Population Health Solutions Yearbook

- **State of the Industry Review**
- **User Survey Findings**
- **Vendor Profiles**

Black Book Market Research

Population Health Software Survey 2022

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Black Book Rankings: Population Health Software Survey 2022

Black Book™ annually evaluates leading population health solutions software and service providers across 18 operational excellence key performance indicators completely from the perspective of the client experience. Independent and unbiased from vendor influence, more than 800,000 healthcare IT users are invited to contribute to various annual customer satisfaction polls. Suppliers also encourage their clients to participate to produce current and objective customer service data for buyers, analysts, investors, consultants, competitive suppliers and the media. For more information or to order customized research results, please contact the Resource Center at +1 800.863.7590 or research@blackbookmarketresearch.com

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The State of Population Health Q1 2022

Population Health Management (PHM) has continued to increase in popularity over the last decade. The term, "Population Health Management" has been widely used over the past several years, and despite its widespread use, there is no single, clear, agreed-upon definition. Some of the most common, agreed upon definitions include: a systematic approach to health that aims to improve the health of an entire human population. One aspect of PHM that is for certain; is that a successful PHM should lead to a population that is healthier, therefore reducing care utilization and saving money.

According to Google, from 2009 – 2015, the term, "population health management" increased in search four-times in that span. The biggest contributing factor for the shift in population health tools - or systematic approaches to improving the overall health of a population - rests solely on the fact that the fee-for-service healthcare model is not producing desired results. Population health models were considerably more popular in countries such as; France, Germany, Switzerland, UK and Canada until 2010, because of their public healthcare programs.

There is a shift in the current healthcare model in the United States. Slowly, but surely there are distinct changes fueling the transition from quantity-based care to a quality-based system of care. Successful population health tools can help to improve population health, reduce per-capita cost, and improve the quality of the patient experience. The four components of population health are: chronic care management, quality and safety, public health, and health policy.

The evidence supporting successful PHM varies, as there have been very few assessments done on the impact PHM interventions have had on health outcomes. The United States spends more than any other country on healthcare but achieves the worst population health outcomes. Successful PHMs focus on the prevention of diseases. There is also a continued focus on the social determinants of health, encouraging healthier lifestyles and chronic disease management.

Importance of engagement, interoperable data and data capture

The Robert Wood Johnson Foundation is the United States' largest philanthropy focused solely on health. According to the foundation, 80 percent of what influences health outcomes are factors outside the purview of traditional healthcare delivery. These factors include, but are not limited to behaviors, social and economic factors, location and the quality of the environment. These factors help drive patient engagement, which is an important aspect of managing population health.

Population health management solutions have continued to expand and grow. As these solutions increase, as will patient engagement. One of the most valuable methods for encouraging patient engagement is providing web-based access to healthcare information through online patient portals.

An important criterion that is imperative for providers to manage population health across the entire continuum of care is the ability for interoperable data. For years, health professionals have been advocating for public policies that require health IT interoperability standards so providers can access data through various systems.

Some of the more recent solutions to help expand on quality of care, care delivery, and access (EMRs, RCM software and claims processing systems), were coded with a fee-for-service platform in mind. The benefits of end-to-end

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PHM solutions should be able to identify each cost at the point of care and throughout the entire continuum of care.

POC solution vendors will continue to increase production on wearables that can collect continuous patient data. The constant changing and updated technology has allowed for major progression in this area. The data can be rich and limitless and increase overtime.

Previously, clinical data had mostly been limited to EHRs. Six of the top 20 population health management vendors are EHRs and more than two-thirds of the installs are represented in this survey. Historically, EHR clinical data consisted of mostly health "snapshots" during physician and hospital visits. So, as PHM solutions continue to grow there will be a concurrent expansion in all the different ways of gathering clinical data at the point-of-contact and in real-time.

In order to achieve a successful PHM solution that maximizes on the value and benefits there needs to be an emphasis on the importance of data capture. The collection of continuous data on whole populations, from sick to healthy, will help fuel the immense data appetite for the next generation of PHM solutions.

Solutions that utilize both claims and clinical data to identify at-risk patients, help locate missing or inconsistent clinical documentation, and enhance collaboration between providers, patients, and payers are on the rise. Payment models continue to shift toward value as payers and providers assume greater risk. Payers and providers will need tools to help them improve collaboration and communication as they work to meet the Triple Aim (improver patient satisfaction and care quality while reducing unnecessary cost).

Coders as data gatherers

As the shift from quantity-based to quality-based healthcare continues, coding will no longer be used primarily to help ensure that organizations are properly reimbursed. Coders will be elevated to positions of primary data gathers for various population health analytics.

Coding will play an increased role in identifying, analyzing, and the sorting of various data sets. Coded data and its analysis will continue to get more refined as the shift to quality-based healthcare continues.

External cause codes have continued to expand to help aid population health diagnoses. There is a vast and rich collection of data that can be coded and the more data that can be tracked and recorded – the better. The data can answer questions, such as what happened and where did it happen? The answering of these questions will help with the prevention of future disease diagnoses.

Black Book Population Health Surveys, Polls and Competitive Market Analysis

Due to an increase in vendor mergers and acquisitions (M&A), there are now several vendors who offer end-to-end population health management platforms and solutions. Six of the top 20 population health vendors offer electronic health records with nearly 2/3 of the installs.

Clients that utilize their electronic health records are turning to their vendors for population health management value add-on(s). EHR clients are also looking for bolt-on population health management, value-based care (VBC) solutions to

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increase their competitive market analysis. Some of the vendors that have clients reporting comprehensive programs include Allscripts, Cerner, Epic, Athenahealth and Next Gen.

Interoperability continues to hinder the effectiveness of various PHM solutions. The lack of interoperability exists within care coordination and referral networking (among others). For example, if you're not an Epic client and you're not going to switch to Epic, you're not going to get in-network referrals. Because of this lack of interoperability, Allscripts and Cerner enjoy higher customer satisfaction scores because of the integration capabilities to other EHR's regarding their population health management tools. Several EHR vendors are aggressively looking to penetrate the best-of-breed PHM market. Allscripts, Athenahealth, NextGen, Meditech and Cerner are all enhancing their 2022 analytics offerings (a function of PHM that the best-of-breed had a strong hold on thus far).

Collectively, it seems very few integrated delivery networks (IDNs), and accountable care organizations (ACOs) really know where they are at with IT. Vendors have pushed a few products on healthcare organizations. It has become a tsunami of analytics, engagement, enterprise data warehouses (EDWs), care coordination, and disease management pieces - all with little to no integration. That is why Black Book is forecasting (from surveys) a noticeable increase in the use of PHM, VBC consultants in 2022; mostly to help with assessments, strategies, and vendor selection.

To put it into context, healthcare organizations bought several population health management tools without knowing the full extent of their capabilities (or lack thereof). Now, these organization are trying to figure out how to integrate these systems as efficiently as possible, with minimal impact to the bottom line.

In regard to vendor selection, the decision between population health management and vendor-based care vendors has predominately increased to more of a business decision rather than an IT decision. This is primarily due to the decrease in tech funding and budgeting constraints, according to Black Book's Q4 2021, C-suite poll on purchasing trends. Organization is concentrated on the ability to integrate adequately and as efficiently as possible (in regards to ownership), through 2021, than those concerned with maximizing their return on investment (ROI) regarding a high-dollar PHM systems.

2990 hospitals reported having a full end-to-end population health management capabilities in the surveyed year (2021); however, only 59% state that they are seeing a measured result. Of the 280 hospitals, 75% of those surveyed are electronic health record vendors, of which are population health management users. The merger of EHR's and PHM tools are evolving rapidly for the users that have invested in the technology.

Non-EHR vendors are making the move to replace some of their EHR products. This is because the needs become more value-based and reforms regarding healthcare make individual hospital needs more specific. Black Book® separated EHR/PHM solutions from best-of-breed because several best-of-breed do a few functions of the PHM catalog efficiently. There are several functions that perform and/or rank less satisfactorily than others.

Among the top 4 EHRs/PHM solutions, Black Book® recorded consistent satisfaction across all PHM functions (except Epic on Care Coordination and Referral Networks). Since the purchasing trend is to go to EHRs first for end-to-end PHM, Black Book detailed their performances separately.

There have been a significant number of mergers and acquisitions (M&A) in the healthcare IT sector this past year. These M&A's have been aimed at achieving end-to-end PHM and value-based care (VBC) solution offerings. Black Book has recorded consultants utilizing the M&A strategy to strengthen their EHR capabilities, interoperability, and data analytics bases. Some consulting firms and PHM companies have merged and participated in company rebranding to maximize their focus on PHM solutions.

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A detailed look at some of the 2021 population health management's merger and acquisitions:

Athenahealth - Cloud computing vendor athenahealth announced in November 2021, that it would be jointly acquired by affiliates of Bain Capital and Hellman & Friedman for $17 billion.

Baxter - The medical products company Baxter International announced September 2021, that it would acquire Hillrom, a connected care and collaboration tool vendor.

DirectTrust - The nonprofit health alliance DirectTrust announced August 2021, that it had acquired the assets of SAFE Identity, including its trust framework.

2bPrecise -AccessDX Holdings, which develops an array of lab diagnostics and decision support tools, announced in August 2021, that it has acquired 2bPrecise from Allscripts.

Health Catalyst - Health Catalyst announced June 2021, that it will acquire Twistle. Twistle's SaaS-based patient engagement technology will bolster Health Catalyst's existing population health analytics technology and help provider customers in their efforts to transition to accountable care.

Seqster -Seqster is joining the CommonWell Health Alliance, the company announced in June 2021. Its customers now have the ability to connect and exchange health data bi-directionally with the more than 22,000 healthcare provider sites in the CommonWell nationwide network.

Vocera -Vocera Communications in April 2021, announced its acquisition of San Diego-based PatientSafe Solutions. Terms of the deal were not disclosed.

Microsoft - Microsoft in April 2021, announced that it will acquire Nuance Communications, a deal aimed largely at advancing cloud and artificial intelligence offerings for its healthcare customers.

Cerner - Cerner in April 2021, announced the completion of its purchase of Kantar Health for $375 million in cash – an acquisition it says will be a boost to its expanded efforts toward life sciences research capabilities.

SOC Telemed - SOC Telemed (formerly Specialists on Call) announced in March 2021, that it has purchased fellow acute care telemedicine provider Access Physicians.

Evernorth - Telehealth provider MDLive is being acquired by Cigna's health services subsidiary Evernorth (February 2021).

Nuance Communications - Nuance Communications, the Boston-based maker of various conversational artificial intelligence tools for healthcare, announced in February 2021, that it has acquired Saykara, a Seattle startup that specializes in mobile AI clinical documentation.

Accolade - Health concierge startup Accolade announced in January 2021, that it will buy the telemedicine vendor 2nd.MD for about $460 million.

Komodo Health - Komodo Health, a healthcare intelligence platform vendor based in New York and San Francisco, announced in January 2021, that it has acquired Mavens, which provides cloud-based tools aimed at biotech, rare disease and specialty pharma companies.

Optum - UnitedHealth Group's Optum announced in January 2021, that it would acquire Change Healthcare with the aim of more effectively simplifying core clinical, administrative and payment processes.

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Key findings

Organizations on the transition path to PHM must prioritize three foundational elements, according to survey respondents:

1.   Information-powered clinical decision making (98%);

2.   Primary care-led clinical workforce (96%); and

3.   Patient engagement and community integration (93%).

PHM solutions are quickly becoming a priority for healthcare providers, including physician organizations, accountable care organizations, integrated delivery networks, hospitals and health systems, but in Q4 2021, 64% of providers are tackling population health projects without a strategic technology purchase that meets all their needs. Nearly a third of those providers are using free or value-added tools from their EHR vendor as a stop-gap solution.

In Q4 2021, 80% of healthcare executives are increasingly looking beyond vendors who supply their core financial   (patient accounting) and clinical information systems (EHRs) at more specialized vendors. In Q4 2021, three EHR companies have overwhelmingly reversed the earlier stance of those providers seeking external best-of-breed PHM vendors. The surveyed clients of Allscripts (80%), Cerner (79%) and Epic Systems (75%) indicated they have adopted population health software but underutilizing the product even with Covid-19 situations.

66% of hospitals and 79% of physicians responding to the survey state their community health information exchanges (HIEs) are still too insufficient or simply not operating at the point where they solve the reliable data needs of population health modeling.

92% of all surveyed decision makers on hiring a consultancy agree that they prefer an advisor with both population health management and revenue cycle management expertise.

Current and prospective RCM consultant clients experienced a 600% growth in PHM consulting engagements through 2019, as measured against 2016 actual dollar spend/utilization of advisors. However, in Q4 2021, population health consulting initiatives were one of the top three sectors of independent advisory services expected to see a significant drop in 20222021 revenues (nearly a 73% negative impact on consulting firm's bottom line).

Of the 44 PHM consulting firms contacted by Black Book, about one-third claim they are currently experiencing difficulties finding (developing) new business.

Hospital executives primarily attribute the increased demand for PHM advisory services on several factors out of their scope of current experience:

● 46% have no strategic plan activated for transforming PHM or value-based care solutions end-to-end to confront known deadlines because there are no internal experts identified.

● Of the 7% stating they are either acquiring, replacing either (or all) PHM IT solutions, vendors, current service delivery processes or outsourcers within the next 12-18 months, less than 15% of hospitals have begun comprehensive vendor selection activities and are considering consultants to assist them.

● 88% of CFOs confirm they are confident that the hospital will not have the FTEs budgeted for PHM transformation activities.

● 87% of CIOs state they do not have the information technology or staff in-house needed to transform PHM end-to-end as their executive team envisions.

Real end-to-end PHM transformations require complex technology optimization, strategic assessment of patient mix and payers, analytics, decision support tools, staff training, outsourcing and new software implementations. Next generation PHM will not be achieved via old school directives to cut staff, slash expenses, and pushing PHM work with the lowest- cost tech vendor. The new era of how providers get reimbursed is going to impact the entire organization, and most hospitals aren't remotely prepared for it.

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Introduction - End-to-End Population Health Tools

Black Book received 1,620 completed surveys on best-of-breed PHM end-to-end solutions vendors corresponding to a response rate of 30.52% of individuals and 38% of institutions invited to the population health solutions and services surveys between Q1 20201and Q4 2021. Additionally, 2,108 surveys from executives (in purchasing decision mode) responded to questions on; vendor preferences, budgets and adoption in pre-use, implementation, system decision making and purchased but not yet installed status (these ballots did not evaluate vendor performance).

