Hype Cycle for U.S. Healthcare Payers, 2023

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Initiatives: Healthcare and Life Science Digital Optimization and Modernization; Healthcare and Life Science Digital Transformation and Innovation

This Hype Cycle provides critical input for strategic planning by tracking the maturity level and adoption rate of payer technologies and deployment approaches. U.S. healthcare payer CIOs should use this to plan new and manage existing investments for business optimization and transformation.

More on This Topic

This is part of an in-depth collection of research. See the collection:

- 2023 Hype Cycles: Deglobalization, AI at the Cusp and Operational Sustainability

Analysis

What You Need to Know

U.S. healthcare payers are prioritizing growth, experience and technology modernization as top enterprise goals (see 2023 CIO and Technology Executive Agenda: A U.S. Healthcare Payer Perspective). In 2023, payers are contending with new, powerful forces that challenge their progress (see 2023 U.S. Healthcare Payer Business Drivers of Technology Decisions):

- Regulatory fragmentation with often-conflicting mandates across federal and state laws (see U.S. Healthcare Payer Industry Implications of the Dobbs v. Jackson Ruling Restricting Reproductive Health Services)
- Wide availability of generative AI technologies that could transform most processes and solutions (see GPT-4 Impacts and Actions in Healthcare and Life Science)
- Mainstream media focus on administrative processes, such as prior authorization, elevating reputational risk as a primary business decision driver — potentially eclipsing actuarial math (see U.S. Healthcare Payers and Providers: Collaborate to Build Intelligent, Seamless Prior Authorizations)
- Growing availability of expensive curative treatments that deliver optimal health value to members (effectively eliminating disease for the member and potentially for future generations, as with some gene therapies), but break actuarial models (see Healthcare and Life Science Business Driver: Medical Technology Innovation)
- Health systems averaging a 17.5% expense increase from 2019 to 2022, with half of hospitals reporting a loss in 2022 — which, in turn, drives increasingly acrimonious contract negotiations with payers (see Healthcare Administration Requires a Real-Time Payment Ecosystem Under Value-Based Care) [1, 2]

This Hype Cycle identifies and describes key capabilities that payers will need to adapt to this volatile business and societal environment while staying on target to achieve enterprise goals.

The Hype Cycle

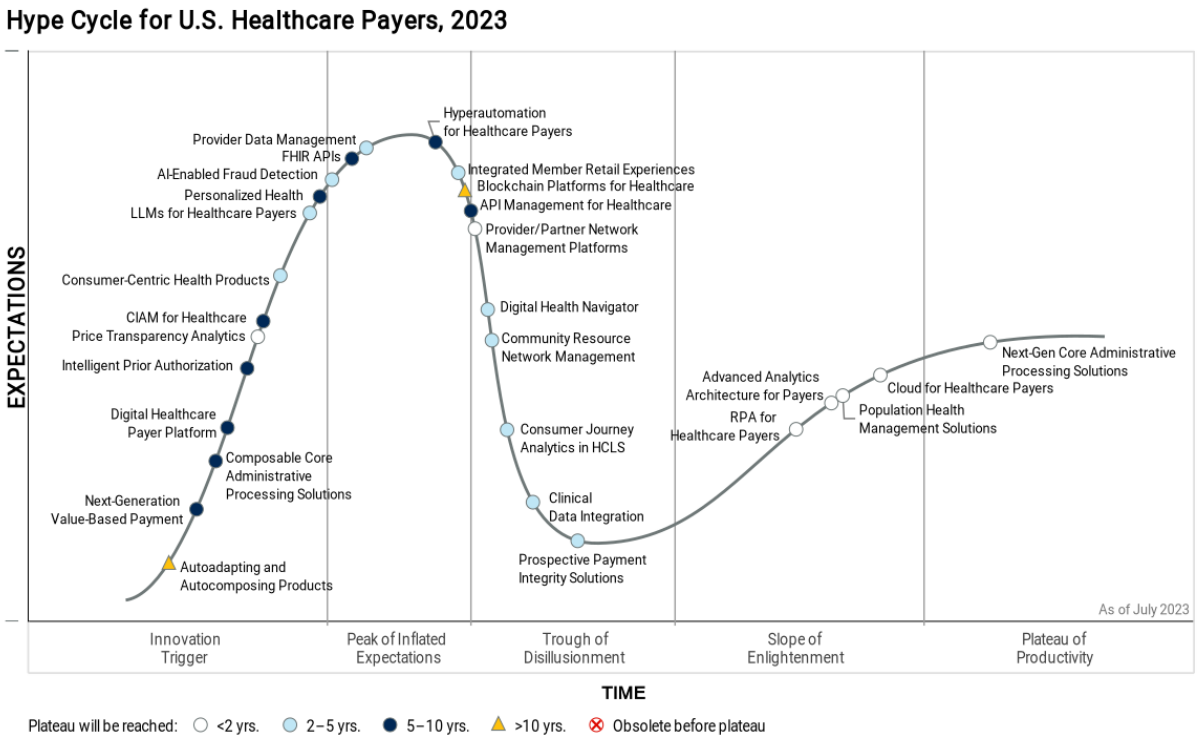
Risk-averse by design, payers were slow to participate in early digitalization efforts. However, payers are recently demonstrating urgent digital business advancement in response to the continuous disruption that they have been experiencing since 2020. In a February 2023 payer client survey, respondent organizations indicate that they are adopting standards-based data exchange, implementing enterprise API technologies and migrating core administrative processing solutions to cloud (see U.S. Healthcare Payer Priority and Performance Benchmarks, 1Q23). These are all hallmarks of progress.

This Hype Cycle contains 28 innovations that support the integration of digital business methodologies and accelerating interest in emerging technology investments. These innovations fall into two overarching categories:

- **Digital optimization and modernization** — These technologies and approaches enable payers to digitally optimize current business processes, such as processing claims and managing provider networks. Innovations in this category include provider data management, FHIR APIs, composable core administrative processing solutions, robotic process automation (RPA) for healthcare payers, API management for healthcare and intelligent prior authorization. These capabilities are foundational and payers should be seeking not just to implement but to scale and refine them to prepare to support strategic innovation.
- **Digital transformation and innovation** — These technologies and approaches have the potential to deliver transformative business benefits by driving business and operating model changes. Innovations in this category include next-generation value-based payment, personalized health, LLMs for healthcare payers, autoadapting and autocomposing products, and community resource network management. These capabilities build on modernization efforts and promise high strategic value, but the organization must be prepared to embrace disruptive change to realize the full potential.

This research will help CIOs and executive peers evaluate and prioritize technologies to align with the organization's future vision and enterprise goals. By selecting the right technologies, timing and approaches, the organization can better meet the health value needs of members and purchasers alike, while increasing profitability and reinvestments.

Figure 1: Hype Cycle for U.S. Healthcare Payers, 2023



The Priority Matrix

The Priority Matrix is a summary companion to the Hype Cycle figure. It uses data from the benefit rating and time-to-plateau values for each technology, which plots the answers to two key questions:

- How much value could your organization expect to realize from the effective implementation of a particular technology?
- When will the technology be mature enough to help deliver that value?

Quickly maturing, high-importance transformational technologies are up and to the left of the Priority Matrix. Below them are technologies that are still important, but with a lesser scope of potential impact. On the right, you will find emerging technologies with great potential that are further away from their full maturity. Technologies with lower benefit ratings and longer times to value are listed in the Priority Matrix's lower-right sections.

