OPTUM®

2018 North American Population Health Management Company of the Year Award

2018

BEST PRACTICES

AWARDS
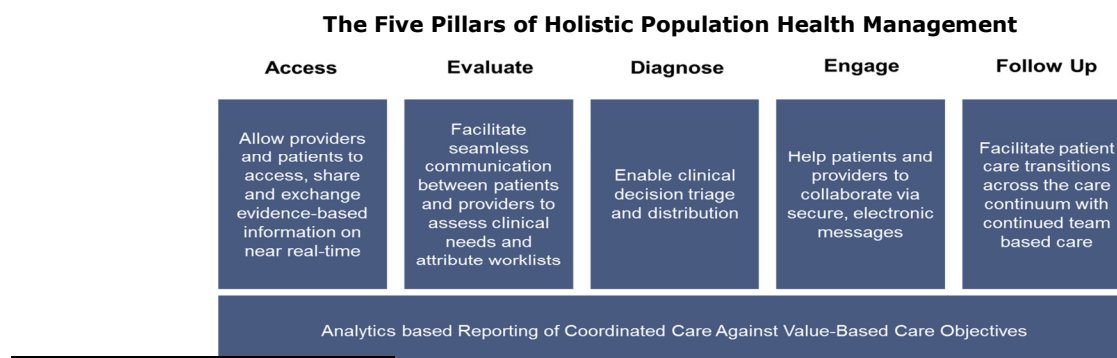
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Demographic shifts alongside rising demand for evidence-based care and risk-based contracting make population health management (PHM) an increasingly critical competency for health plans and health care providers. Technologies that provide preventative and proactive health management, especially for vulnerable, high-cost populations have recently experienced rapid adoption. Key PHM capabilities that are tailored for both private and public reimbursement models include identification, stratification, and management of high-risk populations to improve care quality, streamline costs, and achieve better outcomes. Overall, the need for improved clinical utility and better financial productivity remains the key driver for continued interest in PHM IT and services in the US.

Despite the benefits of PHM, the challenges are daunting. Legacy PHM strategies centering on high-cost patient populations are being replaced by a more holistic and evidence-based medical approach (PHM 2.0) that considers both high-risk and at-risk patient populations and shows better promise of tangible return on investment (ROI). As a result, the scope of PHM-led intervention is expanding from patients to other populations, namely, consumers, physicians, and employees. The ideal approach is to identify regional health trends and the populations that providers or payers are responsible for, while simultaneously evaluating complex quality metrics to determine the relevancy and efficacy of a PHM program. PHM implementation should prioritize those initiatives—e.g., prevention, prediction, or management of disease conditions—that will reduce the total cost of care while producing the greatest clinical impact. Implementation of advanced analytics incorporating AI technologies, coupled with advanced precision medicine approaches is poised to achieve that goal.

Successful market participants must offer machine learning-based predictive disease modeling and drive automated risk stratification that proactively identifies populations most receptive to precise intervention. The ability to benchmark patient risk profiles in real-time, develop customized health plans and coordinate care across disparate medical departments, offers a significant competitive edge.[1]

The following contextual diagram explains the role of a best-in-class PHM vendor:

The Five Pillars of Holistic Population Health Management

Access	Evaluate	Diagnose	Engage	Follow Up
Allow providers and patients to access, share and exchange evidence-based information on near real-time	Facilitate seamless communication between patients and providers to assess clinical needs and attribute worklists	Enable clinical decision triage and distribution	Help patients and providers to collaborate via secure, electronic messages	Facilitate patient care transitions across the care continuum with continued team based care

Analytics based Reporting of Coordinated Care Against Value-Based Care Objectives

[1] Sources: NEJM-Catalyst, Massachusetts Medical Society, Frost and Sullivan   *Source: Frost & Sullivan*