309 EHR clients evaluated Core EHR PHM end-to-end solutions.

491 providers that have engaged PHM and VBC consultants and advisors in 2021, also completed ballots on a separate Black Book client satisfaction survey.

Black Book Market Research's Population Health Software client/user/prospective customer survey investigated 62 PHM self- stated full spectrum solutions vendors from which 404 responded directly via client reviews.

Inherent to making the transition to population health management is the ability to assume financial risk. This newly charted territory for most healthcare providers has left nearly 3 out of 4 hospitals with incomplete planning, strategies, technologies, and services on the path to ensure a successful transition to value-based care.

With only 24 PHM vendors reporting they actively support a full end-to-end solution set, it is critical that buyers articulate their population health business goals before they select a vendor. Whether their core EHR or financial system vendor partner is a best-of-breed standalone PHM vendor.

Organizations on the transition path to population health management must prioritize three foundational elements according to survey respondents:

Information-powered clinical decision making (95%) Primary care led clinical workforce (90%)

Patient Engagement and Community Integration (98%)

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Population health solutions are quickly becoming a priority for healthcare providers including physician organizations, accountable care organizations, integrated delivery networks, hospitals and health systems, but in Q4 2021:

1.) 55% of providers are tackling population health projects without a strategic technology purchase that meets all their needs.

Nearly a third of those providers were using free or value-add tools from their EHR vendor as a stop gap solution.

2.) 22% of surveyed providers utilize a vendor-provided solution to address their current population health projects.

What Makes Up an End-to-End Population Health Solution? (Percentage that have a solution module in place)
Administrative and Financial Performance Monitoring - 76%
Analytics - 56%
Care Coordination and Improvement - 94%
Coding - 99%
Data Aggregation - 42%
Patient Engagement - 66%
Physician and Clinician Engagement - 34%
Quality Measurement - 94%
Risk Stratification - 28%
Utilization of network resources - 52%

Of those 15%, roughly half chose a single vendor to capture all their population health initiatives into a focused unified data model. The remaining providers have a collection of solutions from 2 or more vendors.

3.) In Q4 2021, 89% of healthcare executives are increasingly looking beyond vendors who supply their core financial (patient accounting) and clinical information systems (EHRs) at more specialized vendors.

In Q4 2021, three EHR companies have overwhelmingly reversed the earlier stance of those providers seeking external best-of-breed PHM vendors. The surveyed clients of Allscripts (86%), Cerner (63%) and Epic Systems (70%), indicated they are or are planning to adopt the comprehensive population health solutions of their core EHR and/or financial systems by 2023.

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EHR CLIENTS PLANNING TO IMPLEMENT 1+ PHM VBC SOLUTIONS THROUGH THEIR CORE EHR VENDOR BY Q4 2021
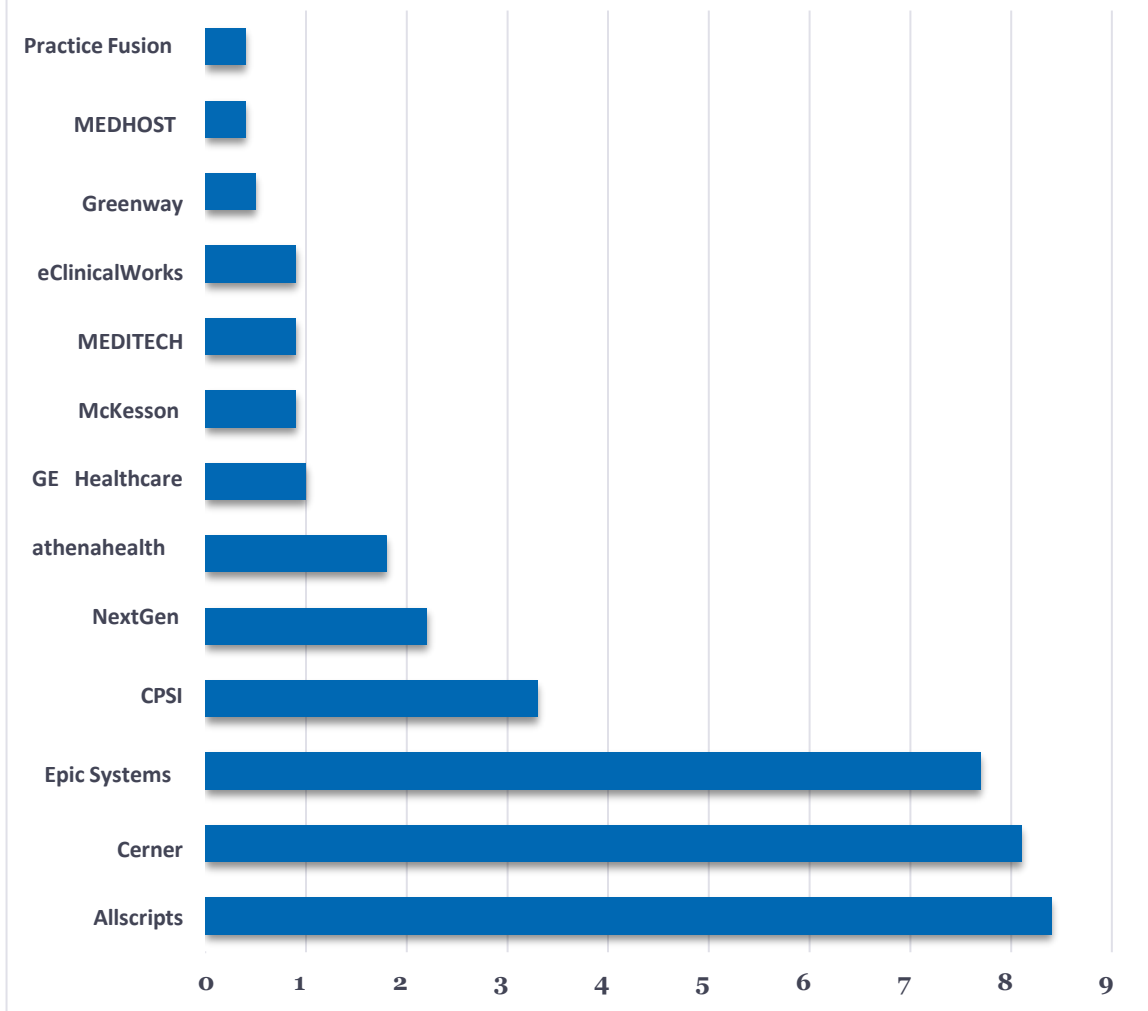
4.) 84% of hospitals and 90% of physicians responding to the survey state their community health information exchanges (HIEs) are still too insufficient or simply not operating at the point where they solve the reliable data needs of population health modeling.

5.) 30% of respondents rate population health as, "vitally essential" to the 2021-22 success of their organization, down from 40% in Q4 2020. 86% report population health as, "somewhat to moderately impactful" down from 91% in Q1 2018.

6.) 80% of respondents state they're still in the business model trial of population health and not in any form of upside gain/downside risk agreements with payers. 74% of provider CFO respondents have been unsuccessful at finding payers who are willing to enter into agreements on population health initiatives.

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Current Organizational Status for Population
Health Initiatives in Q4 2021

■ Planning with External Partners
(Payers or Employers)

■ Currently in 2+ Agreements

■ Planning internally without
Partners

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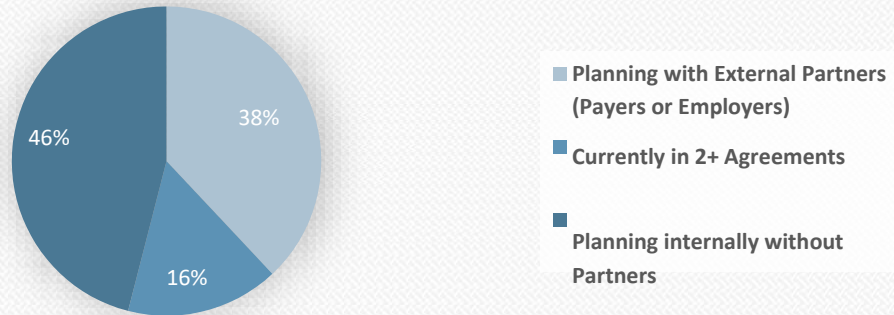
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7.) 73% of respondents have not instituted a formal leadership structure of population health management in their organizations. Currently, population health and accountable care strategic programs fall under the responsibility of multiple managers.

Who is Leading Your PHM Initiative Currently?
Chief Medical Officer - 14%
Chief Executive Officer - 10%
Chief Quality Officer - 23%
Chief Operating Officer - 4%
Chief Nursing Officer - 9%
Population Health Executive - 11%
Other Titles - 29%

8.) By Q4 2021, a 58% of all provider organizations anticipate new financial risk structures in caring for an identified population. Still, 14% of provider organizations expect no involvement in different financial risk structures by 2022.

Shared Profit and Loss Arrangements with Payers -40%
Direct Contracting with Employers - 20%
Joint Ventures with Health Insurance - 15%
Shared Savings Programs with Payers - 14%
Start up a payer organization within the network - 7%
None - 30%

9.) What risk sharing arrangements is your organization engaged in to improve the health of a defined population?

Patient centered medical home related arrangements - 53%
Clinically Integrated Networks - 62%
Health system led (physician and hospital) Accountable Care Organizations - 40%
Expansion of ACO to nonhospital providers - 39%
Acquisition of providers - 52%
Alliances with providers - 30%
None - 12%

10.) Primary Factor for Pursuing Population Health Management Solutions and Tools: Reimbursement Worries.

Anticipation of end of fee-for-service model - 45%
Better control of clinical quality, costs and outcomes - 27%
Organizational Mission - 11%
Competitive Advantage - 10%
Current or Anticipated Governmental Penalties - 3%
Other - 4%

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BLACK BOOK POPULATION HEALTH SOFTWARE USERS SERVEY RESULTS

State of the Population Health Management Software in the Healthcare Industry

The healthcare industry is undergoing a fundamental transformation globally as it shifts from a volume- based business to a value-based business. Growing demands from consumers for improved healthcare quality and greater value, has forced healthcare providers and payers to deliver optimized outcomes. In addition, governments across the globe have increasingly worked towards reducing healthcare costs, which increases the burden on payers and providers to meet the expectations set forth by the government and consumer. This has compelled healthcare providers to gravitate towards population health management solutions, which enables them to provide improved healthcare at reduced costs.

Population health management is a methodical and transparent delivery of services aimed to improve the health status of a given population and to deliver better outcomes at a lower cost. Population health programs are designed to keep defined patient populations, especially those with high-risk diseases, as healthy as possible while decreasing the need for costly interventions, such as emergency department visits, hospitalizations, and invasive testing and procedures.

The population health services (consulting and outsourced managed services) and the cloud -based population management systems segments of the industry are likely to record the fastest growth in 2022 due to the advancements in value-based care models, should the model progress in Q2-Q4.

Population health management tools are fundamental in almost every major healthcare reform initiative currently in the U.S. PHM is most visible in the patient-centered medical home and accountable care organizations.

Most EHRs are not sufficient to manage populations effectively. The exception being Allscripts, Cerner, and Epic Systems, according to Black Book who surveyed the current PHM users of those firms. Many other core EHR and financial systems vendors are playing catch-up through corporate development and acquisitions of PHM niche vendors. Barring the three large EHR vendors, PHM solutions remain as separate modules in Q4 2021. These require an additional sign on for a completely different UI. This causes a broken workflow and impedes training and adoption in a healthcare organization according to 92% of EHR clients outside of Allscripts, Cerner and Epic. Additionally, the general lack of data standardization, fragmented patient portals, siloed or garden-walled health exchanges, and analytics resources are the lead reasons why 72% of EHR clients continue to seek population health management solutions from external vendors.

The US population health market was valued at $3.7B in Q1 2015 and projects to reach $45.9B by 2023, expanding at a CAGR of 23.9% yet no single vendor in the current healthcare information technology market met the complete requirements for end-to-end population health management, as practiced by the leading hospital systems, corporations, integrated delivery networks and physician organizations.

By Q4 2021, at least 44 population health vendors claimed to provide comprehensive, end-to-end population health technology and services solutions for the US provider market. 35 met Black Book criteria and provided profiles of their solutions in this document. 28 end-to-end PHM vendors received the minimum number of validated ballots to be ranked in this review.

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By mode of operation, the U.S. population health management solutions market has segmented into premise-based operations, cloud-based operations, and web-based operations.

The unsustainable growth of healthcare costs and the lack of access to healthcare has increased the disparities in care. This has forced the U.S. to start changing how healthcare is delivered.

Automation allows provider organizations to better assess population needs and stratify populations based on geography, health status, resource utilization and demographics.

Over the years, the healthcare industry is recognizing that the traditional approaches to patient care, quality assurance, and cost-management are inefficient to keep pace with the emerging challenges. Therefore, population health management solutions will be among the priorities on the investment list of healthcare organizations for quality outcomes and cost management. This is based on the mode of delivery, as web-hosted solutions form the largest segment of the population health management market. However, cloud-based solutions are the fastest-growing mode of delivery. In the segmentation, based on end users, the provider segment represents the largest group.

The employer groups segmented are expected to grow at the fastest rate in the end-user market as employers realize the health of their employees directly affects the productivity. Based on geography, North America is expected to grow at the highest CAGR. The high growth in the North American region can be attributed to factors such as the rising healthcare costs and the demands for quality care, legislative reforms, rising aging and chronically ill population, and government support for population health management programs. The population health management market is highly fragmented with the majority consisting of small payers. The organizations in this market focus on growth strategies, such as client acquisitions, agreements, partnerships, collaborations, alliances, new product launches, event participation, marketing and promotion, expansion, and educational promotion to increase their customer base.

There is an increase in the U.S. healthcare delivery consortiums plunging into accountable care organizations from volume-based to value-based care. As the data has increased and providers gain a better understanding of their needs, the vendors are responding with a more robust, user-friendly solutions and multi-capability suites.

The healthcare market is comprised of vendors consisting of population health analytics, patient engagement, care coordination software/services, payer disease management, big data platform, providing solutions to buyers and risk stratification vendors seeking to make a difference in market by offering scalable solutions for larger customers.