Table 1: Priority Matrix for U.S. Healthcare Payers, 2023

(Enlarged table in Appendix)

Benefit ↓	Years to Mainstream Adoption: Less Than 2 Years ↓	2 - 5 Years ↓	5 - 10 Years ↓	More Than 10 Years ↓
Transformational		Community Resource Network Management Consumer-Centric Health Products LLMs for Healthcare Payers	Digital Healthcare Payer Platform Hyperautomation for Healthcare Payers Intelligent Prior Authorization Personalized Health	Autoadapting and Autocomposing Products Blockchain Platforms for Healthcare
High	Advanced Analytics Architecture for Payers Cloud for Healthcare Payers Population Health Management Solutions Price Transparency Analytics Provider/Partner Network Management Platforms RPA for Healthcare Payers	Clinical Data Integration Consumer Journey Analytics in HCLS Digital Health Navigator Integrated Member Retail Experiences Prospective Payment Integrity Solutions Provider Data Management	API Management for Healthcare CIAM for Healthcare FHIR APIs Next-Generation Value-Based Payment	
Moderate	Next-Gen Core Administrative Processing Solutions	AI-Enabled Fraud Detection	Composable Core Administrative Processing Solutions	
Low				

Source: Gartner (July 2023)

Off the Hype Cycle

This year, we added seven innovations to reflect strong emerging needs and capabilities:

- Next-generation value-based payment
- Composable core administrative processing solutions
- Price transparency analytics

- LLMs for healthcare payers
- AI-enabled fraud detection
- Provider data management
- FHIR APIs

The following innovations have been absorbed into other capabilities or are represented on other Hype Cycles:

- Healthcare consumer insight as a service
- Health data curation and enrichment
- Healthcare Payer APIs

We graduated the following innovations off the Hype Cycle:

- AI strategy
- Generation 2 medical shopping
- BPaaS for U.S. healthcare payers

We renamed precision health as personalized health.

On the Rise

Autoadapting and Autocomposing Products

Analysis By: Mandi Bishop, Alistair Newton

Benefit Rating: Transformational

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Autoadapting products adapt their structure, pricing, distribution and function within existing product configurations in response to external variables. Autocomposing products react to situational data to construct — or compose — new products, potentially across industries, designed to address specific customer needs. Autocomposing products will autonomously combine based on a series of predefined rules, leveraging subproduct components or services from multiple ecosystems on a real-time basis.

Why This Is Important

Health insurance products need reinvention. Advances in artificial intelligence (AI), data and analytics (D&A) capabilities, and expansion of ecosystemwide interoperable data will influence how individuals, businesses and machines consume products. These technological advances will enable autonomously configured personalized products — sourced and configured from industry and cross-industry ecosystems — that sense and respond to their environments along with the context and situation in which they are consumed.

Business Impact

Autoadapting products offer payers the opportunity to develop more personalized products, tightly aligned to customer needs, and net new products and services addressing new demands. They aim for member experience improvement and lower purchaser attrition as products adapt to the individual needs and context at the center of that adaptation. Autocomposing products will likely be orchestrated and initiated by nonhealthcare enterprises, with power shifting into the hands of the purchaser and away from the payer.

Drivers

- Autoadapting products offer an opportunity to increase member relevance and reduce churn. They represent an opportunity to invoke a substantive shift from point-in-time, payer-defined product centricity to real-time, purchaser-defined service and customer centricity in enterprise thinking.
- The rise in composable architecture and thinking within enterprises is aligned with the increased role for ecosystem partner-driven business models to support diversified product adaptation and fulfillment.
- Digital products offer the potential for high levels of real-time adaptation and composition providing new products and services to meet life events, desires and needs of customers that could drive revenue opportunities.
- Payers are increasing their investment in integration technologies such as external and open APIs that enable frictionless value exchange. Out of the payer respondents to the 2023 Gartner CIO and Technology Executives Survey, 57% report these core technologies as receiving the largest amount of new or additional funding.
- Consumer technology's expansion and acceptance into healthcare processes increases the data and insights available from touchpoints and real-time interaction opportunities that will shape new autoadapting product and service offerings.
- Autocomposing products will require sophisticated orchestration across industries to meet wider customer needs. They will rely on significant increases in the D&A and AI capabilities that underpin the composition of these new products and services.
- This approach to products has transformative value potential. We are advancing this innovation slightly past the Innovation Trigger. We expect that these products will take more than 10 years to achieve mainstream adoption.

Obstacles

- Insurance benefit contracts are rigidly controlled. Autoadapting and autocomposing products will require creative approaches to care management and wellness-focused benefit language.
- Monolithic payer architecture is a significant barrier to achieving the composable architectural foundations to externalize products, processes, algorithms and rules.
- Payers are reluctant to relinquish control over products that have been tightly bound by the way actuaries price benefits. Autoadapting and autocomposing products will have to be positioned as program investments that save money over time.

- Privacy and security concerns and potential regulatory restrictions will inhibit widespread adoption.
- Members do not trust their health insurance companies to make decisions in the individual's best interest, let alone to invoke changes on the purchaser's behalf.
- New governance models and methods need to be developed to permit autoadapting and autocomposing within acceptable guardrails.

User Recommendations

- Host visioning workshops with executive colleagues to ascertain the enterprise's appetite for involvement in autoadapting and autocomposing product innovation.
- Partner with an innovative self-funded employer that has flexibility in its benefit offerings to develop and pilot an autoadapting product for its members, like automatically processing a specialist referral to a practitioner in a new geography when a member moves.
- Focus technology strategy on composability and invest in capabilities, such as ecosystem integration, data science and artificial intelligence/machine learning (AI/ML), to support new types and forms of partnerships, data, and business and operating models.
- Accelerate the shift to data-led, intelligent and real-time decision making that such products will require by implementing real-time integration and analytics capabilities.
- Adopt adaptive D&A governance to enable context-appropriate styles and mechanisms that address the diversity in time sensitivity, risk and complexity of use cases.

Gartner Recommended Reading

Quick Answer: How Can U.S. Payers Overcome Consumer-Centric Product Complexity to Grow Revenue?

Quick Answer: How Will Autoadapting and Autocomposing Products Enable Digital Business Disruption?

Autonomous Business Is the Next Tech-Enabled Strategic Growth Curve for Pioneer Enterprises

Next-Generation Value-Based Payment

Analysis By: Roger Benn

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Embryonic

Definition:

Next-generation value-based payment (NGVBP) incentivizes providers to deliver high-quality, cost-effective care. NGVBP incorporates social determinants of health (SDOH) to promote health equity, uses standards-based data sharing, enhances member engagement, applies transparent performance criteria and requires timely contract performance reporting. The data used by NGVBP and its advanced analytics-driven approach simplify program participation and reduce administrative burden.

Why This Is Important

Traditional value-based payment (VBP) programs have not expanded at the rate many predicted a decade ago. This was due to their cumbersome administration and limited visibility into real-time performance. In contrast, NGVBP employs advanced data and analytics to address these challenges. NGVBP can model complex attribution scenarios, streamline data sharing, promote health equity and report performance in near real time. These capabilities built on VBP will improve the total experience of program participation and population health.