Visionary Innovation, Performance, and Customer Impact of Optum

Optum, a unit of UnitedHealth Group (NYSE: UNH), is a leader in the United States (US) health information technology (IT) and services market, serving over 124 million consumers and 300 health plans worldwide. In the US PHM market, Optum remains an influential market participant—serving the entire spectrum of healthcare stakeholders such as health plans, providers, employers, life sciences companies, government agencies, and consumers. Frost & Sullivan research reveals that the focus by Optum on next-generation PHM is unparalleled in the market due to an integrated approach that involves leveraging multiple health IT solutions, namely advanced analytics with pragmatic applications of AI, care coordination and patient engagement, quality performance reporting, along with services to support clinical programs, pharmacy care, and revenue cycle management. Optum's ability to integrate clinical information from electronic health records (EHR) and claims data to create real-world intervention plans for end-users achieves a substantial competitive advantage for the enterprise.

Furthermore, the Optum PHM pedigree, their proven expertise, and willingness to incorporate other medical indicators such as pharmacy data, genetics and patient-generated data to view the patient holistically, versus merely focusing on a single episode of care, serves as a core market differentiator. Optum also emphasizes the alignment of care delivery, consumer engagement, health financial services, and advanced IT to streamline healthcare delivery across the care continuum. As a result, the company provides superior expertise and integrated technology platforms that enables the following PHM capabilities:

- Quality and clinical integration

- Risk and contract optimization

- Provider network management

- Care coordination and patient engagement

Frost & Sullivan firmly believes that Optum advances cost-effective PHM by efficiently reducing the total cost of care through the rapid identification and management of diverse populations, targeted engagement, and personalized and relevant actions—e.g., providing technology and expert services to its provider, health plan, employer, and government clients.. Enabled by identification and risk stratification and workflow technologies, care management is another strength for Optum as its teams of clinical experts help consumers actively manage their health through guidance, tools, and personalized programs. To that end, over 37 million people have access to Optum Behavioral Health services alone. The impact is significant—for example, 58% of participants report quitting or reducing tobacco use by 50% or more. For buyers, Optum positively impacts business performance through pre-sales analytics strategy, implementation, engagement, reporting, measurement, and adjustment services. Finally, the company optimizes care coordination through strategic partnerships and alliances.

Optum best practices are currently driving UnitedHealth Group's impressive growth; in 2017, the company increased revenues 9% to $201.2 billion from $184.8 billion in 2016.[2] OptumHealth also saw the most significant gains, expanding to serve about 9 million more consumers than the prior year, with a total customer base of nearly 90 million.

Leveraging Best Practices and Innovative Solutions that Provide the Greatest Value to Clients

The top business model objectives prevalent in PHM—sustainable revenue growth, reduced administrative costs, and decreasing preventable system utilization—are only achieved through coordinated care models, regulatory compliance, and the implementation of effective patient-intervention approaches. Optum's tailored technical expertise helps identify the strategic priorities required for PHM-led interventions as well as the formulation of ROI roadmaps, providing healthcare organizations a compelling value proposition. Frost & Sullivan research shows that Optum's flexible, innovative, and end-to-end PHM solutions rank high in customer satisfaction and are considered best-of-breed in the industry—generating provider loyalty among health systems and plans.

Specific key industry pain points that the company addresses include:

- **Data Management:** A vendor that has mastered the art of aggregation and normalization of diverse data feeds is essential given the disparate information sources in health care and the challenges with non-interoperable health IT solutions. Even organizations that have standardized on a single EHR vendor still encounter a unique data ontology for each instance of their EHR systems. The result is data chaos, which leads to a lack of trust by clinicians in the analytic results. According to Optum, insufficient data management—specifically a lack of access to adjudicated claims data— leads to providers missing 39 to 62% of patients with chronic diseases. Insufficient access to clinical data can also lead health plans to miss 18 to 32% of patients. Additionally, the Centers for Medicaid and Medicare Services (CMS)' Pathway to Success encourages the adoption of IT tools that automate the process of clinicial documentation and coding.

