and published interfaces
- **Activated managed services.** The ability to package reusable functions for use by applications, analytics, or partners
- **Activated AI.** The ability to enable a "test bed" from which machine learning can extrapolate other information
- **Activated real-time orchestration.** The ability to have all the ecosystems work as one, in harmony

This analysis assumed either a "rip and replace" view of customer data or an evolution toward a unified enterprise data store across the payer ecosystem. These criteria pushed the envelope as payers have many fragmented legacy systems and usually are in reactive mode for systems development. The baseline was assumed as there is another infusion of social determinant, telehealth, remote monitoring, and contact tracing consumer data coming and they need to be ready with a robust, comprehensive, enterprise workflow, and (logical or physical) data store.

There are other vendors that did not qualify for a complete evaluation but are still identified as vendors to watch in this active space. These vendors will be detailed in an upcoming IDC "Vendors to Watch for Customer-360 for Payers" study.

ADVICE FOR TECHNOLOGY BUYERS

- It is very hard to compare the "products" that the vendors offer. Most, if not all, of the vendors offer "services" as at least an optional part of their offerings. The nascency of the space, the inherent nature of comprehensive customer/patient/member/person-360, the complicated nature of master data management (MDM), and the common practice of vendors acquiring other vendors to build a portfolio make this analysis difficult. Payers should look at their own requirements carefully, including multiyear budgets for strategy, configuration, consulting, and customization over and above the software cost and functionality.
- The vendors showed similar individual capabilities but often overstated their experience with the entire set of data, ingestion, access, security, privacy, and consent. More often than not, vendors' references and presentations showed "pieces of the elephant" with strong functions and weak/untested functions melded together.
- Differentiation also occurred in strategic direction, implementation approach, and accompanying software. This is an emerging market; therefore, a vendor's context (clinical data integration, interoperability enabling, FHIR focus, and master data management focus) matters much in an area that will equate with core processing in longevity at a payer.
- This is an emerging market. Many vendors are working on this space on the assumption that they have been given an opportunity to provide interoperability solutions to meet the CMS mandates on payers but are not sure what the potential is after that. While 12 vendors qualified and participated in the formal analysis, the companies in an upcoming IDC study on vendors to watch for customer-360 for payers are particularly relevant and should be considered in any evaluation.
- Gone are the days where a payer considered a member as a year-to-year entity that enrolled, paid premiums, and submitted claims in a silo, managed by a tangential clerical functions that only ensured that transactions were processed cleanly. Core processing systems need to evolve to seamlessly interact with the entire customer – sales, marketing, customer service, consent, medical, claims, enrollment, premium, SDOH, wellness, and bundled payment software. Today, the customer-360 is the center of a customer relationship management (CRM) ecosystem. This ecosystem is where all enterprise functions operate, are modeled, and are examined continuously for accurate or more profitable relationships.
- Current need is emphasizing "interoperability" implementations that have very narrow scopes, involving only a handful or less of data types. If a vendor leads with interoperability functionality, look deeper, ask how they responded to COVID-19, SDoH, and so forth in the entire customer-360 data-managed enterprise context.

- Customer references for these products must be truly payers, not providers. Some functionalities are the same, and the "payviders" markets and roles are blurring, but payers look at customers very differently than providers; ensure your vendor has focus on payers. Vendors are quick to have "provider" clients as references, particularly ones that need an answer to the CMS Interoperability mandates.
- The vendors must be able to scale. Some products were born and maybe brought up quickly for the interoperability mandates or evolved as a vendor acquired various software pieces and stitched together a derivative data model and platform. Ensure that infrastructure (data model, standards, process, workflow, education, integration, and agility) is respected by the vendor, not just application or clinical integration. This backbone will be the baseline for the infusion of future data requirements such as remote monitoring data, telehealth data, and contact tracing data and be the basis for lifetime person data for the enterprise. It must scale.
- The vendors must have tools and processes to ensure input data quality; integration with legacy, security, and consent engines; and an understanding of data governance.
- Services and product must be clear. Ensure that what is bought as a subscription/license asset is clearly defined and distinct from any time and materials or "contractual administrative fee" for services.
- Interview and vet the account manager of the implementation before committing to a vendor. The subject matter expertise and project management skills required to implement the multiyear customer-360 program are extremely variable.

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and challenges.

Smile CDR

According to IDC analysis and buyer perception, Smile CDR is positioned in the Leaders category in the 2020-2021 IDC MarketScape for customer-360 data platforms for payers software in the U.S. market.

Product: Smile CDR's US Payer Solution

Smile CDR, founded in 2016 and serving payers since 2017, offers "Smile CDR's US Payer Solution" as an enterprise-grade FHIR implementation that consists of data ingestion, data processing and storing, and data access features (including data sharing and user interaction). Smile CDR are members of the FHIR Core team with a role in standards governance and a member of the ONC FHIR at Scale Team (FAST) vendor certification program.

Smile CDR offers an on-premises, a hosted, or a SaaS solution deployed on Microsoft Azure, Amazon AWS, and other private government hosted clouds, typically in a subscription or per-payer-per-month (PMPM) pricing model. Smile CDR is a Microsoft Azure partner. It is currently in the process of seeking HITRUST certification. Smile CDR provides a unified solution. Clients have access to all available functionality at no additional cost, unlike other solutions that may require add-ons of modules or products.

Smile CDR includes out-of-the-box enterprise-grade capabilities for terminology, security, audit, and compliance; Lucene-based search; and HL7 v2 to FHIR conversion. It supports all FHIR resource types, the complete REST API, versioning, soft deletes, and other useful features.