Business Impact

NGVBP will:

- Promote health equity
- Improve care quality
- Advance standards-based data sharing
- Reduce cost with more efficient and effective care delivery
- Optimize contract performance
- Create competitive differentiation and contract negotiation advantage

- Drive population health and experience outcomes that will increase patient satisfaction and loyalty
- Help providers comply with regulatory requirements for enhanced VBP models
- Accelerate VBP program participation

Drivers

- **Rising healthcare costs:** The increasing cost of healthcare in the U.S. has led to the need for more efficient and effective care delivery.
- **Quality improvement:** NGVBP models incentivize providers to focus on improving quality and patient outcomes.
- **Chronic disease management:** NGVBP models prioritize preventive care and chronic disease management, which can help reduce the need for costly interventions.
- **Patient-centered care:** NGVBP models encourage care coordination and patient engagement, which can lead to better patient satisfaction and experience outcomes.
- **Regulatory requirements:** NGVBP models align with regulatory requirements to promote value-based care. This includes the U.S. National Committee for Quality Assurance (NCQA) and the Healthcare Effectiveness Data and Information Set (HEDIS), which embodies SDOH and alternative payment models (APMs).
- **Data-sharing capabilities:** The proliferation of health data standards — such as the U.S. Core Data for Interoperability (USCDI) and the Fast Healthcare Interoperability Resources (FHIR) APIs — is advancing more real-time data-sharing capabilities.

Obstacles

- **Data infrastructure:** NGVBP requires robust data infrastructure to support risk stratification, quality measurements and care coordination. Providers struggle to collect and share data across different systems and platforms.
- **Financial risk:** NGVBP involves a financial risk for providers, who are required to assume responsibility for the cost of care for their patients. Providers will need to invest significantly in care management and other types of infrastructure.
- **Competing provider incentives:** NGVBP requires alignment and collaboration among providers with different priorities and incentives. Providers may struggle to work together to achieve common goals under NGVBP.
- **Patient attribution:** NGVBP requires accurate attribution of patients to specific providers or provider groups. This can be challenging in fragmented healthcare systems.
- **Regulatory uncertainty:** NGVBP is still an evolving model, and providers face uncertainty regarding the requirements and expectations of regulatory agencies, such as the U.S. Centers for Medicare & Medicaid Services (CMS) and payers.
- **Patient engagement:** NGVBP requires active engagement to achieve goals, which can be challenging in a healthcare system traditionally focused on provider-centered delivery.

Analyst Note: NGVBP models are still in development and their effectiveness will depend on how they are implemented — and the degree to which providers adopt them. NGVBP models will require significant investment in data infrastructure, analytics capabilities, provider alignment and personalized patient engagement. However, NGVBP offers a promising path forward. Gartner introduced NGVBP near the Innovation Trigger and expects it to achieve mainstream adoption within the next five to seven years.

User Recommendations

NGVBP models focus on paying for value rather than volume, meaning that providers are rewarded for delivering better patient outcomes and reducing unnecessary costs. NGVBP models also emphasize population health management, thus encouraging providers to prioritize preventive care, chronic disease management and care coordination across different providers and settings.

Some key features of NGVBP models include:

- **Alternative payment models (APMs):** These are payment models that offer financial incentives for providers who meet certain quality and cost targets. Examples of APMs include accountable care organizations (ACOs), bundled payments and patient-centered medical homes.
- **Advanced analytics:** NGVBP models capitalize on advanced analytics to measure and track quality metrics and patient outcomes. Providers can use these metrics to identify improvement areas and track progress over time.
- **Patient engagement:** NGVBP models aim to engage patients in their care by providing information and tools to manage their health, such as patient portals and telemedicine.
- **Social determinants of health (SDOH):** NGVBP models recognize that social factors, such as housing, food insecurity and transportation, can have a significant impact on a patient's health outcomes. Providers are encouraged to address SDOH in their care delivery strategies.

Innovation in Practice: In 2022, the U.S. NCQA introduced race and ethnicity stratifications to five HEDIS measures. It included Colorectal Cancer Screening (COL), Controlling High Blood Pressure, Hemoglobin A1c Control for Patients with Diabetes (HBD), Prenatal and Postpartum Care (PPC) and Child and Adolescent Well Care Visits (WCV). The stratification was introduced to help identify disparities in care delivery and outcomes among different racial and ethnic groups. This input into NGVBP models provides a more comprehensive view of the quality of care providers deliver.

Sample Vendors

Arcadia; Cedar Gate Technologies; Clarify Health; Evolent Health; Fi-Med; Health Chain; Inovalon; Optum; Signify Health; Verinovum

Gartner Recommended Reading

Clinical Data Integration Capabilities and Sourcing Recommendations for U.S. Healthcare Payers

Top Technology Investments Healthcare Payers Are Increasing in 2023

Embrace Total Experience to Improve Medicare Advantage Star Ratings

Composable Core Administrative Processing Solutions

Analysis By: Mandi Bishop, Connie Salgy

Benefit Rating: Moderate

Market Penetration: Less than 1% of target audience

Maturity: Embryonic

Definition:

Composable core administrative processing solutions (CAPS) are cloud-native platforms with low-code/no-code configuration and real-time processing. They feature packaged business capabilities (PBCs) — such as benefit configuration and fee schedule matching — that can be recomposed into experiences such as product personalization and pricing. Standards-based APIs integrate ecosystems of healthcare organizations, community services, regulatory agencies and business partners.

Why This Is Important

Composability is an architectural approach that enables payers to adapt their business and operating models quickly. Previous generations of CAPS have been monolithic and challenging to integrate — often cloud-delivered in recent years but rarely cloud-native. Composable CAPS are architected for the cloud. They allow payers to reuse common application functions via PBCs, low-code/no-code environments and standards-based APIs. This enables adaptability and speed to value.

Business Impact

Composable CAPS will:

- Enable personalized benefits configuration and consumer-centric products.
- Accelerate new product and benefit deployment.
- Support diversified business lines such as disability, hospital indemnity and accident insurance.
- Power ecosystemwide real-time, automated and interoperable data and workflows.
- Expose PBCs via APIs to support initiatives such as price transparency and real-time payment.
- Innovate with new capabilities such as generative AI.

Drivers

- Legacy CAPS cannot adapt to rapidly evolving and complex market conditions such as regulatory acceleration and fragmentation, increasing numbers and complexity of self-funded accounts, and competitive pressures for real-time processing and reporting
- Consumers, employer groups, business partners, regulators and providers are demanding self-service access to real-time information such as claims status, plain language explanations for denial reasons.
- Employer groups and purchasers demand flexibility in product and benefit configuration as well as cost-efficient and effective administration.
- Many payers are advancing industry and public cloud strategies, which leads them to seek cloud-native, microservices-based architecture for new solutions.
- Open APIs are proliferating — such as Health Level 7 (HL7) Fast Healthcare Interoperability Resources (FHIR) — for exchanging administrative data (along with other domains), enabling ecosystem integrations.
- Many payers are diversifying business lines to achieve growth and demand a CAPS that can support a wide array of reimbursement models in the same solution instance.
- Payers need low-code/no-code solutions to empower business technologists to configure solutions and compose experiences such as complex care management or contact center interactions using PBCs.
- Generative AI has the potential to replace many functions that provide inputs to traditional CAPS, such as extrapolating benefits and provider fee schedules from contracts. Composable CAPS promises far easier integration with algorithms and third-party software to fully leverage this new technology's power.

Obstacles

- CAPS are the most expensive and business-critical component of the payer administrative function-focused technology environment. Some payers are adopting a composable architecture approach for new development, creating PBCs for recomposition and supporting low-code/no-code environments for business technologists, but that approach hasn't applied to CAPS.
- The composable CAPS vendor market is nascent and early entrants do not yet have a presence in comprehensive medical insurance at scale. They are not yet supporting commercial groups or government program business lines for five or more traditional health plans or more than one million total membership volume.
- Most payers are still struggling with CAPS modernization using a traditional architecture approach and entrenched vendors — they won't be in a position to pivot to composable CAPS for some time. The Gartner 2023 U.S. Healthcare Payer Survey (February) indicates that 60% of payers are moving their on-premises CAPS to the cloud and 17% are replatforming a mainframe CAPS to modern architecture.

