Preview

2019 PROVIDER ANALYTICS

CURRENT SOLUTIONS AND TOOLS FOR HEALTHCARE DELIVERY

CHILMARK RESEARCH

MARKET TRENDS REPORT

ABOUT CHILMARK RESEARCH

Chilmark Research is a global research and advisory firm whose sole focus is the market for healthcare IT solutions. This focus allows us to provide our clients with the most in-depth and accurate research on the critical technology and adoption trends occurring throughout the healthcare sector. Areas of current research focus include among others: Clinician Network Management, Cloud-computing Models for Healthcare, IT-enabled Accountable Care Organizations, Care Coordination, Adoption of Mobile Technology and Consumer-facing Health & Wellness Appli¬cations and Services.

Using a pragmatic, evidence-based research methodology with a strong emphasis on primary research, Chilmark Research structures its research reports to serve the needs of technology adopters, consultants, investors and technology vendors. In addition to reports for the general market, Chilmark Research performs research for clients based on their specific needs. Such research has included competitive analyses, market opportunity assessments, strategic assessment of market and vendors for partnership and/or acquisition.

In 2012, Chilmark Research launched the Chilmark Advisory Service (CAS) in direct response to clients' request for a continuous feed of research on the most pertinent trends in the adoption and use of healthcare IT. This is an annual subscription that provides not only access to a number of re-search reports throughout the year, but also direct access to Chilmark Research analysts to answer specific client needs. Please contact us directly for further information about CAS.

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Chapter 1: Executive Summary

The scope of this report is the healthcare provider enterprise and any application of analytics within it. In recent years, analytics technology has been widely deployed to support the transition from fee-for-service (FFS) to value based care (VBC). The variety of pay-for-performance (P4P), pay-for reporting (P4R), and risk- and revenue-sharing programs with payers is leading provider organizations to invest in applications that help measure and monitor costs, quality, and utilization, as well as understand the risks of the populations they serve. But the applications for analytics are broader than just VBC. Providers recognize that taking a more systematic approach to analytics and reporting can help yield higher value from their data for both existing and new applications.

Providers have many legacy point and departmental reporting solutions in addition to VBC and population health management (PHM) analytics. These applications use data from the providers' diverse and siloed applications to assist with revenue optimization, operational efficiency, and improving patient care.

One area of increasing concern for provider organizations flows from uncertainty about the pace of transformation from volume to value. Providers optimize their internal cost structures based on historical FFS revenue streams. Whether those cost structures will support a higher proportion of value-based payments is unclear. Providers are increasingly interested in planning tools to help them manage their costs and budgets for a rapidly changing payment system. Hospitals and health systems commonly use such tools while other venues have few to no options.

This report describes and evaluates the available analytics solutions from 23 vendors. They not only address VBC and PHM requirements but also enable performance improvement efforts across a provider's enterprise. It reviews the current state of the market, maturity of solutions and describes in detail vendor's solution capabilities for meeting the needs of their provider customers.

KEY TAKEAWAYS

Reporting is and will remain the "killer app" for analytics.

- Cost, quality, and utilization reports and dashboards are widely available and widely used, if not widely respected.
- Embedding analytic insights directly in applications workflow is growing but far from widespread.

Analytics for value-based care is the primary driver of adoption.

- Analytics for tracking performance in value-based contracts was the pioneer application for many healthcare users.
- Experience with value-based contracts has spawned demand for other enterprise performance improvement purposes.
- Many vendors are consolidating point and departmental reporting solutions with value-based analytics offerings onto a single analytics platform.

Advanced analytics is growing but the strongest interest is from larger organizations.

- Artificial intelligence (AI), machine learning (ML), and data science techniques and technologies are seeing more usage in vendor offerings.
- Big data technologies are widely used by analytics vendors.
- No vendor has a leading advanced analytics solution.

- Large healthcare enterprises are adopting advanced analytics while smaller enterprises are skeptical about its promise.
- Advanced analytics adopters are pursuing predictive and prescriptive goals.

Taking action based on analytics is still a challenge.

- Translating insights into action is hard to do at the patient level and at the population level.
- While EHR vendors have long pushed analytics results into the clinician's EHR, independent vendors increasingly support this capability.
- The problem of "actionability" is more complex than simply presenting data to a user.