Smile CDR has one product suite with one product road map and one release cycle. This shows focus.

Smile CDR is the choice of 50 enterprise clients and governments across 10 countries and 2 of the 10 largest payers in the United States.

Smile CDR provides mechanisms to receive data in a wide range of standards and formats. It can support HL7 v2, HL7 v3, IHE profiles, CDA, CSV, API, X12, and all formats asked for in this survey. Furthermore, it has capabilities to import large quantities of data through either ETL or other bulk import methods. For data that resides in repositories that do not support FHIR or the latest FHIR standards, Smile CDR's "Hybrid Provider" can provide the facade (gateway transformation) capabilities to access these data through FHIR APIs.

Regarding curation of data, a key Smile CDR differentiator is that the ingested data is converted into a FHIR transaction and stored in the database in the appropriate FHIR resource types. There is no other transformation or mapping into proprietary data models. This is purposely designed so clients can add data simply by adding FHIR extensions as needed.

Regarding data access, data stored in the Smile CDR can be accessed through the FHIR API, through the object store and through other interfaces, such as those exposed by Apache Spark and Hadoop. It also has a JasperSoft analytics environment. In addition, a FHIR Endpoint module can be created, which is an HTTP Server that allows external clients to interact with the FHIR Storage. This endpoint module is highly configurable for any external client. It can also serve as an endpoint for AI and machine learning tools. Smile CDR supports GraphQL, which adds yet another dimension for data retrieval.

As a FHIR server and services platform, Smile CDR is designed to enable fast deployment with tooling, as it has established a development environment and an app gallery to extend the value of the Smile CDR implementation via third-party applications. SMART on FHIR apps can be registered directly in Smile CDR's Web Admin Console, along with the appropriate FHIR request configurations. It also has integration with Epic, Cerner, MEDITECH, McKesson, and NextGen using HL7v2 and APIs.

Smile CDR partners with various large systems integrators or implementation service providers to help with implementing Smile CDR in payers, researcher institutions, hospitals, and health systems.

Strengths

- Smile CDR is the commercially supported version of HAPI FHIR – the reference implementation of the full FHIR specification as appointed by HL7, the standards body behind FHIR. It has built the platform based on the standard and is developing applications upon it. Most competitors have built applications and derived the platform. Clients can work in a FHIR data persistence/repository mode or facade (no persistence) mode.
- **Privacy/consent:** Smile has a relationship repository, which can assign rights and relationships for data access, and arbitrary consent rules can be implemented via a scripting tier that works with the FHIR consent directives.
- **Identity management:** Smile CDR provides an enterprise master person index. Data in Smile CDR can be accessed through SMART on FHIR apps using OpenID Connect (OIDC) or OAuth 2. This identity management capability, either standalone or integrated with existing

identity repositories (such as Okta, Ping, ForgeRock, IDENTOS, Red Hat Keycloak, and MS identity platform), is an attractive differentiator.

- **Performance:** Smile CDR is designed to be clustered and stacked in horizontal clusters of any size. Nodes can be added or removed from the cluster at any time. Clients are processing 3,000+ transactions/second and storing multiple terabytes of data.
- **Architecture flexibility:** Smile CDR partners with terminology vendors to provide data quality, data enrichment, and workflow support. Smile CDR can also integrate with third-party consent management solutions. A data platform should be a coordinator of activities, allowing these companies to implement their niche services in a complementary way. This shows a dedication to open architecture.
- **Growth:** Smile CDR shows growth potential as it has the ability to store large binary file types and support FHIR Genomics resources as it emerges, works with various partners to convert unstructured data into structured format stored as FHIR resources, and supports unstructured data with full-text indexing.

Challenges

- Smile CDR does not yet offer a user application supporting marketing/sales/customer service data capture toward a full customer-360, but it is on its road map.

Consider Smile CDR When

Consider Smile CDR when a payer wants to work all-in with FHIR. A candidate payer is one that wants to work in lockstep with an international FHIR standards-based leader who has one product and is dedicated to that product with a view toward open architecture. Smile supports the complete FHIR ecosystem from claims to labs to full longitudinal patient health records with a complete implementation of the FHIR specification, meaning every FHIR resource is supported. As Smile is also the maintainer of the community HAPI FHIR server, new and updated FHIR resources will become available to a payer's Smile server as soon as they're added to the standard – ensuring payers are able to take advantage of the latest innovations in FHIR while maintaining coverage of previous versions.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here, and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

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LEARN MORE

Related Research

- *Eight Drivers for Payer Interoperability Implementation, Now!* (IDC #US46539920, June 2020)
- *IDC PlanScape: Payer Data Platforms for Member-360 and Provider-360 Views* (IDC #US46015320, February 2020)

Synopsis

This IDC study presents a vendor assessment of customer-360 data platforms for payers in the U.S. market for 2020-2021 using the IDC MarketScape model.

"Master data management in payers is evolving with the introduction of many flavors of customer-360 technology platforms," says Jeff Rivkin, research director, IDC Health Insights. "Vendors with histories in payer health administration (care, utilization, and population health management), healthcare cost/quality analytics, payer core administration (enrollment, claims, and appeals), data management (data factories, data warehousing, and NoSQL databases), information exchange (HIE, EDI, interoperability, and API), and electronic health records are converging around a unified customer profile for members. This lofty ambition meets the challenge that payers have as they try to serve outward-facing consumerism and the need for sharing data via FHIR and other exchange standards across the healthcare ecosystem."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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