  Frost & Sullivan firmly believes that Optum is proving itself a top innovator in this area as data and analytics form the foundation of the company's health services business. The company refers to these foundational capabilities as OptumIQ, which it infuses into its products and services. For example, Optum Performance Analytics is a unified analytics platform that meets payers' and providers needs by integrating clinical and claims data, applying predictive and prescriptive analytics to create strategic dashboards, advanced workspaces in an interoperable way. The platform integrates is designed to integrate with core workflows to inform clients' systems such as the EHR, patient portals, provider portals, and ancillary systems (e.g., patient registries and the care coordination technologies) to identify gaps in care, readmission rate improvement opportunities, and performance on key quality measures. The analytics models

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[2] https://www.businesswire.com/news/home/20180116005747/en/UnitedHealth-Group-Reports-2017-Results-Highlighted-Continued

embedded in the platform leverage an integrated, modern architecture that supports advanced data and analytics. With large and dynamic data assets—over 238 million de-identified lives of data from clinical, claims and employer benefits sources— Optum builds proprietary analytics models that the platform uses to analyze and generate insights from client data, connecting information such as vital signs, sensors, lab values, and provider details to provide best-in-class insights that improve care quality and allow for better cost management and utilization.

- **Quality and Clinical Integration:** Vendors who offer reliable, actionable reporting and excellent implementation alongside key advanced capabilities such as easily integrated benefits data will lead the market. Optum's risk reporting and population management tools support industry-leading care management that optimizes benefit plans and programs. Optum's dashboard capabilities also provide intuitive, easy-to-use reporting that eliminates redundancies while offering powerful cost driver and population health insights. The company's Optum Performance Analytics platform offers a user-friendly interface that supports customized report views; additionally, the offering can provide capabilities such as employer group reporting initiatives and utilization trends In addition, the company's SF™ Health Surveys analyze patients' risk profiles to determine immediate and impending care needs and can integrate into any EHR to provide clinicians with point-of-care access.

- **Risk and Contact Optimization:** Risk stratification helps providers and health plans analyze and minimize disease progression as well as the development of comorbidities, making it a key component of effective PHM. Once patients in a registry are stratified and monitored, organizations must develop strategies to identify and intervene. This is a core component of Optum Performance Analytics, which is available to providers and health plans. For employers, Optum's Benefits Analytic Manager provides a visual and interactive platform with actionable insights to best identify trends, evaluate benefit utilization, and highlight opportunities—thereby informing benefit strategy while controlling costs. Frost & Sullivan notes that building accurate and precise population registries are the foundation of effective PHM. While population cohorts have traditionally been defined using billing data, i.e., ICD-9 codes, the procedure leads to missing a significant percentage of patients eligible for services. Population definitions must be clinically informed to provide accuracy for a value-based, fixed-price contracting model.

Furthermore, as healthcare organizations bear more financial risk, effective registries must take into account additional data such as lab results, claims data, and medications to provide a holistic picture of patient health. Consequently, access to external clinical encounter data—cost data, laboratory test results, and pharmacy data—outside the core healthcare delivery organization is necessary for PHM 2.0. Optum technology solutions incorporate administrative claims and clinical data to improve results accuracy by employing the leading data integration capabilities to capture EHR data. Combined with proprietary analytics models, the enables effective PHM programs by allowing clients to provide targeted health care services by identifying, profiling, and stratifying individuals

into actionable groups based on a predictive modeling system. Care histories and clinical analytics can be shared directly with stakeholders through optional connectivity options.

Allentown, Pennsylvania-based Lehigh Valley Health Network (LVHN) leverages Optum's solutions to define and address its highest-risk patients by turning data into actionable information. Through employing Optum's predictive models, rigorous patient identification and registry criteria, along with robust care team collaboration, the network realized $6 million in savings—exceeding LVHN's $3.1 million goal. Another Pennsylvania-based practice, Premier Medical Associates, utilized Optum's patient stratification and patient engagement solutions to identify and engage heart failure patients to prevent hospital readmission. As a result, Premier was able to decrease inappropriate readmissions from 11% to 7.9%—a decrease of 27%.