Analyst Notes: Given the nascent nature of this technology, we show representative vendors with cloud-native solutions that have credible product development and go-to-market plans to to meet our definition within the next three years. Because of these factors combined with the limited vendor market, we introduce this innovation beyond the Innovation Trigger and expect mainstream adoption within 10 years.

User Recommendations

- Identify areas of opportunity to shift product development and procurement to support composability as defined in Tool: U.S. Healthcare Payer CIO Executive Presentation for Building the Composable Payer Business.
- Evaluate your current CAPS vendor's offering and product roadmap to determine whether and when they will move to microservices-based architecture and which commercial cloud service provider platforms they will support.
- Consider emerging composable CAPS vendors for new ventures such as spinoff companies or diversified business expansion that typically require a new CAPS.

Sample Vendors

CoverGO; EIS Software; Infosys; Pegasystems; VBA Software

Gartner Recommended Reading

Tool: U.S. Healthcare Payer CIO Executive Presentation for Building the Composable Payer Business

Innovation Insight for Digital Healthcare Payer Platform

Quick Answer: How Can U.S. Payers Overcome Consumer-Centric Product Complexity to Grow Revenue?

Quick Answer: How Will Consumer Price Transparency Make U.S. Healthcare Payers More Composable?

Digital Healthcare Payer Platform

Analysis By: Mandi Bishop

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

The digital healthcare payer platform (DHPP) is an architectural approach that enables payers to adapt their business and operating models in response to external disruption and change in business strategy. The DHPP sources and integrates functionality from internal and partner applications to create packaged business capabilities (PBCs). Nontechnical and IT staff can use PBCs to compose valuable purchaser, provider, partner and employee experiences supporting complex roles and functions.

Why This Is Important

Payers' ability to innovate is limited by legacy IT and processes (such as their monolithic core administrative processing solution [CAPS]). Architectural silos (such as member services disconnected from care management experiences) stifle innovation and slow digital transformation. Operational silos among products and separating business from IT inhibit organizational adaptability. The DHPP enables nimble and consistent responses to volatile regulatory and market forces.

Business Impact

The DHPP enables IT to match the pace of business change and respond effectively to business disruptions. It powers ecosystem role adaptation to achieve executive leadership's vision for the ecosystem role(s) the organization will play. It delivers new digital business capabilities across areas such as consumer engagement, provider alignment, real-time healthcare administration and population health management and empowers fusion teams to use PBCs to compose optimal experiences.

Drivers

- Competitive pressures from retailers and digital giants are increasing as regulatory fragmentation introduces new complexity, and monolithic architecture cannot support the pace of adaptation payers need.
- Roles such as care manager and customer service representative are becoming more complex, requiring data and workflows that span application silos.
- The DHPP enables payers to reuse a common set of clinical, business and administrative capabilities in service to models, such as self-insured group risk, medical management services and value-based care.
- The DHPP frees organizations to source PBCs as needed across a partner ecosystem.
- Hybrid work environments will persist and the need for collaboration between the business and IT will continue to grow as organizations move to renew their value proposition amid ongoing disruption.
- The vendor market is emerging and populated with proven enterprise-scale solutions. Many vendors will deliver DHPP components through public cloud as SaaS/PaaS offerings.
- CIOs and vendor partners are embracing and proliferating APIs, making composable architecture possible.
- Composability has become a key messaging strategy for vendors and continues to be a focal point for Gartner CIO interactions. Thus, we are advancing this innovation away from the Innovation Trigger and toward the Peak of Inflated Expectations. We expect mainstream adoption within five to 10 years.

Obstacles

- Many payers are investing in platform architectures and solutions today, but are not familiar with how to develop and deploy PBCs or how to engage with ecosystems.
- Most payers are bogged down by legacy thinking about business and operating model evolution enablement or have prohibitively risk-averse leaders. The paradigm shift from claims administrator to health value manager is slow, even when faced with existential threats from new and strengthening nontraditional competitors.
- Many platform vendors are espousing composability but continue to build walled gardens, not yet fully embracing PBCs sourced from external — possibly competing — ecosystem participants.

User Recommendations

- Align digital and IT strategy with existing business strategy through the power of people drawn from both business and IT backgrounds in the form of capability-aligned fusion teams.
- Evangelize the benefits of composable thinking and business enabled by composable architecture to executive peers to garner funding and support.
- Prioritize modular architecture and ecosystem integration capabilities in vendor solution evaluations across the current and future enterprise application portfolio.
- Modernize legacy applications to support the PBC model by exposing data and workflows through APIs.
- Ensure solutions are compatible with enterprise master data management strategy and solutions.

Sample Vendors

Amazon Web Services (AWS); Google; Infosys; Microsoft; Pegasystems; Salesforce

Gartner Recommended Reading

Quick Answer: What Are Packaged Business Capabilities in Healthcare and Life Sciences?

Innovation Insight for Digital Healthcare Payer Platform

Creating the Composable Healthcare Organization for Healthcare and Life Science CIOs

Intelligent Prior Authorization

Analysis By: Connie Salgy

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Intelligent prior authorizations (PAs) use APIs, NLP and AI to automate the decision making, data exchange and workflows between providers and payers to process requests for services while informing consumers of their PA status. Intelligent PAs include the automation of workflows by which a provider submits treatment notification for a payer's review and the predictive process payers use to approve care. These tools reduce the high administrative burden associated with the process.

Why This Is Important

Prior authorizations (PAs) are often manual and rarely transparent, resulting in communication, accuracy and efficiency challenges for payers, providers and their consumers. Intelligent PA applies NLP and AI to proactively approve and/or uses API-enabled workflow automation and clinical data exchanges to request and verify service authorization with medical necessity determinations. These tools reduce reliance on fax and phone calls, improve the consumer experience and limit provider abrasion.

Business Impact

Intelligent PA tools and workflows will significantly improve clinical and financial outcomes and transform one of healthcare's most manual processes today. They will increase administrative efficiency for both payers and providers, and provide a frictionless experience for consumers. Payers and providers can earn consumers' trust and decrease the risk of adverse conditions or worsening illness by implementing and utilizing intelligent PA tools.

Drivers

- In the U.S., state and federal mandates are driving for improved PA processes. For example, the prior authorization-focused rule proposed in December 2022 by the Centers for Medicare and Medicaid Services (CMS) — 0057-P — emphasizes the need to improve health information exchange between patients, healthcare providers and payers. The proposed rule focuses on efforts to improve PA processes and technology, ensuring patients remain at the center of their own care.
- Physicians and staff report spending almost two full business days managing PAs. These conditions are contributing to the highest rate of clinician burnout, according to recent reporting from *The New York Times* — affecting network adequacy, timeliness to schedule care and providing care for payers' purchasers and members.
- One of the biggest challenges in providing timely care to patients is PAs. The American Medical Association found that 86% of practicing physicians described the administrative burden associated with PA as "high or extremely high," and 88% of surveyed physicians said the burden has gone up in the last five years. As the burden of PAs continues to increase, so does the need to manage the increasing challenges in delivering care.
- In the U.S., payers process an estimated 182 million PA transactions per year according to the Medical Group Management Association (MGMA). Even though insurance verification and claim submissions are done electronically in many provider facilities and clinics, only 26% of PAs are fully electronic. With PAs being the least automated business function, stakeholders can easily see where issues are bound to arise related to sheer volume.
- The 2022 CAQH Index reported the U.S. healthcare industry could save $22.3 billion annually by shifting to fully electronic administrative transactions.
- Emerging and rapidly proliferating AI capabilities, including ChatGPT, enable hyperautomation to advance real-time PAs. For example, medical policies and benefits plans can quickly be summarized to expedite the approval process between payer and providers.