Providers will find that claims analytics offerings enable different insights, if they would try them.

- Providers are still leery of payer-oriented ways of looking at data.
- Claims analytics offerings deliver precise insights into the drivers of cost, utilization, and clinical quality performance.

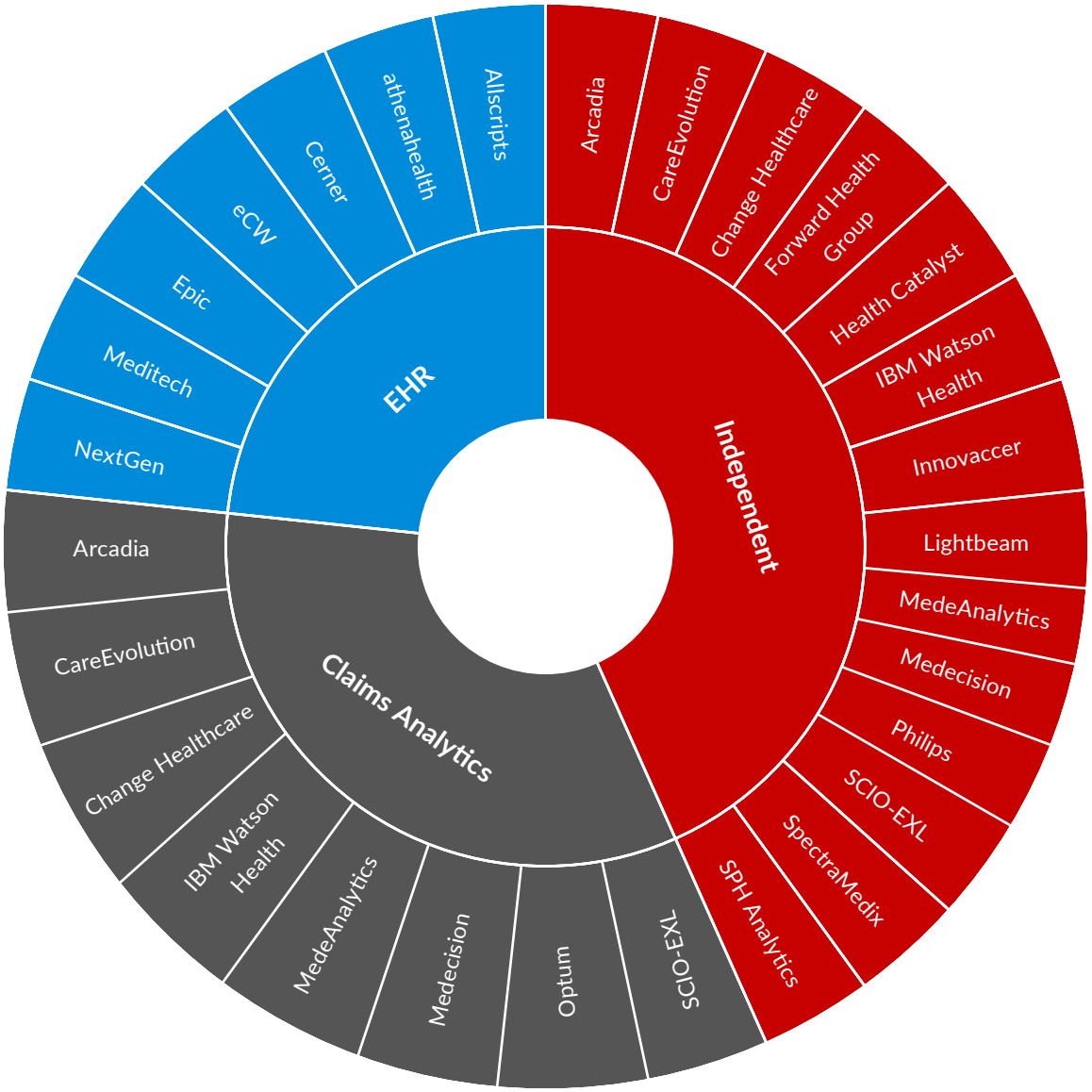

Figure 1.1: Provider Analytics Vendors and Vendor Types

Chapter 2: Provider Analytics Technologies and Markets

ANALYTICS ACROSS THE PROVIDER ENTERPRISE

Healthcare's historic transformation from volume to value is a primary driver of provider adoption of analytics solutions. Analytics support for pay for reporting (P4R), pay for performance (P4P), ACOs, bundled payments, and Medicaid plans have driven the sales of analytics offerings. Providers turned to analytics vendors and their products to help them reduce Medicare readmissions, meet the targets of the Medicare Shared Savings Program (MSSP), and the requirements of state-based managed care programs.