The core vendors in this market possess core capabilities that can be characterized and evaluated along five main dimensions: population health analytics, patient engagement, care coordination, software/services, big data platform and optimum solution for payers. This view is consistent across the competitors in this area and matches up with Black Book's assessment of the healthcare delivery organizational needs.

The central idea for population health management software buyers is determining to what extent the electronic health record (EHR) will be leveraged as part of the overall solution. At this stage of the market

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vendors will exaggerate their capabilities and degree of integration. Vendors should be practical in evaluating how their population health management platform will interoperate with multiple EHRs and ACO. Vendors may be receiving data from or within their mega-suite vendor and/or EHR.

Balance the urgency for adoption and the immature market by developing short and long-term strategies to let the market mature and vendor solutions stabilize. This implies confronting the risk of ownership change in vendors, incomplete development or build out of solutions to meet your needs and management change. Diversify your analytics solutions portfolio to capture development progress of multiple vendors and manage the risk of a single vendor falling behind in the market.

By Q3 2022, 30% of U.S. integrated delivery network systems (IDNs) will predominantly depend on EHR/mega-suite vendors for value-based population health solutions. Chief Financial Officers consistently endorse the adoption of EHR population health suite of products.

Chief Executive Officers

25%
16%
59%
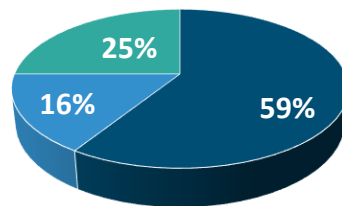
■ Agree ■ Neutral/Unsure ■ Disagree will use Best-of-Breed or Bold on Solutions

Chief Financial Officers
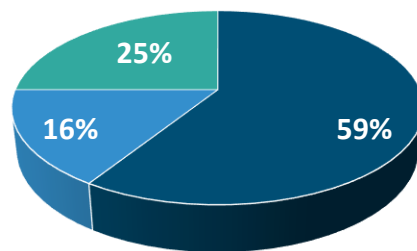
25%
16%
59%

■ Agree ■ Neutral/Unsure ■ Disagree will use Best-of-Breed or Bold on Solutions

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Chief Information Officers
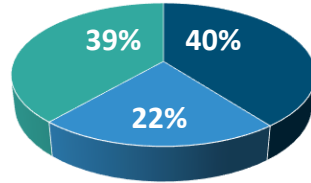
■ Agree ■ Neutral/Unsure ■ Disagree will use Best-of-Breed or Bold on Solutions

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Survey Participants

Current PHM Users, n = 2,160

Chief Executive Officer/Administrator - 45

Executive Director, ACO/Population Health - 109

Chief Operating Officer - 20

Chief Information Officer - 32

Chief Financial Officer - 75

Chief Medical Officer - 29

Chief Nursing Officer - 49

Vice President, Population Health - 154

Vice President/Other - 359

Director, Population Health - 78

Director/Other - 455

Manager, Population Health - 51

Manager/Other - 144

Clinician/Physician - 41

Business Office Title - 47

Director, Quality - 442

Other – 30

Participants by Title Category

C Suite - 15%

Vice President Level – 34%

Director Level - 29%

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Marketplace Definitions

The provider-directed population health management software acts as an organizing principle that represents a radical shift in what is within the scope of service, how care is delivered (where and by whom) and what the role of the consumer/patient is. This brings in a huge change in how providers collaborate, how organizations structure themselves and what enabling technologies (medical and information) are needed. It has ignited new and various healthcare models that are moving the dial from volume to value-based care. The move from payer disease/care management to provider population health management models (and the shift in payment models) to value-based incentive/risk models are the most profound changes in the design and structure of healthcare delivery in the last 70 years. The breadth of changes provider organizations are experiencing presents challenges to even the most seasoned executives.

Provider-directed population health management, in a sense, creates a logical overlay above existing capabilities and demands new capabilities. Everything is touched — from revenue cycle, care management, patient engagement, logistics, throughput, and resource optimization. Technology becomes a critical enabler. In the broadest definition, provider-directed PHM solutions cover the set of IT capabilities and related services that enable provider organizations to manage populations of patients and achieve the specific quality, cost and access goals. Since those goals may be driven by the objectives of accountable care, value-based care, or similar government-based or private payer programs, they may differ considerably in their form. Therefore, technology needs will differ. Tools include some of the new ornate principles, like patient engagement and gamification tools. More pragmatically, they depend on things like a new comprehensible infrastructure that can safely and securely move massive amounts of data and make it intelligible in real time, a smart revenue-cycle system that follows the money and highly integrated care plans across a network of care providers.

Profiled in this document are subsets of vendors offering solutions across population health analytics, care management/coordination and patient engagement, which presently form the current market of solutions and core capabilities. Black Book provides the following definitions for the capabilities covered in this guide as offered by the various vendors; however, even these definitions are likely to change over time as the market matures.

Population Health Analytics

Analytics are the backbone to population health and value-based care delivery. The analytics platform extends traditional provider-based analytics to include integration of data, such as; all-services claims data (provided by the payer), EHR data (from disparate employed and partner providers), and more advanced capabilities such as cohort identification, patient/physician attribution, risk stratification, disease registries, gaps assessment, care alerting, and other predictive algorithms (e.g., readmission, clinical deterioration). More progressive capabilities include adaptive intelligence, integrated at the point of care delivery; real-time data surveillance for both operational and clinical efficiencies; advanced use of large data for behavior analysis and consumer engagement, and advancing practice with deeper pattern discovery and data mining.

Care Coordination Software and Services

The care management processes for population health management depends on very targeted and integrated care paths, as well as; wellness plans matched up to the finely grained cohorts of patients. Care management and coordination teams rely on predictive analytics and intelligence incorporated directly into their workflow to ensure the highest levels of efficiency and effectiveness. This includes patient reminders, proactive alerting for gaps in care, disease deterioration and preventable readmissions. This functionality must overlay and effectively interoperate with a provider's EHR.

Patient Engagement

Tools to actively engage patients in their wellness and illness management are a cornerstone to effective population health management. These tools support both clinical and business functions, such as interactive care and wellness plans, education, appointment scheduling, automated alerting, bill pay, etc. More sophisticated functionality includes gamification techniques, self-reporting and monitoring integrated with the EHR, and the ability to integrate streams of data from inside and outside the doctor's office (environmental, social, geographic factors, etc.).

Big Data Platform

Healthcare organizations need to improve the quality and efficiency of care while cultivating patient centricity through engagement and healthcare personalization. Regulatory and marketplace changes require a deeper understanding and management of the risks within patient populations in order to drive better outcomes and reduce readmission rates. Understanding the patient in the context of who they are as individuals is essential in creating effective programs that drive change. This can be achieved with clinical and advanced analytics enhanced with big data. While these are critical areas, Black Book cautions against strict adherence or reliance on any one definition of population health management as the market is immature and there are many technology gaps unfilled.

Solution for Payers

The healthcare landscape is rapidly changing. Clinical needs, payment models, and care delivery models are increasing in complexity. Meanwhile, patients, employers and payers are expecting more from their healthcare dollar than ever before. An investment in optimizing clinical quality, as well as undertaking risk-based contracts, creates a foundation for better, proactive care at a reduced cost. Many providers and payers are now looking toward population health as a way to thrive in this new environment.

While these are critical areas, Black Book cautions against strict adherence or reliance on any one definition of population health management as the market is immature and there are many technology gaps unfilled.

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Top 10 Health IT tools to Achieve Population Health Management

1. Advanced Population Analytics - Applied to the data in registries and data warehouses, these analytics can be used to evaluate how different segments of patient populations are doing and to assess the clinical and financial performance of individual providers, sites of care, and the organization as a whole.

2. Remote Patient Monitoring - Remote monitoring can also help patients control chronic conditions such as diabetes and hypertension.

3. Telehealth/Telemedicine - Treatment of patients using audio and video conferencing are another method of engaging and caring for patients between face-to-face visits and can also reduce the need for those encounters.

4. Patient Portals - Essential to the process of continuous care, web portals attached to EHRs help providers share records with patients and engage patients in self-management.

5. Referral Tracking - Referral management tools help practices keep track of referrals to other providers and make sure that they receive the results back from those consultations.

6. Automated Outreach -By applying analytics to registries, organizations can generate automated messaging to patients who need preventive or chronic disease care, according to standardized clinical protocols.

7. Risk Stratification - Risk stratification and predictive modeling applications enable providers to intervene appropriately with high-risk patients and those who might become high-risk.

8. Health Information Exchange - Enables effective coordination of care across the medical neighborhood and between care team members. Secure messaging that uses the standardized direct protocol is another way to exchange information from one provider to another.

9. Patient Registries – the central database of population health management. Registries are used for patient monitoring, patient outreach, point-of-care reminders, care management, health risk stratification, care gap identification, quality reporting and performance evaluation.

10. Electronic Health Records – documents diagnoses, vital signs, tests and treatments populate registries, and create the structured data needed for advanced analytics.

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BLACK BOOK METHODOLOGY

How the Data Sets are Collected

Black Book collects ballot results on 18 performance areas of operational excellence to rank vendors by population health product lines. The gathered data are subjected immediately to an internal and extern AI audit to verify completeness and accuracy and to make sure the respondent is valid while ensuring that the anonymity of the client company is maintained. During the audit, each data set is reviewed by a Black Book executive and at least one external auditor. In this way, Black Book's clients are able to clearly see how a vendor is truly performing. The 18 criteria on operational excellence are subdivided by the client type and further analyzed by population health base, market size, and geography and population health functions reportedly used.

Situational and market studies are conducted on areas of high interest such as EHR, interoperability & HIE, revenue cycle management, hospital software, services providers, educational providers in e-health, bench markers and advisors. These specific survey areas range from four to 20 questions of criteria each.

Understanding the Statistical Confidence of Black Book Population Health Management Survey Data

Statistical confidence for each performance rating is based upon the number of organizations scoring the Population Health Management. Black Book identifies data confidence by one of several means listed below.

Top-5-ranked vendors must have a minimum of ten ballots from at least three unique clients represented. Broader categories may require a minimum of 20 client ballots to qualify and validated respondents. Data that is asterisked (*) represent a sample size below required limits and are intended to be used for tracking purposes only, not ranking purposes.

Performance data for an asterisked vendor's services can vary widely until a larger sample size is achieved. The margin of error can be very large, and the reader is responsible for considering the possible current and future variation (margin of error) in the Black Book performance score reported.

Vendors with over ten unique client votes are eligible for top five rankings and are assured to have highest confidence and lowest variation. Confidence increases as more organizations report on their outsourcing vendor. Data reported in this form is shown with a 95% confidence level (within a margin of 0.25, 0.20 or 0.15, respectively).

Raw numbers include the quantity of completed surveys and the number of unique organizations contributing the data for the survey pool of interest. Six subsets of stakeholders were used to isolate scores by organization type as identified by the survey participant.

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Black Book Rankings: Population Health Software Survey 2022

Who Participates in the Black Book Ranking Process

Recognizing that technology utilization is organization-wide and purchasing decisions are a collective business decision, Black Book invites more than: 500,000 practice management and physician leaders, hospital executives, clinicians, IT specialists, front-line implementation veterans, business office professionals, ancillary department heads, and consultants to participate in the annual Black Book Population Health Management e-Health initiatives, e-Rx, population health, and ACO satisfaction surveys. Non-invitation participants must complete a verifiable profile and utilize a valid corporate email address to be included in the surveying. Two external survey ballot validation firms are employed for verifications. More information is available at www.blackbookmarketresearch.com and only one ballot per corporate email address is permitted. Any changes of ballots during the open polling period require a formal email request. This process is enforced to ensure integrity.

Market Direction

Healthcare delivery organizations will seek solutions in population health management because of the necessity. The uncontrolled growth of healthcare costs, increased disparity in care, and the continuing rise in the number of patients with chronic diseases demanded a change in the U.S. healthcare payment/delivery models. The response has been to move from a physician and facility-centric (fee-for-service model) toward a value-based outcomes (financial, clinical and experiential) population health management-oriented model. Under these new models, providers will have to plan and act (in terms of caring) for an entire population and not just for those individuals actively seeking care. This is a different perspective that formally focuses accountability for a full spectrum of care (and the related total cost) for patient/consumer populations (usually by payer). In response, technology vendors have been jumping onboard to capitalize on the need for a solution, and Black Book expects rapid innovation in supporting various facets of PHM within and beyond the five areas in the scope of this research.

DATA AGGREGATION & STORAGE, POPULATION IDENTIFICATION & PATIENT REGISTRIES	*CONNECTIVITY, IDENTIFICATION OF GAPS IN CARE & PATIENT/ PROVIDER ATTRIBUTION	RISK STRATIFICATION & COST METRICS	PATIENT ENGAGEMENT & EXTERNAL DATA ACQUISITION	CARE TEAM COORDINATION & MANAGEMENT	OUTCOMES MEASUREMENT, REPORTING & ANALYTICS

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Market Competitors

The following tables (1-41) and pages contain information supplied directly from population health vendors in a questionnaire provided in the Q2 2018 -Q4 of 2021.