Obstacles

- Payers' varying approval requirements and complex benefits designs, as well as incomplete information from providers, commonly delivered by phone or fax, thwart PA workflow and AI automation efforts.
- The lack of payer and provider electronic health records and core system technology connectivity hinders intelligent PA progress. Real-time and predictive PAs require joint payer and provider collaboration on clinical and administrative rules, data sharing and care management workflows.
- Minimal clinical data integration and technology silos within prior authorization, care management, claims, benefits and network management capabilities limit intelligent PA processes for payers.
- Payer and provider each use IT systems to fix the problem, and industrywide transmission standards exist, but payer and provider CIOs have not optimized, integrated or fully used technology solutions to streamline PA processes.

Analyst Notes: Payers' cost optimization efforts, pressures to limit provider abrasion as well as state and federal regulations drive intelligent PA automation. However, full development and deployment of intelligent PAs is still in the early stages. Additionally, due to regulatory uncertainty, intelligent PAs continue to be a focal point for Gartner CIO interactions. As such, it will remain within the innovative trigger, with mainstream adoption expected within five to 10 years.

User Recommendations

- Build a business case for technology investment for intelligent PAs by quantifying the mutual value gains between payers, current providers and other partners the organization seeks to contract with.
- Organize PA automation development efforts by using total experience and composable design principles to focus on the top mutual key capabilities between payers and providers. Deploy fusion teams to ensure market, regulatory and technology alignment.
- Develop solutions and partner with vendors to deliver real-time, frictionless and predictive PA processes between payers, providers and consumers (that is, patients and members). This objective can be accomplished through clinical and benefits data integration, API-enabled workflows, NLP and AI tools.
- Reinforce consumers' healthcare centrality by providing PA status within health navigation and advocacy tools. Doing so keeps consumers abreast of their approval status and can anticipate health and wellness needs during their care journey.

Sample Vendors

Availity; Cohere Health; Google; Infinx Healthcare; Itiliti Health; Myndshft Technologies; Rhyme (formerly PriorAuthNow); ZeOmega

Gartner Recommended Reading

U.S. Healthcare Payers and Providers: Collaborate to Build Intelligent, Seamless Prior Authorizations

Quick Answer: How Can Healthcare CIOs Improve the Experience of Prior Authorization Using Automation?

Quick Answer: What CMS's Proposed Interoperability and Prior Authorization Rule Means to U.S. Healthcare Provider CIOs

CIAM for Healthcare

Analysis By: Roger Benn

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Customer identity and access management (CIAM) for healthcare include tools and technologies to identify, authenticate and authorize access to digital assets for consumers not known to the healthcare organization, and with no previous history. CIAM is necessary to secure public-facing applications that require users to enroll or register their identities and create accounts.

Why This Is Important

CIAM will continue to gain traction among healthcare providers, along with their increased adoption of systems that offer convenient ways to engage consumers, customers and other constituents (e.g., family members, caregivers, contractors, affiliated clinicians) with whom they have no formal history. These include systems such as patient self-scheduling, virtual care and remote workforce management.

Business Impact

The safety and security provided by CIAM for external use cases can positively affect:

- Digital experiences meant to attract and convert consumers into patients.
- Virtual care, wayfinding for healthcare and next-generation contact/call centers.
- Referral management, care coordination and community physician engagement initiatives.
- Remediation of gaps in identity governance and administration (IGA), identity and access management (IAM), and patient privacy monitoring (PPM).

Drivers

- The increasing need to conveniently and safely engage and service consumers not formally enrolled in the healthcare provider's IAM infrastructure.
- The need to engage consumers on their terms and channels to convert from consumer to customer.
- The need to manage all digital identities (consumers, patients, employees, affiliates) to personalize individual preferences and experiences.
- Increased interest and adoption of self-service technologies, digital front-door solutions that streamline consumer access, next-generation contact and call centers, remote workforce collaboration and management solutions, and virtual care encounters and services.

Obstacles

- There is a lack of appreciation and understanding of CIAM value proposition by healthcare provider leadership and stakeholders.
- Traditional IGA and IAM software offerings can satisfy most consumer-facing requirements, but in an operationally siloed manner. They lack the social media integration, profile and privacy management, and marketing analytics necessary to efficiently and conveniently engage consumers.
- Traditional IAM providers servicing the healthcare provider space have just begun to extend their platforms to provide better support for the consumer and customer.
- The healthcare industry is heavily regulated, and CIAM providers need to navigate complex compliance requirements, such as the Health Insurance Portability and Accountability Act (HIPAA) and interoperability mandates. The ability to adhere to these regulations, while delivering seamless and secure access to patient data, is maturing within the industry.

User Recommendations

- Generate CIAM interest by identifying compelling use cases that benefit customer experience.
- Gain the support of your chief information security officer (CISO) and compliance team by mutually exploring how CIAM can become part of the enterprise's identity and access management ecosystem.
- Increase your understanding of the CIAM market by investigating vendors that support the healthcare vertical. Begin with the representative vendor list in this research.
- Test the CIAM value proposition by establishing a limited-scope pilot with clear expectations and success criteria.

Sample Vendors

ForgeRock; Imprivata; LoginRadius; Okta; Ping Identity

Gartner Recommended Reading

Magic Quadrant for Access Management

Invest Implications: Solution Comparison for Customer Identity and Access Management Capabilities of 7 Vendors

Price Transparency Analytics

Analysis By: Connie Salgy

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Embryonic

Definition:

Price transparency analytics are solutions that derive insights from machine readable files (MRFs) of healthcare pricing data that the U.S. No Surprises Act and Transparency in Coverage final rule (TiC) requires payers and providers to make public. The MRFs posted on U.S. payers' and providers' respective websites create significant analytic opportunities across the industry.

Why This Is Important

There are approximately 630 terabytes of payer data and three terabytes of hospital data made available by the No Surprises Act and TiC final rule. This includes all of the nation's largest health insurers and most regional carriers. It also includes the negotiated rates for many global enterprises' benefit plans. The data within the MRFs can be used for healthcare organizations' strategic planning and benchmarking and for regional, state and national comparisons.

Business Impact

Price transparency analytics improve healthcare organizations' business outcomes. When ingested, normalized and enriched, the MRFs provide actionable insights to business stakeholders (e.g., product and provider networking and contracting teams) through analytics, reporting and dashboards. Healthcare organizations can use the data to improve their growth prospects and competitive positioning as these analytics deliver network, rate and benefit insights before provider and purchaser negotiation.

Drivers

- The U.S. No Surprises Act requires that hospitals disclose their standard care costs (paid rate) including the negotiated rates with third-party payers within MRFs. This creates data and analytical opportunities for payers beyond simple price comparisons. For example, the data can be used for payment integrity geospatial data checks, provider data accuracy verification, rate negotiation and improving cost estimation tools.
- Payers' benefit compositions and fee schedules historically were considered trade secrets and were not distributed publicly. With the TiC rule, national and regional payers must now disclose in-network provider rates, billed charges and out-of-network allowed amounts and billed charges for covered items and services with their commercial fully insured and self-funded business. This information can be used for state, regional and national benchmarks such as negotiated rate comparisons.
- Healthcare IT organizations that extract the data stored in MRFs can derive and drive valuable consumer-facing healthcare insights to their business stakeholders. The insights can be used to gain a competitive advantage — and to strengthen the growth position for their healthcare organizations.
- Price transparency analytics expose underlying industry issues with provider service costs and rate service negotiation. This information can be used with lobbying efforts by healthcare academic and advocacy organizations.