For many healthcare users, their first experience with analytics and reporting was in the context of a value-based contract. At an organizational level, value-based payments (VBP) triggered a new understanding by providers of the benefits of performance improvement generally. As a consequence, many providers are leveraging this investment and using the technology for diverse performance improvement purposes beyond value-based care.

Putting Reports into Practice

The more astute, or honest, vendors point out that analytics is great at identifying areas for improvement but that clinicians and administrators struggle to address them. HCOs, seeking to establish a more uniform set of clinical practices as they pursue performance improvement goals, want to use data to educate clinicians about better ways to organize and manage care. Many vendors refer to their reports and dashboards as the basis for a "conversation" with individual providers, usually about some form of performance improvement. A consistent observation of providers is that analytics and reporting are helpful tools but it is not always straightforward to get clinicians to act based on what reports or dashboards tell them.

HEALTHCARE ANALYTICS TECHNOLOGY REVIEW

Most of the products in this report are vendor-hosted and offered on a Software-as-a-service (SaaS) basis. Over the last five years, cloud-hosted solutions became acceptable. A plurality of vendors profiled in this report use major cloud vendors such as Amazon Web Services (AWS) and Microsoft Azure to host their offerings.

Mainstream Analytics

Mainstream healthcare analytics relies on commercial databases, programming tools, and BI report writers. Most of the vendors in this report use this technology to deliver a subscription-based, hosted set of reports and dashboards to their healthcare customers.

The vendors manage the ingestion, processing, and integration of the diverse data feeds that fuel the applications. They clean, normalize, and standardize the data prior to loading it into a relational database for use by applications. The vendors use standard extract, transform, and load (ETL) tools and approaches during this process. Most maintain an enterprise data warehouse (EDW) from which they build data marts for standard and customer-specific reporting and dashboard applications. In a diminishing minority of cases, all or part of the above runs in the customer's data center.

This overall technology approach is more than equal to most of the demands of healthcare. It can readily incorporate new data sources as they become available. It is a cost effective way to address the demand for reporting among every class of end-users. It allows vendors to deliver affordable solutions for even the smallest organizations. ...

See TOC for contents of full report.

About the Authors

BRIAN MURPHY - Director of Research

Brian Murphy joined Chilmark Research as an industry analyst in August 2012 and brings a wealth of experience to the table. He is an outspoken advocate for true interoperability being the key to unlocking the potential of health IT and has centered the majority of his research efforts with Chilmark around this subject. He also currently heads research for the Analytics domain.

Brian has worked in the IT business for over 25 years, beginning his career in the field-sales organization of IBM. He then joined Yankee Group as an analyst, where he managed an enterprise software service and led research on the dynamics of the database market. Leaving Yankee, Brian joined Eclipsys prior to its acquisition by Allscripts in 2010. At Eclipsys, Brian worked with product managers to refine and harmonize value propositions in light of the organization's broader goals.

Brian is a graduate of both Harvard College and Suffolk Law School. When not thinking about health IT, he's a runner and armchair Boston historian.

MATTHEW GULDIN - Senior Analyst

Matt Guldin brings with him a diverse array of knowledge and experience about the healthcare industry having worked in a variety capacities including pharmaceutical consulting, medical education, and academic research. Prior to working with Chilmark Research in his current role, Matt worked as an IT analyst monitoring and analyzing emerging trends, technologies, and market behavior in the Healthcare IT industry (HIT) in North America. He worked with such major industry brands as Lumeris, Thomson Reuters and Siemens. It was with the recent Cerner acquisition of Siemens that brought Matt back to the Chilmark family.

Matt is interested in how the HIT industry is gradually evolving from one that accomplished basic administrative and clinical functions to one that begins to enable more dramatic transformational change across the healthcare industry. Mr. Guldin has also held positions at the Managed Health Network (Health Net), Tufts Health Care Institute, the Boston University School of Public Health, and Metaworks, Inc. He holds a Master's in Public Health with a concentration in Health Policy and Management from the Boston University School of Public Health and a B.A. in Biology from Boston University.