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Table 1: Vendor Provided Information Q2-Q3 2020 End-to-End Solutions
Top Vendors offer Population Health Software as a major or only revenue source

Population Health Management Vendor	Interoperability & Integrations	Care Management & Coordination	Patient Engagement	Aggregation, Storage, Stratification & Analytics
Acadia Healthcare		✓	✓	✓
ApolloMed		✓		✓
Ariel	✓			✓
Best Doctors (Rise)	✓	✓	✓	✓
Caradigm	✓	✓	✓	✓
Cognizant Trizetto	✓			✓
Conduent	✓		✓	✓
Conifer Health	✓		✓	✓
Definitive Healthcare	✓	✓		✓
Deloitte	✓	✓	✓	✓
E4 Health (HealthMap)		✓	✓	✓
Edifecs		✓	✓	✓
Enli (Kryptiq)	✓	✓	✓	✓
eQHealth	✓	✓	✓	✓
Evolent	✓	✓	✓	✓

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EXL Service	✓		✓	✓
Forward Health	✓	✓	✓	✓
Geneia	✓	✓	✓	✓
Genpact	✓			✓
Health Catalyst	✓	✓	✓	✓
Healthagen Medicity	✓	✓	✓	✓
HealthEC	✓	✓		X
Humana Transcend Insights	✓	✓	✓	✓
I2i	✓	✓	✓	✓
IBM Explorys	✓			✓
IBM Phytel	✓		✓	✓
IBM Truven	✓		✓	✓
IBM Watson Health	✓	✓	✓	✓
Influence Health (MedSeek)	✓	✓	✓	✓
Intersystems	✓			✓
Jiva PHM	✓		✓	
Lightbeam Health	✓	✓	✓	✓

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Lumeris	✓	✓	✓	✓
McKesson Medventive	✓	✓	✓	✓
Medeanalytics	✓		✓	✓
Medecision	✓	✓	✓	✓
Optum	✓	✓	✓	✓
Orion	✓	✓	✓	✓
Premier	✓	✓	✓	✓
Sandlot Solutions	✓	✓	✓	
Streamline	✓	✓		✓
Symphony	✓			✓
The Advisory Board/Crimson	✓	✓	✓	✓
Valence	✓	✓	✓	✓
Verisk Health	✓	✓		✓
Wellcentive Philips	✓	✓	✓	✓
Xerox	✓		✓	✓
ZeOmega	✓	✓	✓	✓

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Table 2: Top EHR Vendors offer Population Health Software as a value-added revenue soucre

Population Health Management Vendor	Interoperability & Integrations	Care Management & Coordination	Patient Engagement	Aggregation, Storage, Stratification & Analytics
Allscripts	✓	✓	✓	✓
athenahealth	✓	✓	✓	✓
Cerner	✓	✓	✓	✓
eClinicalWorks	✓		✓	✓
Epic Systems	✓	✓	✓	✓
GE Healthcare	✓	✓	✓	✓
Greenway	✓		✓	✓
McKesson	✓	✓	✓	✓
MEDHOST			✓	
MEDITECH	✓	✓	✓	✓
NextGen	✓	✓	✓	✓
Practice Fusion		✓	✓	
SCIOVantage	✓	✓	✓	

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Table 3: Top Vendors offer Population Health Software as a minor revenue soucre

Population Health Management Vendor	Population Health Analytics	Clinical Management and Coordination	Financial Decision Support	Solution for Payers
Dell NTT Data	✓	✓	✓	✓
Hinduja Global Services	✓		✓	✓
EMC Corp	✓		✓	✓
GE	✓	✓	✓	
Accenture	✓	✓	✓	✓
Microsoft	✓	✓		✓
Sutherland	✓			✓
Infosys	✓		✓	✓
SAP	✓		✓	✓
Intersystems Corp	✓			✓
Syntel	✓	✓	✓	✓
Perficient	✓			
HCL	✓		✓	✓
Wipro	✓		✓	✓
HCCA Health Connections		✓		✓
nThrive	✓		✓	
NetSmart Technologies	✓			✓
3M		✓		
ATOS Anthelio	✓		✓	✓
Infor	✓		✓	✓

Yet, despite the seeming alignment, the market is dynamic at best and highly unstable at worst. Vendors are competing for position from different directions and possess various capabilities by offering a mixed array of options, and thus, characterize the alignment. The vendors are motivated by different reasons (payer disease management, enterprise analytics, niche providers of care management, patient engagement) and are now seeking to go, "up market" as they are venturing into non-traditional spaces with scalable solutions for larger customers.

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PHM VBC Solutions Vendors as Provided by Vendors Q2-Q3 2020

The following vendor information was taken directly from a survey of qualified vendor respondents. The feedback was reviewed, clarified for inconsistent responses, and validated all of the content with the vendors for inclusion; however, vendor claims of capability have not been verified. The vendors are listed in alphabetical order.

Ariel Analytics
Table 4: Ariel Analytics - Company and Product Details

Year Founded	2017
Ownership	Private

Population Health Management Platform(s) and Description

Ariel Analytics goal is to use analytics to create greater transparency which leads to more robust business decisions so your company can reduce cost and increase revenue and margins.

Ariel's mission is to enable companies to better understand, manage, and plan operations by improving their data strategy and data insights.

Tools and platforms are constantly evolving making it very difficult to keep up. The amount of data produced and stored by companies is overwhelming and confusing, and many companies struggle with legacy systems that weren't designed to meet the demands of today's data needs and analytics.

Notable Clients	None Listed
Implementation Partners	Not Provided
Pricing Model	Software license and support model
Technology Platform	Data Analytics and Strategy for business operations
Key Product Differentiators	Data Strategy, Operations Planning and Management, Data Science, Machine Learning, Predictive Analytics, Business Process Management, and Reporting Strategy

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Black Book Rankings: Population Health Software Survey 2022

Allscripts
Table 5: Allscripts - Company and Product Details

Year Founded	2012
Ownership	Private

Population Health Management Platform(s) and Description

Allscripts Population Health offerings (which include Population Health Management — composed of dbMotion, FollowMyHealth Population Health Analytics, Care Management) cover the following areas required to achieve population health management: cross-care setting data aggregation and gaps in care alerting (dbMotion), care coordination (Care Management), patient engagement (FollowMyHealth) and analytics (Population Health Analytics).

Population Health Management Analytics: Provides real -time population monitoring with indications at the point of care. Additionally, users have a population management tool to identify and manage gaps in care for their patients, as well as have quality measures reporting and analytics for predefined diseases and readmissions.

Care Management and Coordination: provides utilization management and discharge planning on the inpatient side, and maintains a population watch list and assessment documentation capabilities on the outpatient side.

Patient Engagement: provides a patient-provider communication solution that can exchange information with multiple EHRs/organizations for each patient in addition to advanced capabilities, such as; integration within some EHRs for providers to assign tasks to their patients via the portal (e.g., "weigh yourself every day").

Notable Clients	University of Pittsburgh Medical Center (UPMC), Hospital Corporation of America (HCA), Baylor Scott & White Health, Kindred Healthcare
Implementation Partners	Citra Health Solutions
Pricing Model	Software license and support model and recurring software Subscription
Technology Platform	The products use several technologies across different layers of the applications, including Windows Server, Microsoft Azure, Health Level 7/Continuity of Care Document/Clinical Document Architecture (HL7/CCD/CCDA)/proprietary data acquisition components, proprietary data mapping components, SQLServer, Internet Explorer, iOS and Android applications.
Key Product Differentiators	The solution puts smart tools in the clinical user's hands, with as little outside-the-workflow intervention as possible (e.g., alerting them while still working in their EHR, allowing them to assign patients tasks from within their EHR, etc.).

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Black Book Rankings: Population Health Software Survey 2022

Athenahealth
Table 6: Athenahealth - Company and Product Details

Year Founded	1997
Ownership	Public

Population Health Management Platform(s) and Description

With over 10 years of proven results, athenahealth Population Health is your partner on the path to managing care for your entire population. This service delivers transparency into population trends and quality measures, identifies and informs patients in need of care, and provides robust care management workflows to engage patients in their health and wellness.

A single service to manage care for your patient population results in three unmatched outcomes: improved results in quality measures, lowered cost growth, and improved patient experience. Athenahealth is a leading provider of network-enabled services for electronic health records (EHR), revenue cycle management and medical billing, patient engagement, care coordination, and population health management, as well as; Epocrates and other point-of-care mobile apps. We connect care and drive meaningful, measurable results for more than 85,000 healthcare providers nationwide.

Notable Clients	University Hospitals of Cleveland, Pediatric Partners, Griffin Hospital, Capella Health, Children's Hospital of Los Angeles
Implementation Partners	None provided
Pricing Model	Recurring software subscription revenue model
Technology Platform	Cloud
Key Product Differentiators	Guaranteed Medicare Shared Savings Program success With the rapid transition to risk-based reimbursement, delivering value is no longer just a business goal – it's a necessity. Health care organizations that deliver quality care at lower cost will emerge as the most successful in this new era of payment reform. Too many ACO participants lack the real visibility necessary to track – and improve upon – their performance against ACO quality measures. That's where athenahealth comes in. **We're putting ourselves at risk right along with you:** In our continued commitment to providers, athenahealth offers the MSSP ACO Quality Guarantee: With our Population Health Services, your organization can take on risk without the risk. We guarantee you'll receive an MSSP ACO shared savings payment. And if you don't, you don't pay for our service.

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The athenahealth Advantage:

Athenahealth provides a single solution for your diverse health network to deliver coordinated, high-quality care to your patient population.

Powerful data management:

10 years of quality and performance expertise
integrated quality management engine
robust patient outreach services
expertly designed care management platform on-
demand patient app
Our network-enabled services will ensure your organization's success.

We help you achieve ACO quality measures:

Achieving high quality scores in the MSSP demands firm, efficient population health management. The athenahealth approach goes far beyond conventional analytics tools, and begins with the patient.
After we stratify your patient population and identify gaps in care, we help you engage each patient by reaching out via email, phone or secure text message. We then surface the right quality measures for care teams at the right time, and provide powerful analytics to track and optimize your clinic AI outcomes, costs and utilization.

As with all athenahealth services, we continually update our cloud -based software – at no additional charge – and deliver real-time visibility to care teams and health system leaders. You get greater insight into your quality requirements and can deliver against the ACO 33 measures with greater ease.

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Black Book Rankings: Population Health Software Survey 2022

Caradigm
Table 7: Caradigm - Company and Product Details

Year Founded	2012
Ownership	Private

Population Health Management Platform(s) and Description

The Caradigm enterprise population health solutions include a suite of applications that help to identify, assess and stratify patient cohorts so that providers can supplement the role of care teams. PHS can also manage patient populations efficiently and decrease overall cost, as demanded by value-based reimbursement. These applications include deep data control and aggregation capabilities, which bring together patient data from disparate sources, transform the data into a consistent and meaningful format and store that data in a repository for convenient access.

Caradigm's enterprise population health solutions also deliver prebuilt interfaces for a breadth of systems, provide sophisticated data normalization and terminology mapping, and easily combine both claims and clinical data. As a result, providers can achieve the goal of the comprehensive, longitudinal view of each patient, which enables better decision - making.

Notable Clients	Greenville Health System, Rush Health, Billings Clinic, Continuum Health Alliance, DaVita
Implementation Partners	MEDai and CitiusTech
Pricing Model	Recurring software subscription revenue model
Technology Platform	The Caradigm Intelligence Platform (CIP) is a software as a service (SaaS)- based Enterprise Platform for Big Data Analytics, enterprise data warehouse
Key Product Differentiators	(EDW) and Modern HTML5 client with a JavaScript software development kit (SDK) for application development. It is integrated with MS SQL Server 2012, Azure HDInsight (Hadoop), Apache OpenNLP and "r" for predictive analytics. CIP is based on a highly scalable common runtime and application micro services built using Microsoft .NET Framework 4.5, C# with support for Workflow, content management, rules, cohorts and Population Health Management solutions.
	Caradigm offers an integrated platform that accesses multiple types of data to help healthcare professionals make informed decisions in real-time. A broad portfolio of solutions is offered to the targeted market segment, which includes; applications that address the needs of population health, accountable care, analytics to drive business and clinical intelligence, an intelligence platform and application development framework, population health management, and identity and access management (IAM).

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Black Book Rankings: Population Health Software Survey 2022

Cerner
Table 8: Cerner - Company and Product Details

Year Founded	1979
Ownership	Public

Population Health Management Platform(s) and Description

Cerner's HealtheIntent population health management platform includes the following modules:

Health eRegistries: accesses the physician's population record and patient's attributes to create population cohorts around disease, risk or other attributes. It tracks a population and individual's data against evidence-based guidelines and contractual requirements to push identified gaps in care into the team's workflow.

Health eRecord: allows for data aggregation across multiple clinical sources and is designed to provide clinicians an organized, coherent view of the aggregated data for a member.

Health eEDW: an EDW solution that consists of advanced tools inclusive of data mart builder, ingestion, SQL access and universe authoring tools.

Health eAnalytics: set of enterprise and PHM metrics allowing all relevant information to be readily available at a glance.

Health eCare: a person-centric approach of proactive surveillance, coordination and facilitation of health services across the care continuum.

Health eLife: a Web-based service that enables collaboration between patients and providers, allowing individuals and families to stay informed and educated.

Health ePrograms: provides a systematic approach to identification, prediction and management of an objective or condition at a population, provider and person level.

Notable Clients	Advocate Physician Partners, BayCare Health System, Banner Health, Memorial Hermann and others
Implementation Partners	Own resources
Pricing Model	Recurring software subscription revenue model
Technology Platform	HealthIntent is a SaaS platform that utilizes Apache Hadoop and Java - based technologies to facilitate large-scale processing. Java-based technologies are utilized to provide a REST - based services infrastructure. Ruby-based technologies are utilized to provide an application infrastructure for Web-based applications. HP Vertica is utilized to provide a data warehouse and analytics infrastructure.
Key Product Differentiators	A customizable platform that utilizes the received data from multiple sources in real time and generates actionable insights that are pushed in the workflow. The data is tested against evidence-based guidelines and best practices to deliver knowledge to members and care teams.

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Definitive Healthcare
Table 9: Definitive Healthcare - Company and Product Details

Year Founded	2010
Ownership	Public

Population Health Management Platform(s) and Description

Definitive Healthcare transforms data, analytics and expertise into healthcare commercial intelligence. They help clients uncover the right markets, opportunities and people, so they can shape tomorrow's healthcare industry.

Definitive Healthcare builds and sells a product for the complex healthcare market. They answer critical questions that are often buried in disparate information systems, making centralized insights hard to come by. Healthcare commercial intelligence (HCI) is a new category of software that untangles the web of data on delivery systems, physicians, payor, patients, government organizations and more to identify the people, opportunities and organizations that are the best fit for your product.

Notable Clients	Allergan, Siemens, Amazon, GE Healthcare, AstraZeneca
Implementation Partners	Not Provided
Pricing Model	SaaS, Monocl Products; ExpertInsight, Monocl Engage, Monocl Connect, Monocl ClaimsMx, customizable solutions
Technology Platform	Definitive Healthcare platform combines data, analytics and expertise with machine learning AI to create healthcare commercial intelligence
Key Product Differentiators	Healthcare Commercial Intelligence Building and selling a product for the healthcare market is complex. Answers to critical questions are often buried in disparate information systems, making centralized insights hard to come by. Healthcare commercial intelligence (HCI) is a new category of software that untangles the web of data on delivery systems, physicians, payor, patients, government organizations and more to identify the people, opportunities and organizations that are the best fit for your product.