Obstacles

- Data quality within the MRFs is highly variable, making it difficult to deliver accurate data for actionable insights. For example, the raw data often posted by payers does not comply with the allowed values or structure that was defined within the rules, such as plan ID type or plan market type (i.e., individual or group).

- The size of the MRFs, prevalence of noncompliant data and complexity of insurance benefit plans has made it challenging for payers to ingest the data and deploy analytical solutions for benefit and rate comparisons.

- Payer IT and business stakeholders are not fully aware of the strategy opportunities that exist with the MRFs and may not invest or allocate IT resources due to lack of understanding.

Analyst Notes: Price transparency analytics is a new emerging technology and currently only a few vendors have overcome the MRFs' size and quality challenges to achieve market entry. The high business benefit is already attracting investment for both in-house capability development and vendor solution expansion. As such, we are introducing this innovation between the Innovation Trigger and the Peak. We expect early mainstream adoption as more solutions emerge with the time to plateau in two to five years.

User Recommendations

- Work with business stakeholders to identify product, provider network, provider data and payment integrity analytic insights that can be derived from the MRFs.

- Invest in data quality solutions that will scrub the raw JSON/CSV files to verify that the field values are acceptable and are accurate (such as plan ID type, provider tax ID and national provider identifier). When inaccurate, the data field is flagged for correction or removed.

- Cultivate data accuracy by identifying quality and data gaps before the MRFs are ingested. This ensures your IT team can consume and understand the data before it is used to drive insights.

- Evaluate vendors by asking questions on how data quality issues are managed and the accuracy rate of data insights provided.

- Build reports, dashboards and analytic workbenches to provide actionable insights to business stakeholders. Include insights on preenrollment provider identification, provider rate negotiation, benefit compositions and payment integrity.

Sample Vendors

CitiusTech; Clarify Health; MacroHealth; NTT DATA; Turquoise Health

Gartner Recommended Reading

Quick Answer: U.S. Healthcare CIOs Use Price Transparency Data to Improve Business Outcomes

U.S. Healthcare Payer CIOs Must Invest in Prospective Payment Integrity to Improve Member Experience

Price Transparency Presents Challenges for U.S. Healthcare CIOs

Quick Answer: How U.S. Healthcare CIOs Can Boost Consumer Engagement With Price Transparency and CX

Magic Quadrant for Data Quality Solutions

Consumer-Centric Health Products

Analysis By: Connie Salgy

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Consumer-centric health products focus on members' actual health improvement and provide choice and flexibility through end-to-end personalized benefit plans and health and wellness solutions. Consumer-centric health products connect members to the broader healthcare ecosystem and utilize multiexperience modalities to encourage early and ongoing health and wellness engagement. They also provide care delivery options that resonate the most to the member whether digital, in person or at home.

Why This Is Important

Individual, employer and government purchasers increasingly hold payers responsible for delivering true member health improvement. The goal is a preemptive, comprehensive and relevant set of member services, coverage benefits and supporting care programs that are linked and personalized at the member level. These create connections between lifestyle and health, promoting well-being opportunities and encouraging proactive health and wellness engagement.

Business Impact

Consumer-centric health products and plan designs can shift the business models of today's payers into something more valued by customers and more profitable too. Earned trust and loyalty from members will enhance retention and reshape the health insurance industry. Traditional payers will move to the commodity end of the value chain. Consumer-centric value-adding organizations will occupy the premium end of that spectrum. The middle ground will not be sustainable.

Drivers

- Healthcare purchasers (individuals, governments and employers) are demanding delivery of consumer-centric innovations, products and benefit designs to better control cost and allow for a meaningful member experience. For example, consumer-centric offerings allow employer groups to easily adjust their benefit package based on their current employment population, prior year medical spend and projected employee well-being needs — ensuring employee care and wellness engagement.
- Consumer digitalization has engulfed the healthcare industry, and the increased convenience has dramatically altered how members interact with their healthcare, causing payers and providers to actively invest in deploying digital transformation projects, solutions and initiatives.
- Consumer-centric products and personalized benefit plan approaches generate purchaser interest and allow payers to remain competitive against nonconventional entrants such as Amazon, Walmart Health and Best Buy Health solutions.
- A U.S. Centers for Disease Control and Prevention study reports that chronic conditions account for 90% of U.S. healthcare spending, yet many conditions can be better managed, delayed or avoided altogether with early, longer-term intervention.
- The U.S. Centers for Medicare and Medicaid Services interoperability mandate gives payers an opportunity to enable members to better manage their health with access to clinical and administrative data.

- NPS scores and Medicare Advantage member/patient satisfaction Star ratings are heavily weighted on creating a frictionless care journey experience. It includes ease of use with health management tools, understanding care options, out-of-pocket expenses and health and wellness opportunities, thereby supporting a consumer-centric product approach.

Obstacles

- Many payers continue to run on legacy infrastructure that is not equipped to support the rigors of today's consumer-centric payer space. Hardcoded legacy IT technology lacks the agility to upgrade services to develop and deploy new products and benefit plan combinations.
- Executing on consumer-centric health products is challenging for payers as common core system capabilities and workflows (e.g., eligibility, care management, benefits administration) and health and wellness solutions are often siloed and disconnected.
- Data fluidity between payer and provider and the open architectures needed to curate consumer-centric journeys and health navigation is commonly not supported within payer IT systems. This limits meaningful initial and ongoing consumer health engagement and inhibits payers from achieving optimal results to provide health value to purchasers and members.

Analyst Notes: The increasing criticality to deliver personalized experiences and gain trust with purchasers drives consumer centricity within healthcare product innovation. Yet, full development and deployment of consumer-centric solutions for payers is limited. Thus, consumer-centric health products will remain within the innovative trigger as market penetration is still growing and technology continues to emerge. We expect mainstream adoption within the next two to five years.

User Recommendations

- Engineer a more digitalized, open and adaptive approach to spur product innovation and ignite purchaser interest. This ensures quick product development and deployment and management of multiple benefit, product and provider compositions.
- Update legacy systems to support APIs and unstructured data ingestions. This enables data fluidity between workflows (such as member, provider and broker tools) and core administration technology (e.g., eligibility, care management, claims, benefits, wellness products), ensuring successful initial and ongoing health navigation engagement.
- Collaborate with other organizations in the health ecosystem to allow for personalization. Examples include ingesting SDOH and self-reported member health data as well as integrating with virtual and digital care technologies.
- Accelerate consumer-centric product and benefit innovation by capturing the interplay of how member experience improvement helps improve member health status over time and reduces costs.

Sample Vendors

Angle Health; Cambia Health Solutions; Centivo; HighRoads; Insightin Health; League; mPulse Mobile; Simplify Healthcare (eBenefitSync); Salesforce; Surest

Gartner Recommended Reading

Quick Answer: How U.S. Payers Can Improve Member Engagement in Health Navigation

Quick Answer: How Can U.S. Payers Overcome Consumer-Centric Product Complexity to Grow Revenue?