- **Provider Network Management**: Best-in-class PHM solutions must monitor clinical effectiveness and quality and total cost of care to the system and the patient. However, Frost & Sullivan research reveals that it is challenging to precisely define patients that should be included in a registry and assigning those patients to accountable physicians. Organizations must build reporting dashboards not only around specific patients but populations of patients. It is also important to provide risk-adjusted care quality, outcomes, and cost variance feedback to physicians at the point of care.

  Optum's robust financial measurement tools prove holistic provider performance assessment, allowing for the remote monitoring of regulatory and target adherence as well providing the opportunity for risk adjustment factor improvement. Curated data from one of the US' largest patient databases further enable the accurate analysis of clinical performance and financial trends to effectively manage risk. As a result, Optum's software spurs faster reimbursement by helping drive progress with HEDIS measures.

- **Care Coordination**: Frost & Sullivan research shows that legacy health IT solutions hinder users' ability to share and exchange patient data seamlessly across a care network. Many providers struggle to unify care departments that employ disparate medical devices, reporting tools, clinical decision support systems, and EHRs. Advanced care coordination tools such as dashboard-oriented business intelligence reports are necessary to ensure secure, timely communication. Patient risk stratification is another key factor to identify prospective risk and necessary interventions, critical to effective care coordination. Vendors who can create registries by diagnosis, condition, multi-dimensional risk, and other core metrics can better forecast expenditures and determine where to focus resources on meeting medical service needs across sub-populations. Catholic Health Initiatives (CHI), a Texas-based integrated health care system, employs Optum's technology to close gaps in care. Using Optum's registry capabilities and the Optum Care Coordination Platform offering, CHI can rapidly perform and track patient outreach, as well as monitor performance rates over time across all providers. As a result, CHI has increased its colorectal and

breast cancer screenings in Medicare Shared Savings Plan (MSSP) patients by 10.9% and 5.3%.

- **Patient Engagement:** Complex patient portals, increasing privacy concerns, and limited compatibility with medical devices and wearables hinder patient engagement and adherence. Additionally, current IT options for patient engagement are fragmented and immature—leading to medication non-adherence and poor compliance with care plans. Optum works to provide continuous engagement between clinicians and patients through remote patient monitoring (RPM) capabilities for chronic care populations, as well as the capture of patient-generated data to inform performance metrics and management. Frost & Sullivan notes that a multi-modal strategy that includes digital, telephonic and field-based methods will increase patient engagement. Complementing care coordination tools, Optum provides care coordination services through clinical, non-clinical and field-based staff with care management models that can be applied across the payment spectrum from fee for service to fee for value. OptumCare of Utah, a provider network, employed the company's accredited field-based and telephonic care management model to expand member engagement, decrease readmissions, and maximize the impact of in-field resources. Results include a 20% decrease in medical spend and a 47% decrease in readmissions within 90 days. Additionally, Optum's 24/7 Patient Help Line provides exceptional patient support and ROI, with 30% of callers referred to a relevant health resource; 65% of callers directed to a more appropriate care setting, and 74% of callers who initially intended to use the ER to avoid an unnecessary visit.

Strategic and Visionary Innovation to Spur PHM 2.0

Optum's diverse-yet-targeted solutions have a superior ability to adapt to the value-based care needs of market participants—enabling the successful navigation of next-generation PHM. Frost & Sullivan also notes that, as PHM vendors begin branching out to explore business opportunities that capitalize on consumers' interest in on-demand medical services, Optum again leads the charge.

To stay abreast of industry developments, Optum Ventures, the company's investment arm, is also embarking on an ambitious plan to allocate $700 million to support visionary innovation in health IT. Promising companies that Optum is partnering with at present include:

- **Shyft Analytics**, a cloud-based, platform-as-a-service that can transform large amounts of complex health care data into on-demand clinical and commercial insights;

- **Apervita,** a platform that allows health enterprises to build easily, deploy and exchange repeatable and reusable analytic and data application to accelerate productivity;

- **Mindstrong,** a pioneering digital phenotyping firm that creates an objective and continuous measurement of human cognition, mood, and central nerve system function; and

- **RubiconMD,** a platform that enables primary care providers to submit eConsults and receive same-day insights from top specialists across over 150 specialties.