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Deloitte
Table 10: Deloitte - Company and Product Details

Year Founded	1845
Ownership	Private

Population Health Management Platform(s) and Description

Insight population health suite helps providers and payers develop and sustain high value networks, as well as; deliver real-time data analytics and patient stratifications to help care managers target high risk patients, and guide an effective care coordination process working with an existing electronic medical record (EMR) infrastructure.

Deloitte also offers the following applied analytical solutions built on the Converge HEALTH analytics platform:

Network Insight: powering network and Population Health Management by enabling providers and payers to develop and sustain high-value physician networks using advanced analytics.

Outcomes Miner: powering new knowledge in healthcare, including; outcomes research, translational research and collaborative, networked models for collaboration between stakeholders.

Intellect: powering end-to-end performance management for health systems.

The Converge HEALTH platforms integrate clinical, EMR, billing, lab, payer and other sources to a single source of truth data warehouse, and can apply clinical, financial and predictive analytics to drive registry, workflow and reporting needs. Converge HEALTH's content library and core content platforms provide predefined and configurable metrics and benchmarks to allow for quick implementation and flexibility to customize performance improvement and care coordination initiatives.

Notable Clients	Dartmouth-Hitchcock, Orlando Health Actavis and others
Implementation Partners	Northern New England Accountable Care Collaborative (NNEACC), Intermountain Healthcare and others
Pricing Model	Software license and support model, and recurring software subscription revenue Model
Technology Platform	The Insight Suite has two implementation options; either hosted as a SaaS solution, or deployed on-premises. The technology environment is based on Java, Grails, SAP Business Objects business intelligence (BI) and Microsoft SQL Server.
Key Product Differentiators	Deloitte offers a combination of applied analytics solutions and a broad set of services (operational support for standing up a new organizational structure, actuarial analytics and implementing new programs). The solutions leverage proprietary predictive analytics on internal and external data, and support a multitenant architectural model, enabling collaborative benchmarking across multiple organizations.

Key benefits for clients include: data integration and analytics, customizable metadata-driven performance metrics, the ability to embed best practices and knowledge from leading healthcare systems, and configurable registry and workflow tools. |

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Enli (Kryptiq)
Table 11: Kryptiq - Company and Product Details

Year Founded	2001
Ownership	Private

Population Health Management Platform(s) and Description

CareManager enables healthcare delivery systems to pursue population health initiatives and close priority gaps in care. CareManager helps care teams rapidly identify populations at risk, create and monitor care plans, and measure the efficacy of their interventions.

CareManager Analytics: identifies priority cohorts and predicts the economic value of early intervention.

CareManager Central Work list: applies protocols to cohorts, aligns resources with care plans, and facilitates care team communications.

CareManager Point of Care: communicates a clear picture of patient health and the actions required to improve it.

Notable Clients	Bellin Health System, University of Arkansas, The Christ Hospital, Southern New Hampshire Medical Center, Continuum Health Alliance, Fenway Health, St. Luke's Clinic Coordinated Care
Implementation Partners	Not Provided
Pricing Model	Software license and recurring software subscription models
Technology Platform	Developed using the Microsoft.NET platform, including SQLServer and N-Tier architecture, where parts are deployed on the MS Azure Cloud infrastructure. Native EMR integration components are deployed locally at the client organization site
Key Product Differentiators	Bidirectional EHR Integration: Seamlessly integrates with the EHR, regardless of system of record. Knowledge to Action: evidence-based guidelines — curated, codified and delivered to the point of care in 90 days or less. Integrates patient data and guidelines into workflows, creating a system that standardizes best practices and guides teams through care plan progress.

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E4 HelathMap
Table 12: E4 HealthMap - Company and Product Details

Year Founded	2011
Ownership	Private

Population Health Management Platform(s) and Description

E4's HealthMap solution integrates both psychosocial and medial risk factors to personalize member engagement and supportive interventions to improve PHM outcomes.

E4s HealthMap solution integrates EAP, wellness and care coordination (claims data) to present a complete view of member's well-being and health – from child care needs to gaps in chronic care treatment. The supporting care management platform has been tailored to apply E4's evidence based clinical risk rules to each individual's data set on a scheduled basis, continuously updating their needs.

Helps organizations reduce their medical costs by offering ways to help individuals make healthier lifestyle choices and manage chronic illnesses. The company delivers award-winning EAP, behavioral health, wellness and student resource services.

Notable Clients	None Listed
Implementation Partners	Not Provided
Pricing Model	Saas, risk-management model
Technology Platform	LifeScope, LifeReachAssessment tool, LifeChoice, LifeLync
Key Product Differentiators	Risk management model delivers a real differential by engaging and empowering the right people at the right time with the right interventions to positively impact PHM risk. E4's HealthMap solution leverages behavioral expertise and analytics to engage and empower members to better manage avoidable risk factors.

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Epic
Table 13: Epic - Company and Product Details

Year Founded	1979
Ownership	Private

Population Health Management Platform(s) and Description

Healthy Planet, Epic's population health and accountable care platform, is used to help improve quality, lower costs, engage patients and better coordinate care. Healthy Planet supports a multi-EMR ecosystem and affects the point of care by integrating analytics, decision support, scorecards, dashboards, messaging capabilities and patient risk stratification tools directly into clinical workflows.

Epic provides the following capabilities for population health management: interoperability platform, "Care Everywhere" Epic's built-in Population Health Management solution, which connects organizations to the nation's largest network of care organizations to securely share patient information.

Population health analytics: Epic's centralized data repository aggregates clinical, cost, claims and patient - submitted data, including data from non-Epic EMRs, to drive integrated analytics and deliver clinical and business intelligence to care managers and clinicians.

Patient portal: "MyChart" gives patients controlled access to the same Epic medical records their doctor's use, via browser or mobile app (for iOS and Android). MyChart's self-service options, including telemedicine support and home monitoring device integration, that help empower patients to improve their own health, reduce the cost of customer service, and support accountable care.

Notable Clients	Kaiser Permanente, Allina Health, Geisinger Health System, Group Health Cooperative, Henry Ford Health System
Implementation Partners	Nordic, HCI Group
Pricing Model	Software license and support model
Technology Platform	The technology stack includes presentation, application services/business logic and database (DB) layers. For the production database server, where end-user response time is absolutely critical, Epic uses its Chronicles Extended relational database management system (RDBMS). Microsoft SQL Server and Oracle are options for the analytical reporting database.
Key Product Differentiators	The patient registries currently include 129 million patients. The Population Health Management platform instantly connects organizations to over 1,000 hospitals and 26,000 clinics and can quickly expand to other EMRs, Population Health Managements and groups on the eHealth Exchange, etc.

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Evolent Health
Table 14: Evolent Health - Company and Product Details

Year Founded	2011
Ownership	Private

Population Health Management Platform(s) and Description

Evolent Health brings a holistic approach to accelerating provider migration from fee-for-service to value-based care. Its model is to co-invest with provider partners to ensure full economic alignment and to establish long-term partnerships where it can provide the technology, tools, and teams to assist health system transformation. Evolent's technology solution, "Identify" is at the core of these partnerships. It provides the following:

Data integration: Including a comprehensive set of sources from inside and outside health systems, providing a near real-time view of patients and populations. Clinical and business content: Including over 1,300 preloaded rules to drive risk prediction, stratification, and interventions that are integrated with workflow and easily customizable to meet local needs. EMR optimization: Delivering actionable insights to providers at the point of care. Purpose-built applications: Analytics, reporting and workflow supporting care managers, practice managers, coders, analysts, physicians and executives.

Notable Clients	Indiana University (IU) Health, MedStar Health, Premier Health, Deaconess Health System, Vanderbilt Health, WakeMed
Implementation Partners	Own resources
Pricing Model	Recurring software subscription revenue model with co-investment or gain sharing available with long-term partnerships.
Technology Platform	The solution is a cloud-based service built on a service-oriented architecture (SOA) and messaging architecture backbone.
Key Product Differentiators	Economically aligned partnership model Intelligence delivered at the point of care through existing EMRs prepackaged clinical content and business rules easily customized by nonprogrammer's wraparound services, including: population health programs, network alignment, financial and administrative infrastructure, and change management.

Evolent partners with leading health systems to drive value-based care transformation. By providing clinical, analytical, and financial capabilities, Evolent helps physicians and health systems achieve superior quality and cost results. Evolent's approach breaks down barriers, aligns incentives, and powers a new model of care delivery resulting in meaningful alignment between providers, payers, physicians and patients. |

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Explorys
Table 15: Explorys - IBM - Company and Product Details

Year Founded	2009
Ownership	Private

Population Health Management Platform(s) and Description

The Explorys Platform and Enterprise Performance Management (EPM) Application Suite enable healthcare systems to collect, link, and combine data from hundreds of disparate sources across their enterprise and clinically integrated networks. These networks apply big data analytics (Explorys) that enable population management, measurement and engagement. The EPM suite contains the tools necessary for carrying out population health management requirements: EPM: Explores and provides sub-second, ad-hoc search across populations, providers and care venues. EPM: Measure as an integrated application and framework for constructing and viewing key performance metrics across providers, groups, care venues, locations and patient lists; as well as detailed patient historical data. EPM: Registry is an integrated framework for listing patients according to flexible provider attribution models and sophisticated filters. It allows you to quickly identify your target population and view data that empowers decision making and risk-stratified care management.

EPM: Engage is an integrated application and framework for coordinating rule-driven registries, prioritized patient and provider outreach, and messaging.

Notable Clients	Cleveland Clinic, Adventist Health, St. Joseph Health, Trinity Health, Mercy Medical Center, North Shore-LIJ
Implementation Partners	Not provided
Pricing Model	Recurring software subscription revenue model
Technology Platform	Cloud-based healthcare data management and analytics platform that leverages Hadoop to provide massively parallel computing and storage, and power multiple data processing engines. In addition, the Explorys platform provides a series of healthcare data processing engines for standardization, person matching, governance, risk scoring, measures, registries, search and data-mart publishing. The platform is built on the Java programming stack.

Key Product Differentiators	The Explorys Platform applies a high-scale approach to real-time data collection, linking and curation, compiling clinical, operational and financial data. This enables healthcare leaders to bridge the gap across an increasingly diverse landscape of care settings within clinically integrated networks, including ambulatory, acute, long-term care, rehabilitation, home care and specialty care.

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Forward Health
Table 16: Forward Health - Company and Product Details

Year Founded	2011
Ownership	Private

Population Health Management Platform(s) and Description

FHG's PopulationManager® is making a difference in the quality of care and the financial health of provider organizations like yours:

Chronic care: Enabling improved outcomes in the management of chronic conditions and preventive care.

Acute episodic care: Achieving stability and income assurance in the treatment of high-risk, complex conditions.

Behavioral health: Attaining visibility and care integration needed to effectively address mental health issues.

Alternative reimbursement models: Increasing accountability among all episodic care team entities.

Reporting: Easing the reporting burden by providing data, calculation and report submission services.

PopulationMonitor® forward health group delivers network/organization data aggregation and reporting via PopulationMonitor. This powerful tool provides clients with a 360-degree view of a network's performance-incorporating cost summary data, complex queries and intuitive user interface. In addition to clinical outcomes and processes includes measures across all of the provider groups installed with PopulationManager. This comprehensive view allows for direct comparison of sites on an ongoing basis, independent of the need for explicitly generating reports on a regular basis.

PopulationMessenger® is a powerful patient outreach tool, PopulationMessenger® automatically communicates information, instructions, and alerts at the moment a patient needs to do something or know something about their care. Using a tool that everybody has – text messaging – PopulationMessenger can communicate such important messages as; preventive screening reminders, pre-service education and instructions, enrollment, on-boarding and engagement.

Notable Clients	C. L. Brumback Primary Care Clinics, Penobscot Community Health Care, Albany Area Primary Health Care, Advocate Medical Group of Chicago, Penn Medicine, Ascension Health, AIDS Resource Center of Wisconsin, and University of Illinois Hospital, and Health Sciences System.,
Implementation Partners	Oracle
Pricing Model	Software license and support model and recurring software subscription
Technology Platform	The population health solution platform is a web-based, SaaS model
Key Product Differentiators	Pulls data from all sources (EHR, claims, labs and others) to identify potential gaps in care. Tracks clinical performance at the health system, clinic or physician level, and includes financial impact information.

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Geneia (Formerly Geneia Clinical Care Solutions)
Table 17: Geneia - Company and Product Details

Year Founded	2012
Ownership	Private

Population Health Management Platform(s) and Description

Theon is an integrated analytics, population management, and collaborative care product. It leverages a healthcare value optimization platform consisting of: user experience, communication, work management, analytic, and performance measurement assets to deliver insights to drive better decision making in complex care situations. This customizable offering is composed of four-pillar modules:

Care Modeler: Care Modeler is a configurable data enrichment engine, providing flexible rules that determine high utilization, high cost, and gaps in care, hierarchical condition categories/risk adjustment factor (HCC/RAF) scores, actuarial risk score, morbidity score, readmission risk, propensity for patient and prospect engagement, next best action, predictive risk and more.

Care Optimizer: To meet the needs of care constituents participating in shared risk and quality based programs, Care Optimizer provides performance insight for clinical and financial efficiency by integrating administrative, clinical, and benchmark data from multiple sources.

Care Collaborator: Focuses on quality guidelines, care coordination and communication. It provides personalized patient care, with actionable insight to patient needs and collaboration with the care team.

Care Engager: Designed for brokers, employers, and payers to analyze the overall value of; plan designs, clinical programs, and effectiveness of hospital networks and provider groups. It further provides insight as to emerging risk, and supports opportunities to mitigate that risk through interventions.

Notable Clients	Capital BlueCross Physicians' Alliance Limited
Implementation Partners	Parallon and Cognizant
Pricing Model	Software license and support model
Technology Platform	The Theon Platform is provided to clients as a platform as a service (PaaS), with four primary tiers working together to create a unified experience for the user. These include data persistence, integration, visualization and enrichment.
Key Product Differentiators	Delivered as an integrated platform, Theon takes in claims, clinical, pharmacy, laboratory, physiologic and psychographic data to drive insights, support care collaboration and drive a robust clinical workflow.
	With different views across constituents all supported by the same care data fabric, Theon aligns information and efforts across the continuum, including: patients, care delivery, payers, brokers, employers and brokers.
	The PaaS model encourages customers to scale out capabilities over time, driving faster time-to-value, lower cost and higher overall value. Actionable insights are executed not only for management and analysts, but fit to be utilized by clinicians and patients at the point-of-care.