U.S. Healthcare Payer CIOs Improve Member Engagement in Health and Wellness Programs

U.S. Healthcare Payers CIOs Use Adaptable Digital Technology to Advance Self-Funded ASO Market Position

LLMs for Healthcare Payers

Analysis By: Mandi Bishop, Jeff Cribbs, Austynn Eubank

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Large language models (LLMs) for healthcare payers are generative AI algorithms trained on large volumes of unlabeled textual data. Applications can use LLMs to accomplish a large scope of tasks — such as content generation, content summarization, search, code generation, language translation and conversational chat for healthcare payer industry use cases.

Why This Is Important

LLMs have demonstrated surprising, significant capabilities and promise to achieve operational cost savings. They are likely to become a standard feature of both personal and enterprise technology experiences with the potential to optimize content generation, information summarization and discovery across the organization. Payers will employ LLMs for use cases such as parsing medical knowledge, personalizing engagement across stakeholders, executing administrative tasks and developing code.

Business Impact

LLMs will make their first impact where they can be deployed with simple design patterns and focused in areas with higher tolerance for error and correction. Payer organizations will likely use LLMs to generate content with a human reviewer, similar to how AI has been deployed in payment integrity programs. Early pilot examples include coding, creating empathetic member messaging for explanation of benefits (EOBs) in multiple languages and reading levels, and also summarizing regulatory updates.

Drivers

- The explosive adoption and media attention given to ChatGPT — just one of many LLM-based applications — has captured an enormous mind share of the healthcare business, clinical and technology leaders alike. This has drawn significant interest in 2023, though the real investment result is still to be seen.
- Large technology companies are making huge investments in developing new LLMs, demonstrating and broadcasting their achievements in a race to achieve a strong position in the LLM space. For example, Microsoft Health Bot is being integrated with the Azure OpenAI Service.
- Medical and healthcare policy research will drive deeper understanding of the risks and virtues of LLMs in healthcare use cases. As this emerges, payer organizations will gain comfort in embarking on some use cases.
- LLMs will have numerous use cases that align with top payer priorities — such as improving member and partner experience, increasing operational efficiency and modernizing technology. Payers may use LLMs to translate member communications into multiple languages and reading levels. LLMs are capable of parsing regulation and recommending next best actions for subsequent review by legal and compliance experts. LLMs can generate code for legacy system maintenance. Initial procurement research can be carried out by the LLM and reviewed by a procurement leader.
- A tightening fiscal environment combined with structural changes in member populations drive the need for increased efficiency of the workforce. This will drive long-term use cases like chat-based self-service benefit and eligibility checks, as well as automated back office functions.
- Initiatives focused on improving data literacy, analytics self-service, and data driven-decision making will drive interest and investment in chat-based interfaces with business intelligence and analytics platforms — whether those are deployed within functional applications (ERP, claims processing) or enterprise analytics. Group reporting will be a valuable option for LLM advancement.

Obstacles

- Payers prioritize safety and consistency over innovation and are rarely first adopters of technologies. LLM risks are as yet undiscovered because use cases within healthcare are still being evaluated, which makes payers more cautious about production deployment for enterprise use. Healthcare leaders have also largely restricted use of LLM tools over this concern.
- The generative pretrained transformer (GPT), LLM, ChatGPT and generative AI terms are often used interchangeably, which creates confusion about what the technologies are and what is achievable.
- Transformative use cases require higher degrees of proven accuracy and safety than the 80% to 90% general performance LLMs demonstrate today. The path to achieving this improvement often reveals engineering challenges that take years to resolve.
- LLM outputs are not currently explainable — at least not in the sense that we are accustomed to in healthcare, when we validate rule-based software.
- The regulatory future for LLMs is unclear. Issues include privacy of enterprise data and legal liability for content generated by the LLM.

Analyst Notes: It is difficult to position a technology moving as quickly as LLMs in an annual publication. We take enterprise deployments of LLMs (largely via cloud APIs) as our numerator, to arrive at the low end of 1% to 5% of healthcare and life science (HCLS) organizations. We place LLMs at the Innovation Trigger and predict a year of vendor integration announcements, regulatory starts and stops and reality-checks for the near-term value of today's LLMs. While LLMs have the capacity to be transformative, they will face warranted scrutiny from payers that must prioritize member experience and data protection. Next year we are likely to see new specific use cases emerging across the HCLS Innovation Triggers.

User Recommendations

- Avoid confusion and allow for clear internal communications by ensuring that business, clinical and technology leadership teams have a common set of definitions for key terms in generative AI, along with a foundational understanding of how LLMs work, in addition to their risks.
- Establish a center of excellence for the enterprise subject matter experts on generative AI by allocating time for this group to digest industry updates as they unfold. Create guidance and communications for leadership and govern experimentation and learning across the organization.
- Engage member populations directly by convening sessions with member advisory groups to understand current utilization of ChatGPT-like applications. Ascertain perceptions of the technology, observe first usage (where possible) and trial messaging for safe member usage.
- Ensure vendor partnerships are positioning their products and services to maximize the value, and manage the risk presented by LLMs by making generative AI a regular point of discussion.

Sample Vendors

Google; Meta (Facebook); Microsoft; NVIDIA; OpenAI; Palantir Technologies

Gartner Recommended Reading

GPT-4 Impacts and Actions in Healthcare and Life Science

U.S. Payer CIOs: Use Emerging Data Storytelling Practices to Communicate Health Value to Employers and Groups

Board Briefing: Understanding ChatGPT, Other Large Language Models and Their Risks

Quick Answer: What Healthcare Provider CIOs Need to Know About LLM Applications Such as ChatGPT

AI Design Patterns for Large Language Models

Personalized Health

Analysis By: Amanda Dall'Occhio

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Personalized health improves an individual's health by predicting the likelihood of future illness and recommending actions or interventions to promote health and disease prevention. It analyzes a wide range of data, including clinical, genetics, lifestyle, behaviors, biometrics, genomics and social determinants of health. Personalized health employs technological advances in "omics" medicine and consumer data capture to identify individuals' optimal health pathways.

Why This Is Important

Early research has demonstrated personalized health's potential for revolutionizing the health industry by identifying patient-specific health risks early on, leading to disease prevention. The strategic end goal of personalized health is to create a healthcare system for wellness care — instead of sick care — by enabling early detection of illness or disease and preventing its progression using personalized treatment options.

Business Impact

Personalized health breakthroughs will eventually operationally and technologically disrupt the healthcare ecosystem and organizations' business models. The shift from curative to preventive care with personalized health interventions will become the new gold standard in medicine. It will aim to prevent illnesses before they happen through wellness and prevention efforts, and ultimately increase lifespans, decrease the incidence of lifestyle diseases and reduce chronic illness.

Drivers

- Personalized health implies that the business model of today's healthcare organization, which relies on repair care episodes, needs to alleviate the skyrocketing care cost and revenue risk of relying on ill patients. Advancement in personalized health promises to shift care delivery from curative to preventive by monitoring individuals' health, identifying risks and performing wellness and preventive interventions, radically changing primary and secondary care as we know it today.
- As healthcare shifts from fee-for-service to value-based care models, personalized health can support providers in identifying as many (some otherwise hidden) opportunities as possible to hone course of care and, ultimately, improve health outcomes.
- With advancements in machine learning and artificial intelligence (AI) capabilities, personalized health can assemble and provide an aggregated view of patients' health, including all relevant clinical and social determinants of health data points.
- With an influx of new regulations on interoperability globally, healthcare organizations can integrate, analyze and act on multiple datasets. These will enable direct connections to physicians, care workers, genetic counselors and other professionals and patients.