Overall, Optum's end-to-end approach effectively employs industry-leading technology and best-practice methodologies to evaluate users' current state, prioritize solutions, and robust clinical execution to implement a proven PHM 2.0 plan confidently—thereby creating internal and operational efficiencies that drive revenue growth and enhanced decision-making for all stakeholders.

Conclusion

Healthcare stakeholders contending with value-based care reimbursement and evolving regulatory requirements require a comprehensive and strategic approach in a pay-for-performance world. Optum's world-class population health management tools combine advanced technology, proven software, and unparalleled industry expertise to help clients improve performance around margins, utilization, and prevention, whether in a fee for service or fee for value environment. With the ability to significantly improve care coordination, data management, and patient engagement, Optum is a valued partner for healthcare systems worldwide. With its thought leadership, technical excellence, and exceptional value proposition, Optum earns Frost & Sullivan's 2018 North America Company of the Year Award for the population health management market.

Significance of Company of the Year

To receive the Company of the Year Award (i.e., to be recognized as a leader not only in your industry, but among your non-industry peers as well) requires a company to demonstrate excellence in growth, innovation, and leadership. This kind of excellence typically translates into superior performance in three key areas: demand generation, brand development, and competitive positioning. These areas serve as the foundation of a company's future success and prepare it to deliver on the two criteria that define the Company of the Year Award (Visionary Innovation & Performance and Customer Impact).

Understanding Company of the Year

As discussed above, driving demand, brand strength, and competitive differentiation all play a critical role in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Visionary Innovation & Performance to enhance Customer Impact.

Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

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

STEP		OBJECTIVE	KEY ACTIVITIES	OUTPUT
1	**Monitor, target, and screen**	Identify Award recipient candidates from around the globe	• Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies	Pipeline of candidates who potentially meet all best-practice criteria
2	**Perform 360-degree research**	Perform comprehensive, 360-degree research on all candidates in the pipeline	• Interview thought leaders and industry practitioners • Assess candidates' fit with best-practice criteria • Rank all candidates	Matrix positioning of all candidates' performance relative to one another
3	**Invite thought leadership in best practices**	Perform in-depth examination of all candidates	• Confirm best-practice criteria • Examine eligibility of all candidates • Identify any information gaps	Detailed profiles of all ranked candidates
4	**Initiate research director review**	Conduct an unbiased evaluation of all candidate profiles	• Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles	Final prioritization of all eligible candidates and companion best-practice positioning paper
5	**Assemble panel of industry experts**	Present findings to an expert panel of industry thought leaders	• Share findings • Strengthen cases for candidate eligibility • Prioritize candidates	Refined list of prioritized Award candidates
6	**Conduct global industry review**	Build consensus on Award candidates' eligibility	• Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates	Final list of eligible Award candidates, representing success stories worldwide
7	**Perform quality check**	Develop official Award consideration materials	• Perform final performance benchmarking activities • Write nominations • Perform quality review	High-quality, accurate, and creative presentation of nominees' successes

STEP		OBJECTIVE	KEY ACTIVITIES	OUTPUT
8	**Reconnect with panel of industry experts**	Finalize the selection of the best-practice Award recipient	• Review analysis with panel • Build consensus • Select winner	Decision on which company performs best against all best-practice criteria
9	**Communicate recognition**	Inform Award recipient of Award recognition	• Present Award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10	**Take strategic action**	Upon licensing, company able to share Award news with stakeholders and customers	• Coordinate media outreach • Design a marketing plan • Assess Award's role in future strategic planning	Widespread awareness of recipient's Award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

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

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS

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About Frost & Sullivan

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

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