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Greenway Health (Greenway Medical Technologies)
Table 18: Greenway Health - Company and Product Details

Year Founded	1977
Ownership	Private

Population Health Management Platform(s) and Description

Greenway Health offers a set of solutions that enables the providers to provide effective patient care, while gathering valuable, discrete data for detailed, outcome -based clinical reporting and disease management to improve the health of the entire community.

Greenway Analytics Platform: Combines data about patients risk factors and care plan adherence with clinical guidelines to enable providers to select which patients to see and when.

Greenway Patient/Greenway Link: Includes a portal and multi-channel communication platform that practices can leverage for patient engagement and ensure that patients are adhering to their care plan. This allows patients to download educational material and view their PHI on their PC's and mobile devices.

PrimeSuite: Clinical intelligence is delivered at the point-of-care, maximizing the patient/provider interaction, and ensuring that providers have the right and relevant conversation to treat the whole patient, not just the acute episode.

Greenway Exchange: Provides the ability to connect with other providers to ensure that care delivered to patients makes its way back to the responsible provider/practice, thus ensuring visibility into all relevant medical information.

Prime DATACLOUD: Provides single access point to patient information across providers. This utilizes scalable and flexible, Web-native cloud technology to provide the practices with relevant clinical and financial insight.

Notable Clients	Florida Medical Clinic, Hospital Connection Network (HCN), First Care Medical Group
Implementation Partners	Not provided
Pricing Model	Software license and support model
Technology Platform	Microsoft stack is primarily used. SQL-based, with nightly extraction, transformation and loading (ETL) process from the EHR, proprietary ad hoc reporting solution and data visualization using Qlik. On-premises or hosted deployment available for analytics. SaaS/cloud-based patient engagement Solutions with built-in master person index (MPI).
Key Product Differentiators	Greenway's solution offers a breadth of clinical connectivity, the ability to report and analyze performance, patient registries and multiplatform patient engagement, using online portals across multiple devices.

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Healthagen Medicity
Table 19: Healthagen Medicity - Company and Product Details

Year Founded	1853 (Aetna)
Ownership	Public (Subsidiary of Aetna)
Population Health Management Platform(s) and Description	

Healthagen's platform collects and analyzes complex data, assessing each patient's available health information across more than 9,000 clinical rules for risk stratification, and identifying individuals for engagement. It delivers evidence-based, advanced clinical decision support with precisely targeted opportunities for patient care improvement; using both clinical and financial data. It generates timely alerts tiered by severity for the care team and provides up-to-date patient critical clinical events, such as; hospital admission and discharge. Its care management and coordination platform performs patient assessments and plans, develops and carries out comprehensive and coordinated health interventions based on relevant health data and critical health alerts. For patient engagement - personalized campaigns are triggered and managed within the platform to enable multichannel outreach.

- Healthagen Solutions
- Population Health Technology
- Provider Engagement and Communication
- Real-Time Clinical Alerts
- Data Integration and Exchange
- Data Organization and Insight
- Care Workflow Management
- Patient Engagement Platforms
- Advanced Analytics
- Value-Based Risk Solutions
- Relationship Structure
- Patient and Member Growth
- Transformation Services
- Health Plan Administration
- Capital Management and Financing

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Healthagen Medicity Continued

Table 19: Healthagen Medicity - Company and Product Details

Notable Clients	LifePoint Health, CORHIO and BayCare
Implementation Partners	Not provided
Pricing Model	Multiple pricing models are used
Technology Platform	Primary technology is SaaS model
Key Product Differentiators	▪ Depth: It has a robust product suite of population health technology and services, including: population health IT, clinical care management and value-based risk solutions.
	▪ Flexibility: Collaborates with HCOs of all sizes (enterprise health systems, independent physician groups, employers) and in many different locations. Healthagen's technologies and services integrate with existing infrastructures to maximize current investments.
	▪ Experience and innovation: It processes more than 1.8 billion clinical transactions each year, and has achieved more than 8.1 million health improvements, saving an estimated $8.4 billion dollars.
	▪ Accuracy: Healthagen's platform analyzes data in real time as it is entered into the system to provide a full patient view to the physician. A comparison of alerts against information in patients' charts yielded a clinical accuracy rate of 98.2%.
	The Manage platform improves care management with a comprehensive view of each patient and a population view to help stratify risk. The Engage platform provides tools for secure communication between patients and caregivers.

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Health Catalyst
Table 20: Health Catalyst- Company and Product Details

Year Founded	2009
Ownership	Private

Population Health Management Platform(s) and Description

Health Catalyst's Accountable Care and Population Health Management Suite provide an array of analytic tools to help healthcare organizations support value-based contracts by effectively managing patients across the continuum of care. Population Health Management analytics tools guide accountable care executives in navigating risk-based contracts, while helping them to prioritize broader efforts targeted at care management. They include a high-level dashboard to provide an overview of performance on at-risk contracts, as well as; tools to support at-risk contract management, care management, network management, and performance monitoring and care process improvement. Care coordination and management tools are designed to support the identification and management of high-risk, high-cost patients. Health Catalyst workflow, financial, patient injury prevention, gaps in care, physician performance and quality improvement analytic applications facilitate the improvement of care delivery processes. The health systems using these applications are able to target interventions assess ROI and work in a prioritized way to realize the biggest improvements in terms of quality and cost of care.

Notable Clients	Allina Health, Stanford Health Care, Crystal Run Healthcare, Texas Children's Hospital, Kaiser Permanente and others
Implementation Partners	Own resources
Pricing Model	Software license and support model
Technology Platform	Health Catalyst utilizes the Microsoft .NET framework, while its development applications (Source Mart Designer and Subject Area Mart Designer) leverage ASP.NET Model-View-Controller (MVC). The utility applications are written in C#, leveraging the .NET Framework as well as the Entity Framework.
	Developers use Microsoft's Visual Studio to create the Health Catalyst application suite. Its visualization applications are Web-based and leverage HTML, Cascading Style Sheets (CSS), and JavaScript and C #. EDW queries are written in Microsoft's Transact Structured Query Language (T -SQL) for querying the SQL Server relational database.
Key Product Differentiators	Health Catalyst utilizes the late-binding technical approach, which expedites the process of integrating disparate data sources, providing actionable insights to the user. Health Catalyst improvement methodologies emphasize not only the implementation of analytic solutions, but also care transformation.
	Health Catalyst pairs its analytic tools with clinical content and process improvement services to support sustainable change.
	Health Catalyst provides on-demand training, including: whitepapers, webinars, an annual Healthcare Analytic Summit and an Accelerated Practices Program that provide valuable opportunities for learning and exchanging information with the healthcare community.

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Humana - Transcend Insights

Table 21: Humana - Transcend Insights - Company and Product Details

Year Founded	Not provided
Ownership	Public
Population Health Management Platform(s) and Description	
Notable Clients	Hardin Memorial
Implementation Partners	Not provided
Pricing Model	Not provided
Technology Platform	SaaS
Key Product Differentiators	A platform supporting scalable components, open to third-party developers that enable data exchange among separate systems within a community, leveraging FHIR and the RESTful API. Proactive analytics deliver insights to care teams in real time to support decision making. HealthLogix Platform, HealthLogix Populations, HealthLogix Care and MyHealthLogix

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i2i Population Health
Table 22: i2i Population Health - Company and Product Details

Year Founded	2000
Ownership	Private
Population Health Management Platform(s) and Description	
Notable Clients	Delaware Valley Health Center, Lake County Health Dept & CHC, Community Health Centers of Greater Dayton, Southern Mississippi Rural Health initiative
Implementation Partners	Not provided
Pricing Model	Not provided
Technology Platform	SaaS
Key Product Differentiators	Analytics solutions have proudly served healthcare organizations for more than 16 years. The company offers a depth of experience gained from over 2,500 U.S. healthcare delivery sites across 35 states supporting 20 million individuals. With i2i, healthcare providers optimize the clinical, financial and operational success of physician group practices, community health centers, health center controlled networks, hospitals, health plans and integrated delivery networks. i2i's flagship product, i2iTracks, is 2014 PCMH NCQA pre-validated to ignite real-time, proactive care management. i2i System's big - data platform, PopIQ, delivers a cloud-based comparative analytics toolset to leverage multiple customers' data sets and provide cross-population views into global population health management.

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IBM Watson Health
Table 23: IBM Watson Health - Company and Product Details

Year Founded	1911
Ownership	Public

Population Health Management Platform(s) and Description

Within the IBM Smarter Care portfolio, the most relevant offerings for Population Health Management are: IBM Enterprise Health Analytics (EHA) and IBM Care Management (ICM). IBM Smarter Care begins by ensuring one creates a holistic view around the patient and brings together all relevant sources of data — clinical data, social data and psychological data — and these sources can be either structured or unstructured.

IBM Enterprise Health Analytics: offers organizations critical data warehousing techniques and data management techniques for structured and unstructured data to address Population Health Management specific challenges.
IBM delivers prepackaged content to address the specific needs, including: accountable care, financials, operations management and more.

Enterprise health analytics: provides predictive analytics for analyzing an individual's health history, clinical factors, and trends from both structured and unstructured data.

ICM: ICM delivers key capabilities required to facilitate outcome-focused care across the care continuum. It supports an organization's ability to identify clients in need of care, assess their needs, and establish the appropriate care plan to support their needs, collaborate across a cross-organizational care team, manage the care, and proactively monitor results and outcomes.

Notable Clients	Carolinas HealthCare System, Presbyterian Healthcare Services, Baylor Scott & White Health, UNC Health Care System, Medicaid - New York State
	Department of Health, Ministry of Health of Catalonia, Spain, Beijing Eldercare Services, New Zealand Ministry of Health
Implementation Partners	IBM Global Business Services, Accenture, Deloitte, Capgemini, Premier, RedMane Technology
Pricing Model	Software license and support model; recurring software subscription revenue model and offers SaaS with per person/month, per member/month and per user/month
Technology Platform	IBM Enterprise Health Analytics includes a data integration platform (Infosphere Enterprise), MDM to patient and provider matching, a unified data model that is optimized to IBM PureData for analytics, which is a multi-parallel platform to respond to complex queries in near real time.
	IBM Care Management is built on a Java Enterprise Edition (JEE) platform using IBM technologies and solutions such as; Cúram Solutions, IBM Integration Bus and Watson Explorer to provide a configurable and secure care management solution. The platform uses SOA for easy interoperability with different data sources and supports a wide range of clinical and nonclinical integrations.

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IBM Watson Health Continued

Table 24: IBM Watson Health - Company and Product Details

Key Product Differentiators	IBM Enterprise Health Analytics: comprehensive set of analytics and algorithms to support Population Health Management specific needs, ranging from: statistical analysis to predictive analytics, and cognitive computing, utilizing structured and unstructured data across the enterprise.
	Certified Regulatory measures: organization for the advancement of Structured Information Standards (OASIS), Healthcare Effectiveness Data and Information Set (HEDIS), ACO, Meaningful Use (MU), Value-Based Purchasing and partnerships with industry leaders (Premier, Mayo Clinic) for product improvisations.
	IBM Care Management: incorporates social and psychological determinants, in addition to; clinical determinants to help care givers provide a person-centric, holistic care plan. Supports a cross-organizational, team-based approach to coordination and collaboration and utilizes standard annotators to leverage analytics and insights to round out the 360-degree patient profile.

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Influence Health (Formerly Medseek)

Table 25: Influence Health - Company and Product Details

Year Founded	1996
Ownership	Private

Population Health Management Platform(s) and Description

The Navigate application comprises tools for the complete cycle of Population Health Management. It includes the four major quadrants of population health functionality in a single platform: flexible segmentation engine, fully configurable care planning, flexible and configurable workflow engine, and full stack analytics. These quadrants are interconnected, allowing teams to create a learning model where workflow and analytics interconnect seamlessly to inform revising care models for rapid outcomes.

The Empower application is an enterprise patient portal, allowing health systems to create a single patient experience across multiple EMR instances. Unlike EMR-tethered portals, patients using Empower can view data and engage with care teams, regardless of the native EMR of the provider. The integration between Navigate and Empower through the Influence Platform allows multidisciplinary care teams to extend the care plan, tasks, activities and educational elements of the care plan to the patient through the patient portal.

Patient engagement in the care plan is enriched through coordinated activities in the single portal experience.

Notable Clients	Carolinas HealthCare System, Banner Health, Scripps Health, Sage Technologies, Atlantis Health Group and others
Implementation Partners	Not Provided
Pricing Model	Recurring software subscription revenue model
Technology Platform	Back end is SQL; Restful architecture through RabbitMQ, Node.js and AngularJS.
Key Product Differentiators	The solution unifies Population Health Analytics, Best Practices, Configurable Workflow and Patient Engagement into a single platform. The design of the application is intuitive and built to match the actual experience of the user (both clinician and patient).
	The solution also offers enterprise portals, tying multiple competitive EMRs into a unified patient experience around the clinical client's brand.

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Lumeris
Table 26: Lumeris - Company and Product Details

Year Founded	2000
Ownership	Private

Population Health Management Platform(s) and Description

Lumeris serves as a long-term operating partner for organizations that are committed to the transition from volume to value-based care and delivering extraordinary clinical and financial outcomes. Lumeris enables clients to profitably achieve greater results in value-based care arrangements through proven playbooks based on collaboration, transparent data, and innovative engagement methodologies. Lumeris offers comprehensive services for managing all types of populations, including: launching new Medicare Advantage Health Plans, Commercial and Government Health Plan Optimization, and Multi-Payer, Multi-Population Health Services Organizations (PHSOs) for provider organizations. Currently, Lumeris is engaged with health systems, provider alliances and payers representing tens of millions of individuals moving to value-based care.

Notable Clients	Network Health Plan
Implementation Partners	Not provided, Esse Health, Abington Health
Pricing Model	Not provided
Technology Platform	The cloud-based Accountable Delivery System Platform (ADSP) enables population health by delivering the right data at the right time and the right place across the continuum of care.
Key Product Differentiators	We engage as an operating partner to provide the people, processes and enabling technology essential for payers and health systems to deliver Population Health Services Organization capabilities in current and new lines of business.