Appendix A: Scope and Methodology

To compile this report, Chilmark Research combined extensive primary and secondary research techniques to create a composite profile for each vendor. Primary research was divided into two distinct steps, beginning with soliciting targeted vendors for their involvement in the research.

We asked participating vendors to complete a detailed questionnaire whose purpose was to collect qualitative and quantitative information about the company and the markets it serves. Questions included among others: 2018 revenue, number of employees, target market, number of healthcare entities currently using its solution, and more in-depth questions regarding solution features and functions.

Upon receiving the completed questionnaire, we conducted a follow-up interview with each vendor. These in-depth telephone interviews typically lasted 60-90 minutes and were for a demonstrations and to clarify responses to the questionnaire. This portion of the research effort also focused on topics that cannot easily be captured within the context of a written questionnaire including competitive positioning, product roadmap, partnership strategy, and which solution features are most attractive to prospective customers.

Chilmark Research performed a final analysis of the vendors via secondary research and telephone interviews with end users and consultants that have advised on, deployed, or used a vendor's system. This information was compiled to provide the in-depth reviews and ratings of the profiled vendors. Prior to publication, all vendors were given an opportunity to review their profile narratives (not rankings) for fact checking. Their comments and feedback were considered and where relevant, incorporated into the final profile narratives.

In compiling this extensive report, Chilmark Research maintained absolute objectivity throughout the entire research process (sometimes to a vendor's chagrin) and it is our sincere hope that this report brings greater clarity to this developing market.

Appendix B: Acronyms Used

Term	Definition
ACG	Adjusted Clinical Groups
ACO	Accountable Care Organization
AMC	Academic medical center
API	Application programming interface
BI	Business intelligence
BPCI	Bundled Payments Care Initiative
CHF	Congestive heart failure
CIN	Clinically integrated network
CM	Case management
CMS	Centers for Medicare and Medicaid Services
COPD	Chronic obstructive pulmonary disease
CPT	Current Procedural Terminology
CQM	Clinical quality metric
CVD	Cardiovascular disease
DRG	Diagnosis-related group
DM	Disease management
DSRIP	Delivery System Reform Incentive Payment
EBM	Evidence-based medicine
ED	Emergency department
EDW	Enterprise data warehouse
EHR	Electronic health record
EMR	Electronic medical record
ETL	Extract, transform, and load
FFS	Fee-for-service
FHIR	Fast Healthcare Interoperability Resources
HCC	Hierarchical Condition Category
HCO	Healthcare organization
HEDIS	Healthcare Effectiveness Data and Information Set
HHS	Health and Human Services
HIE	Health information exchange
HIT	Healthcare information technology
HL7	Health Level 7
ICD	International Classification of Disease
IDN	Integrated Delivery Network
IPA	Independent practice association
IQR	Inpatient Quality Reporting
IRF	Inpatient rehabilitation facility
IT	Information technology

Term	Definition
LTPAC	Long term and post-acute care
MA	Medicare Advantage
MACRA	Medicare Access and CHIP Reauthorization Act
MDS	Long-Term Care Minimum Data Set
MIPS	Merit-based Incentive Payment System
MSSP	Medicare Shared Savings Program
MU	Meaningful use
NCQA	National Committee for Quality Assurance
NPR	Net patient revenue
NQF	National Quality Forum
ONC	Office of the National Coordinator
OON	Out of network
P4P	Pay for performance
P4R	Pay for reporting
PAC	Post-acute care
PBM	Pharmacy benefits manager
PCMH	Patient-centered Medical Home
PEPM	Per employee per month
PM	Practice management
PMPM	Per member per month
PMPY	Per member per year
PPPM	Per provider per month
PPS	Performing Provider System
PQRS	Physician Quality Reporting System
RCM	Revenue cycle management
RDBMS	Relational Database Management System
REST	Representational state transfer
SaaS	Software-as-a-service
SDoH	Social determinants of health
SNF	Skilled nursing facility
SNOMED	Systematized Nomenclature of Medicine
SQL	Structured query language
TJC	The Joint Commission
UM	Utilization Management
VBC	Value-based care
VBP	Value-based Payment
VBR	Value-based Reimbursement

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