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McKesson (Medventive)
Table 27: McKesson - Company and Product Details

Year Founded	1833
Ownership	Public

Population Health Management Platform(s) and Description

McKesson provides Population Health Management capabilities by offering the following modules:

McKesson Risk Manager: Helps organizations with at-risk and shared savings contracts to understand patient cost and utilization, predict high-risk patients, manage practice pattern variation, identify network leakage, optimize drug spending and automate physician incentive programs.

McKesson Population Manager: enables the care team to engage patients with automated outreach campaigns, support point-of-care identification and management of gaps in care and create on-demand physician quality scorecards and opportunities for intervention.

McKesson Care Manager: provides workflow and communication tools to manage populations, and create blended condition-based assessments and care plans across multiple conditions.

Relay Clinical Population Health Management /Patient Portal: connects and exchanges clinical information across disparate clinicians' EHRs and integrates access within clinician's workflow for ease of use, and gives patients a convenient way to access their health information and manage their healthcare through a patient portal.

Relay Clinical Physician Alignment: enables health systems to retain revenue by providing capability for physicians to place orders and receive results conveniently through their own workflow tools.

McKesson Risk Manager Compliance Reporter: helps organizations with HEDIS reporting through a certified solution.

Notable Clients	LifePoint Hospitals, Centra, Jersey Health Connect, McLaren, Tift, Ochsner Health System, Vanderbilt University Medical Center, Sentara Healthcare, BayCare Health System, Catholic Health Initiatives and others
Implementation Partners	Not Provided
Pricing Model	Recurring software subscription revenue model
Technology Platform	The population health solution platform is a web-based, SaaS model using the Microsoft technology stack

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McKesson (Medventive) Continued
Table 26: McKesson - Company and Product Details

Key Product Differentiators	The solution is designed to be a clinical registry from multiple clinical and financial sources to support Federal Trade Commission (FTC), Customer Identification Number (CIN) requirements. Multi-payer aspects provide the ability to manage across various types of risk and shared savings contracts in one system. Extensive provider profiling tools for primary care providers (PCPs) and specialists, including; episode and medical condition analyses. Measurement engine with 300+ built-in metrics supporting major programs (Physician Quality Reporting System [PQRS], Integrated Healthcare Association [IHA], Medicare Shared Savings Program [MSSP]). Support optimizations of pharmacy drug spending through automated drug substitution workflow. Data acquisition at scale with data aggregation and normalization services, parsing over 8 million documents per month, accessed by SQL.

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Medeanalytics
Table 27: Medeanalytics - Company and Product Details

Year Founded	1994
Ownership	Private

Population Health Management Platform(s) and Description

The powerful Population Health analytics tool provides unmatched insight into understanding high-risk patient populations. By aggregating data on costs, quality, and efficiency measures across multiple sources; it proactively identifies gaps in care and segments at-risk populations, cutting clinical costs and ensuring viability in a fee-for-quality system.

Notable Clients	West Tennessee Healthcare, Presbyterian Healthcare, Ardent Health Services
Implementation Partners	Not provided
Pricing Model	Not provided
Technology Platform	Analytics: there's knowledge in data and power and knowing what to do with it. Our advanced and secure cloud-based technology platform aggregates incredible amounts of complex data from both health plans and providers, driving analytics across crucial dimensions of healthcare. With this big picture perspective on care, we're able to produce actionable, evidence-based insights that help you make an impact clinically, financially and operationally. And with a single platform serving as the foundation for all our solutions, we can grow seamlessly to meet your needs and support an unmatched depth of data.
Key Product Differentiators	MedeAnalytics provides evidence-based insights to solve a real problem that plagues healthcare – how to use the immense amount of patient data collected along the care continuum - to deliver cost-effective care and promote a healthier population. Its analytics platform delivers intelligence that helps healthcare organizations detect their greatest areas of risk and identify opportunities to improve their financial health. It empowers providers and payers to collaborate and use data to strengthen their operations and improve the quality of care. MedeAnalytics' cloud-based tools have been used to uncover business insights for over 1,500 healthcare organizations across the United States and United Kingdom.

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NextGen Healthcare (QSI)

Table 28: NextGen Healthcare (QSI) - Company and Product Details

Year Founded	1974
Ownership	Public (subsidiary of Quality Systems)

Population Health Management Platform(s) and Description

NextGen Healthcare is a fully integrated solution portfolio supporting collaborative care and comprehensive Population Health Management. The integrated solution uses patient population data to proactively manage and improve care and outcomes, while supporting disease management and prevention.

NextGen Analytics: identifies high-risk patients for improved health management and outcomes.

NextGen Patient Portal: enables physicians to automatically reach out to patients to schedule recommended care plans with automated protocol-based reminders. They can also engage patients and facilitate communications more efficiently using email, text messages, etc.

NextGen Practice Management: enables providers to track efforts, analyze performance and view customizable ROI reports and dashboards. Revenue associated with hands-on patient communication and care is tracked, captured, and processed through an integrated workflow to maximize pay-for-performance reimbursement.

Notable Clients	Blackstone Valley Community Health Care and Crystal Run Healthcare
Implementation Partners	None provided
Pricing Model	Software license and support model
Technology Platform	Microsoft .NET
Key Product Differentiators	The solution is fully integrated into the core Healthcare applications. Effective patient engagement through outreach communication on a preferred communication channel.

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Optum
Table 29: Optum - Company and Product Details

Year Founded	1977
Ownership	Public (subsidiary of UnitedHealth Group)

Population Health Management Platform(s) and Description

Optum One helps large integrated delivery networks (IDNs), hospitals, and physician groups identify opportunities to improve healthcare before, during and after patients engage with the health system. The cloud-based platform uses integrated data to manage patient populations in a value-based world.

Optum One supports and unites multiple tools to help decision makers on the following:

Population analytics: identify its costliest patients, uncover gaps in care, reduce expenses and avoid costly hospitalizations for patients with chronic illnesses. The Risk Analytics module leverages actuarial and risk-oriented contracts to provide critical financial analysis of risk, spend and leakage.

Care management and coordination: the integrated data and care management tools provide the health intelligence needed for physicians to stratify risk and effectively manage the care of individuals and populations, regardless of the payment model. Registries of patients, along with their supporting data, can be exported from the Optum One platform for use in customer organization's current care management tools.

Notable Clients	Mercy Health System, Mayo Clinic, Aurora Health Care, Baylor Scott & White Health, Brown & Toland
Implementation Partners	Own Resources
Pricing Model	Recurring software subscription revenue model
Technology Platform	A SaaS, cloud-based platform where the technology environment is based on Java, JavaScript, Flex, Oracle RDBMS and Hadoop technologies
Key Product Differentiators	Optum One has a flexible platform, with the population analytics module acting as the base component and the, "data factory" with structured and unstructured data; all other modules within the suite can be added to suit particular needs.
	The data foundation consists of clinical, claims, and socio-demographic data that includes clinical data for 50 million individuals and claims data for over 155 million lives.
	It provides access to the largest repository of commercial, nongovernmental data and allows the platform to generate insights that are both broadly applicable, but nuanced enough, to decipher between complex comorbidities when applying risk stratification and predictive analytics layers.

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Phytel IBM
Table 30: Phytel IBM - Company and Product Details

Year Founded	1996
Ownership	Private

Population Health Management Platform(s) and Description

Phytel Population Health Management platform provides a collection of physician-led Population Health Management tools designed to manage patient populations across the health continuum by including these modules:

Phytel Outreach: integrates and aggregates data across multiple EMRs with evidence-based chronic and preventive protocols to identify care gaps and notify patients due for care, while tracking compliance, quality and financial results.

Phytel Remind: automates the appointment reminder and confirmation process integrating with practice management system, providing advanced reporting and tracking functions.

Phytel Insight: aggregates clinical data, providing metrics and dashboard reporting to evaluate and measure an organization's effectiveness across various quality initiatives.

Phytel Coordinate: automates the care management process by providing care teams with an advanced toolkit to risk stratify patients and create personalized, automated interventions.

Phytel Engage: enables care managers to personalize care plans and document the relevant goals and associated tasks for each individual. Built-in intelligence maximizes scheduling, care plans, work list management and assessments, as well as increasing patient motivation and participation.

Phytel Transition: provides an automated way to engage patients post discharge, measuring the patient experience, identifying care needs and generating risk scores delivering alerts to case managers.

Notable Clients	Bon Secours Health System, Lahey Health, Riverside Health System, UT Southwestern, CoxHealth, Bassett Healthcare Network, and others
Implementation Partners	Own resources
Pricing Model	Recurring software subscription revenue model
Technology Platform	Phytel is a SaaS-based platform. The technology environment is based on the Microsoft .NET framework 4.0, the C# programming language, Microsoft SQL Server 2008 and MongoDB. The system also relies on Microsoft Message Queuing (MSMQ) messaging and incorporates RESTful Web services
Key Product Differentiators	Phytel has significant experience in clinically integrating and aggregating data across various types of provider information systems. To-date, it has integrated with systems from more than 50 different vendors or vendor versions. Phytel's population health platform works within the patient-centered medical home (PCMH) care delivery model to engage patients at scale by combining care management automation with an advanced patient engagement engine (email, text, phone).

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Practice Fusion
Table 31: Practice Fusion - Company and Product Details

Year Founded	2005
Ownership	Private

Population Health Management Platform(s) and Description

Practice Fusion Population Health Management provides clinical decision-support notifications, performance dashboards and automated patient communication tools to deliver better clinical care. The platform offers the following functionalities: Identification of patients who are at risk or are missing recommended tests or treatments.

Clinical decision-support notifications at the point of care to alert the provider that the visiting patient may need more attention and also support post-visit care plan adherence with automated reminders.

Optional opt-in patient communication tools to engage patients in their care by sending out important reminders and notifications.

Summary and ailed dashboards that allow you to track your efforts to improve outcomes and quality-based on clinical guidelines.

Notable Clients	Not applicable: clients include a wide range in the small to midsize market
Implementation Partners	Own resources
Pricing Model	Recurring software subscription revenue model
Technology Platform	Cloud/SaaS, Java, Ruby
Key Product Differentiators	Practice Fusion is a cloud-based EHR that engages with tens of thousands of physicians, including; small and midsize practices to offer a centralized platform for improving and measuring the outcomes of community health. Practice Fusion facilitates intervention for both patients and doctors — before, during, and after the visits.

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Premier
Table 32: Premier - Company and Product Details

Year Founded	1999
Ownership	Public

Population Health Management Platform(s) and Description

Premier's Population Health Management collaborative helps providers meet the challenge of improving the health status and care experience for their patient populations. Hospitals and health systems participating in the Population Health Management collaborative work to connect different elements affecting care delivery. Medicare ACOs participating in the collaborative have outperformed other Medicare ACOs nationally for the past three years. We have years of experience and have developed proven methodologies around what works and how to stage an ACO.

Notable Clients	Premier Inc. (NASDAQ: PINC) is a leading healthcare improvement company, uniting an alliance of approximately 3,750 U.S. hospitals and more than 130,000 other provider organizations. With integrated data and analytics, collaborative, supply chain solutions, and advisory and other services, Premier enables better care and outcomes at a lower cost. Premier, a Malcolm Baldrige National Quality Award recipient, plays a critical role in the rapidly evolving healthcare industry, collaborating with members to co-develop long-term innovations that reinvent and improve the way care is delivered to patients nationwide. Headquartered in Charlotte, N.C., Premier is passionate about transforming American healthcare. Please visit Premier's news and investor sites on www.premierinc.com; as well as; Twitter, Facebook, LinkedIn, YouTube, Instagram and Premier's blog for more information about the company.
Implementation Partners	Not applicable
Pricing Model	Membership
Technology Platform	Consultative Services and advisement
Key Product Differentiators	Premier operates one of the nation's largest performance improvement alliances of hospitals and other healthcare providers. Majority owned by healthcare providers, we operate a leading purchasing network and also maintain clinical, financial and outcomes databases based on approximately 40% of U.S. hospital discharges. Using the power of collaboration and technology, we play a critical role in helping heal the systems reduce costs, improve quality and safety, and address population health management and evolving fee-for-value payment models. Our business model is characterized by multiple revenue drivers, balance sheet strength and financial flexibility.

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Rise Health - Best Doctors
Table 33: Rise Health - Best Doctors - Company and Product Details

Year Founded	2010
Ownership	Private
Population Health Management Platform(s) and Description	
Notable Clients	Not provided. Best Doctors is a medical information services company that connects individuals facing difficult medical treatment decisions with the best doctors, ranked by impartial peer review in over 450 subspecialties of medicine, to review their diagnosis and treatment plans. Best Doctors has grown to 36 million members worldwide utilizing access to the brightest minds in medicine, analytics and technology to deliver improved health outcomes while reducing costs.
Implementation Partners	Not Provided
Pricing Model	Not Provided
Technology Platform	Saas
Key Product Differentiators	Formerly known as Rise Health, the firm offers the premier technology platform supporting the transformation of providers, payers and health systems into top performing delivery organizations. The Ascend Enterprise Platform aggregates clinical, operational, and financial data into population health registries that empower clinical care teams to provide effective care planning to patients. Rise Health's Stratus product provides advanced analytic intelligence and reporting that defines the context behind the data while their Cirrus tool offers a robust, actionable Patient Relationship Management system. Rise Health is backed by Cambia Health, Flare Capital Partners and Santé Ventures.

Stratus is a high-powered data intelligence application that delivers insight down to the individual patient. With a laser focus on individual needs, care gaps and individualized requirements, Stratus provides the tools to improve physician performance and increase physician satisfaction. By separating signal from noise, Stratus delivers actionable recommendations focusing the limited resources on areas of the greatest need and potential impact.

Cirrus is an operational and clinical decision-support application designed specifically for patient care coordinators. Cirrus delivers analysis on demand during scheduled appointments, outbound calls and inbound patient calls (three times more common than other interactions). |

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Sandlot Solutions
Table 34: Sandlot Solutions - Company and Product Details

Year Founded	2007
Ownership	Private

Population Health Management Platform(s) and Description

Sandlot addresses population health by offering the following modules:

Sandlot Dimensions: a reporting and analytics warehouse that integrates clinical and claims-based data for the purposes of measure reporting (HEDIS, 5 star, PQRS, ACO and other), financial analysis and population health. It feeds Metrix and Care Assist.

Sandlot Metrix: an alerting system that can push gaps in care alerts into physicians workflow, regardless of the EMR to change behavior at the point of care.

Sandlot Care Assist: a care management application designed to let communities create and manage their own care coordination workflows.

Notable Clients	North Texas Specialty Physicians, Metropolitan Chicago Healthcare Council
Implementation Partners	Santa Rosa Consulting, iGate, UST Global, Cognizant
Pricing Model	Recurring software subscription revenue model
Technology Platform	Version 2 platform is primarily Java-based, with some .NET software integrated to a MS SQL back-end. Version 3 platform is based on the Hadoop Big Data Platform.
Key Product Differentiators	Dimensions product provides the insight, and Metrix product provides a mechanism to, "close the loop" and show the physician users gaps in care and other data-driven Insights while they are in their EMR seeing a patient.

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Streamline Health
Table 35: Streamline Health - Company and Product Details

Year Founded	1989
Ownership	Public

Population Health Management Platform(s) and Description

Looking Glass Clinical Analytics: this population analytics platform empowers physicians, clinical managers, analysts and researchers with the ability to define population outcomes in patient-specific time frames and make statistical comparisons between populations.

The, "Study Designer" feature gives users the ability to create retrospective cohort study designs supported by the core analytic principles of epidemiology, which can include; sophisticated statistical models, predictive risk scoring, or simply creating a patient list with any relevant clinical or operational information.

The platform can be automated to drive intervention workflows using the API that communicates with other electronic systems and business intelligence (BI) solutions.

Notable Clients	NantHealth, Montefiore Medical Center, Bronx Regional Health Information Organization (RHIO) and others
Implementation Partners	Not provided
Pricing Model	Recurring software subscription revenue model
Technology Platform	Looking Glass Clinical Analytics is a fully service-oriented, Web-based .NET
Key Product Differentiators	Applications are compatible with Internet Explorer 8 thru 11 and Google Chrome. Clinical data repositories in Microsoft SQL Server can be integrated most easily, but other database server technologies can also be leveraged as required. Statistics to support group comparison in the Clinical Analytics Study Designer are implemented in R.
	Looking Glass Clinical Analytics, with Study Designer, builds cohorts, assesses outcomes in patient-specific time frames and compares results with statistics that are based on epidemiologic principles to support clinical studies and provide deep clinical intelligence. The temporal analysis engines of Looking Glass Clinical Analytics are designed to easily create data structures that enable data mining and prediction.
	The embedded statistics engine in Clinical Analytics can provide a risk score for patients each day, based on a predicative model.
	Looking Glass Clinical Analytics can support integration with other systems to send messages as HL7 messages using the Orion Health Rhapsody Integration Engine and the API.

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The Advisory Board - Crimson
Table 36: The Advisory Board - Crimson - Company and Product Details

Year Founded	1979
Ownership	Public

Population Health Management Platform(s) and Description

The Advisory Board Company is a best practices firm that uses a combination of research, technology, and consulting to improve the performance of 5,500+ health care organizations and educational institutions. Headquartered in Washington, D.C., with offices worldwide, The Advisory Board Company forges and finds the best new ideas and proven practices from its network of thousands of leaders, then customizes and hardwires them into every level of member organizations, creating enduring value.

Notable Clients	Our Advisory Board division serves 4,400+ health care members worldwide
Implementation Partners	None provided
Pricing Model	Membership
Technology Platform	Crimson Clinical Advantage Crimson Continuum of Care Helps hospitals achieve the physician alignment needed to advance quality goals and secure cost savings Crimson Population Risk Management Helps hospitals manage total cost and quality for defined populations— including self-insured employee plans— and inform risk-based contract negotiations with payers Crimson Care Management Helps hospitals create and run effective, collaborative care management programs by providing intelligent workflows and integrating complex data sources to customize care programs and drive compliance
Key Product Differentiators	Quality Analytics Discover Crimson Quality Reporting—an integrated solution to streamline your quality reporting across a wide range of standard measures for critical insight into quality opportunities Care Management Workflow Crimson Care Management is a solution that enables care team members to develop and execute customized care programs—improving patient outcomes and reducing health care costs Population Analytics Crimson Population Risk Management helps hospitals manage total cost and quality for defined populations, including: self-insured employee plans, and inform risk-based contract negotiations with payers

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Valence - an Evolent Company

Table 37: Valence - an Evolent Company - Company and Product Details

Year Founded	1998
Ownership	Private

Population Health Management Platform(s) and Description

Electronic health records are not enough to assess the health of a population, let alone improve overall quality and financial outcomes. Today's providers are challenged with gathering relevant data from multiple sources, identifying and stratifying clinical and financial risks, and performing sophisticated data-driven patient outreach and engagement.

Organizations that best integrate healthcare providers and maximize the value of patient data will be in a strong position to deliver quality care, manage their populations' health, and optimize rewards for quality.

Valence Health provides value-based care solutions for hospitals, health systems and physicians to help them achieve clinical and financial rewards for more effectively managing patient populations. Leveraging 20 years of experience, Valence Health works with clients to design, build, and manage customized value-based care models, including; clinically integrated networks, bundled payments, risk-based contracts, accountable care organizations, and provider-sponsored health plans.

Notable Clients	Scott & White Health Plan, Alliant Health Plan of Georgia, Northshore University Health, Integrated Health Network of Wisconsin, Phoenix Health Partners, Cincinnati Children's Hospital, Texas Children's Hospital, Children's Hospital of Chicago, Driscoll Health Plan
Implementation Partners	Not provided
Pricing Model	Recurring software and services subscription revenue model
Technology Platform	The Vision Platform and Clinical Quality Measurement module provide turn key technology and services for population management. Our products empower providers, organizations, and clinically integrated networks with information
Key Product Differentiators	Easy, "no touch" data collection direct from disparate practices and systems Query-based analyses to identify populations with specific clinical needs Proactive assessment of gaps in care stratified engagement efforts based on likely impact and severity Engagement through the web-based portal, email, printed letters or IVR, or one of our on-staff nurses

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SCIOVantage
Table 38: SCIOVantage - Company and Product Details

Year Founded	2017
Ownership	Private

Population Health Management Platform(s) and Description

SCIOVantage solution delivers advanced analytics and deeper market insights to healthcare organizations as they manage the evolution to value-based care. SCIOVantage is a solution suite that simplifies care and network optimization by drawing knowledge out of data and offering a view of actionable thoughts.

SCIO Health Analytics is a leading health analytics solution and services company serving healthcare organizations across the continuum including provider groups, health plans, PBMs, health services and global life sciences companies.

SCIO provides predictive analytic solutions and services that transform data into actionable insights, helping healthcare organizations create the understanding that drives change through care, network and reimbursement optimization as well as commercial effectiveness.

Notable Clients	BlueCross BlueShield, Bristol-Myers Squibb, Daiichi-Sankyo
Implementation Partners	Not Provided
Pricing Model	(SaaS)
Technology Platform	EXL Digital Virtual Assist (DIVA), EXL Exelia.AI, EXL Nerve Hub, EXL Paymentor, EXL XTRAKTO.AI
Key Product Differentiators	Brings new innovation to market and strengthens SCIO's ability to support clients in their journey toward value-based outcomes. This allows healthcare organizations to gain deeper insights into the populations they serve and the providers that serve them. SCIO incorporated several advanced analytics models as well as meaningful data elements around key areas such as quality and efficiency

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Truven Health Analytics (Formerly Healthcare Business of Tomson Reuters) IBM
Table 39: Truven Health Analytics - Company and Product Details

Year Founded	1981
Ownership	Private

Population Health Management Platform(s) and Description

Truven Health Unify is a comprehensive solution for data management, care management, and population health, and risk management. It integrates data from disparate sources of clinical and administrative data to establish a single, longitudinal patient record and further break patient encounters into discrete, severity adjusted episodes of care, using proprietary Medical Episode Grouping methodology, to be utilized by both quality and efficiency metrics.

Unify Improve Module: serves as a dynamic patient registry that allows clinical and business leaders to define specific populations, sort and filter by key clinical and operational variables and explore clinical and cost trends. It contains standard views that can be tailored by users to mine different combinations of clinical and cost data fields. It also contains common measures like PQRS and HEDIS that can be accessed for both compliance reporting and evaluation of physician performance.

Unify Care Module: includes real-time patient profiling care alerting and test results tracking to provide evidence-based clinical decision support. The module offers messaging among providers, and between providers and patients, to support physician engagement requirements. It can be deployed as a clinician portal, relying on the consistent single patient record that is updated in real-time, to be accessed by the physicians.

Unify Personalize Module: allows patients to access their patient record to fulfill, "Blue Button" requirements. Supplemental services are available through, "push" or "pull" communications methods to provide comprehensive, data-driven, personalized content; rules-driven preventive and chronic disease messaging; and health risk appraisal data.

Notable Clients	First Health, North Carolina Hospital Association, Trinity Health, Parkview Health, Community Healthcare Network and WVUHealthcare
Implementation Partners	CareEvolution, Windstream Hosted Solutions
Pricing Model	Software license and support model
Technology Platform	Clinical and claims data acquisition platform leverages MongoDB, Elastic search, Apache Active MQ, JavaScript Object Notation (JSON), Apache Tomcat and Spring Web Model-View-Controller (MVC). Data integration and operational data store leverages Hadoop, and also applies Hadoop, Hadoop Distributed File System (HDFS), Yet Another Resource Negotiator (YARN), Tez, MapReduce, Cascading, Lingual and Hive. Components' license from Care Evolution is based on Care Evolution,
Key Product Differentiators	Microsoft.NET, SQL Server and AngularJS Truven offers proprietary embedded analytical models — Medical Episode Grouper and Micromedex Solutions referential content — within its PHM solution. Truven has over 30 years of experience of working in value-based and at-risk contracts environment. Truven's offering includes payment reform analytical consulting services, lean workflow transformation services, clinical and operational performance benchmarking, and market and planning tools

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Wellcentive (Phillips)
Table 40: Wellcentive - Company and Product Details

Year Founded	2005
Ownership	Private

Population Health Management Platform(s) and Description

Wellcentive's Advance Healthcare Intelligence solution lets providers view abroad spectrum of patients, allowing them to focus on the health of the entire community, while also drilling down on an individual patient basis. Organizations with multiple EMRs and other healthcare information technology (HIT) systems can leverage the data those systems provide to identify and address care gaps. Based on those care gaps, patient outreach engages patients in their own care.

Population Analytics: Wellcentive's Advance Healthcare Intelligence solution suite seamlessly transforms disparate data into the meaningful information on improving clinical and financial outcomes. It also provides reporting capabilities and an online analytical processing (OLAP) engine, so that these insights can be extracted and displayed effectively.

Care management and coordination: advance outcomes manager leverages predictive modeling and risk assessment to identify high-risk patients. It also integrates with home monitoring devices, such as; glucometers, scales, blood pressure (BP) cuffs, etc.

Patient engagement: a secure patient portal gives patients a personal online space for accessing their own healthcare information. Patients can view, add and edit data in their charts, and access patient report cards from previous office visits. They also communicate securely with healthcare providers and view patient educational materials customized to their particular clinical profile.

Notable Clients	Not Provided
Implementation Partners	Not Provided
Pricing Model	Recurring software subscription revenue model
Technology Platform	UIs use several sets of RESTful API that support data governance, informatics services, analytics services and enterprise management, backed by both operational MySQLDBs and a larger Cloudera Hadoop infrastructure
Key Product Differentiators	An end-to-end solution for responsible Population Health Management and data analytics for efficient participation in multiple, quality-driven initiatives. It supports integration and interfacing with a number of core clinical applications and offers a reporting system to convert insights into quality and performance.

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ZeOmega
Table 41: ZeOmega - Company and Product Details

Year Founded	2001
Ownership	Private

Population Health Management Platform(s) and Description

Jiva is a Population Health Management solution designed to lower the per capita cost of care and increase the quality of that care to improve the overall patient experience.

Population Health Management Analytics: mine claims data to identify and stratify populations at risk for costly health services, with data from multiple sources to give a complete and accurate profile of the patient and the care they have received, allowing for more contextual and personalized decision support.

Care management and coordination: includes actionable intelligence identifying individuals appropriate for program referral, transition of care or who have gaps in care drive workflow, while supporting a team-based approach to care coordination by allowing non-clinicians and support services, such as; social workers and community service providers to actively participate in an individual's healthcare. It also supports organizations with a fully compliant CMS Part D Medication Therapy Management (MTM) Program.

Patient Engagement: this includes event-driven alerts, reminders, notifications and other time-sensitive information, according to personal preference. Jiva's member portal offers a 360-degree, holistic view of patient profiles where members and other stakeholders can share collaborative care plans, assessments, etc. With offline functionality support, users overcome remote Internet connectivity limitations.

Notable Clients	BJC HealthCare, MDwise, Dignity Health, MedStar, AmeriHealth Caritas, InnovAge, Florida Blue, Blue Cross Blue Shield of Massachusetts
	New clients as a result of the HealthUnity acquisition include: Dignity Health,MedStar, New York eHealth Collaborative, and Medical Information Network-North Sound
Implementation Partners	Own resources and others
Pricing Model	ZeOmega prices Jiva based on module and per-concurrent-user, instead of users/month or users/year
Technology Platform	Jiva is an AngularJS-based web application built on open standards (JavaScript, CSS, etc.). Back-end services written in Python and Java are provided via WSO2 SOA infrastructure. Jiva application servers can be hosted on Windows or Linux, and require a relational database, either Oracle or Microsoft SQL. The architectures of Jiva's hosted and installed on-site infrastructures are largely identical
Key Product Differentiators	With the acquisition of HealthUnity, ZeOmega is in the process of integrating its interoperability stack (patient index, universal patient consent, etc.) into Jiva to create a rapidly deployable PHM infrastructure that payers and providers can use to drive value-based care within their organizations and communities. Jiva scales and flexes to meet any organization's needs, from a startup ACO to the largest commercial insurer.

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ZeOmega Continued
Table 41: ZeOmega - Company and Product Details

Key Product Differentiators	Its 80-plus care management modules offer unmatched flexibility and configurability that enables organizations to implement capabilities as needed and grow their business as budgets allow and needs dictate.
	It offers offline functionality for its patient portal to overcome remote Internet connectivity limitations.

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