Obstacles

- Although evidence is mounting, it will take years to develop the technologies required to capture personalized health data elements, standardize their recording and analysis, and create evidence-based health pathways at scale. It will take even longer to develop AI-enabled insights from all the data required for each person.
- While advances in interoperability enable more collaborative approaches, current innovation networks are siloed with too much competition and insufficient collaboration for personalized medicine to succeed. It will take time to create public policy and develop reimbursement models that link the value of preventive interventions to successfully eliminate a condition that may develop over 50 years later.
- Personalized health depends on patient behavioral changes that can be difficult to achieve.
- Personalized health will continue to rise on the Innovation Trigger slope. However, we project it to be at least five to 10 years from reaching the Plateau of Productivity.

User Recommendations

- Track the leading adoption indicators for personalized health. These include decreases in the cost of sequencing and companion testing, reductions in the cost of treatment, and increasing rates of reimbursement for treatment.
- Find opportunities to leverage developing organizational competence in responding to genomic and biomarker analysis as well as consumer engagement to amass the data and analytics capabilities required for personalized health initiatives.
- Keep personalized health concepts on your growth strategy and roadmap as they establish population health management and invest in precision medicine platforms. Take the long view in capturing more data than less, positioning the organization for its use in research or AI-driven initiatives to see personalized health business opportunities.

Sample Vendors

2bPrecise; DNAnexus; Molecular You; Orion Health; Philips; Precision Digital Health; Syapse

Gartner Recommended Reading

Population Health Management Framework for Healthcare Provider CIOs

Innovation Insight for Digital Health Platform

At the Peak

AI-Enabled Fraud Detection

Analysis By: Austynn Eubank

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

AI-enabled fraud detection solutions employ AI algorithms and machine learning (ML) capabilities to identify, predict and prioritize suspicious claims, providers, and even patients or members. They go beyond traditional rule-based approaches to model and act on emerging and increasingly sophisticated fraud schemes. These solutions may include case management, clinical review and reporting capabilities.

Why This Is Important

Fraudulent claims affect the entire healthcare ecosystem negatively, add to the rising cost of healthcare and decrease the quality of care for patients. In fact, more than $100 billion may be lost to healthcare fraud, waste and abuse annually, according to the U.S. Department of Justice (DOJ). AI-enabled fraud solutions are beginning to address this considerable cost by identifying fraudulent claims more accurately, compared to their rule-based predecessors.

Business Impact

AI-enabled fraud solutions:

- Identify new schemes of fraud that are undetectable with traditional rule-based methods.
- Support compliance efforts through state and federal report generation.
- Decrease provider abrasion and administrative burden by reducing retrospective “clawbacks” of overpayments.
- Increase special investigative unit (SIU) team efficiency through integrated case capabilities that prioritize suspected fraudulent claims and create reporting details, reducing administrative burden.

Drivers

- The ongoing expansion and scaling of virtual care solutions increased opportunities for fraud, as healthcare organizations exploited insufficient oversight to defraud insurers in areas such as durable medical equipment (DME) and prescription drugs. For example, in April 2022, the DOJ brought criminal charges against 21 individuals — including physicians and healthcare executives — in connection with $150 million in fraud schemes.
- Modernization of core administrative processing systems has given payer CIOs the opportunity to holistically reconsider the entire claim process. This includes the technology that supports claim adjudication, including enrollment, billing, product benefit configuration and payment integrity solutions.
- Fraud-focused vendors have advanced their AI algorithms and ML capabilities to move beyond rule-based detection of known fraud schemes, allowing for novel schemes to be identified and stopped.
- With a possible recession looming, payer CIOs and CFOs are looking for additional cost-optimization opportunities, which are clearly demonstrated by cost avoidance and cost savings within AI-enabled fraud detection.

Obstacles

- Payers already have numerous payment integrity solutions, such as claim editors, post and prepayment recovery tools, and other fraud, waste and abuse tools, which could deter them from adding another solution for what they may perceive as minimal cost avoidance from suspicious claim identification.
- Vendors can be tight-lipped about their exact deployment of AI and ML, which can cause confusion regarding which vendors are able to identify new fraud schemes using these capabilities — and which vendors are simply applying analytics.
- Fraudulent actors develop new scams at an alarmingly fast rate, challenging AI-enabled fraud solutions to outpace their growth and continue to identify fraud before it is carried out.
- While the ROI for advanced fraud detection tools in government programs is clear, incentives are blunted in self-funded commercial group lines where employers may not want to split the gains of an aggressive fraud prevention approach with their administrators.

Analyst Notes: Gartner is introducing this innovation this year as climbing toward the peak of hype. Although this is a new profile, these capabilities are not nascent. Vendors — and intrepid payers with robust data science teams — have been developing AI-enabled fraud models for several years. The scale of exceptions-based processing during the pandemic (such as claims submissions for COVID-19 treatment before there were appropriate codes) increased market interest and accelerated AI-based innovations.

User Recommendations

- Prioritize solutions that clearly articulate their use of AI algorithms and ML models to identify emerging fraud schemes. AI capabilities are increasingly available, but the right usage of AI algorithms differentiates vendor outcomes.
- Review existing payment integrity capabilities and relationships before procuring additional modules to avoid redundancies across solutions. Consider partnering with current vendors to reduce vendor management strain, if that vendor meets your fraud solution criteria.
- Evaluate the fraud vendor's roadmap and merger and acquisition (M&A) activity to ensure their strategic vision aligns with your organization's vision.
- Hold your vendor accountable with tough service-level agreement (SLA) thresholds for accurate fraud identification metrics and tracking false positive rates.

Sample Vendors

Alivia Analytics; ClarisHealth; Codoxo; Cotiviti; EXL; Healthcare Fraud Shield; HealthEdge; Mastercard (Brighterion); Shift Technology; Thomson Reuters

Gartner Recommended Reading

U.S. Healthcare Payer CIOs Must Invest in Prospective Payment Integrity to Improve Member Experience

Quick Answer: What KPIs Do U.S. Healthcare Payers Track for Payment Integrity Programs?

Top 4 Ways Healthcare Payers Can Reduce Provider Burnout by Improving Payment Integrity

Adopt Prospective Payment Integrity to Thwart Healthcare Fraud and Improper Claims Payment

FHIR APIs

Analysis By: Mandi Bishop

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

HL7 Fast Healthcare Interoperability Resources (FHIR) APIs represent a modern standard for health data exchange between ecosystem participants such as payers, providers, life science companies, regulatory agencies, social services providers and patients. FHIR enables data sharing for domains including administrative, clinical and social determinants. FHIR is open source and based on widely adopted internet standards such as REST and JSON.

Why This Is Important

Health data interoperability has been elusive for decades, with proprietary standards dominating core systems and reporting requirements. FHIR APIs provide an open common standard for secure data exchange between health ecosystem participants such as providers, payers and life sciences organizations (collectively known as HCLS) as well as society stakeholders. FHIR undergoes continuous development and refinement by the global HL7 community — so it is extensible and adaptable.

Business Impact

FHIR APIs:

- Provide a common global standard for data exchange across HCLS industry sectors and other ecosystem participants that begins to meet the industry's interoperability goals.
- Accelerate solution development and implementation through widely adopted web standards such REST, XML, JSON, HTTP and OAuth.

- Establish standards-based information usage (such as clinical practice implementation guidelines) that improves collaboration and workflow integration between parties and regions.
- Decrease time to value for data-sharing initiatives.

Drivers

- Government interest in and support for health data standards are increasing in several global regions. Federal and state mandates in the U.S. require FHIR APIs for use cases such as giving patients access to their own data. The National Health System (NHS) in the U.K. uses FHIR for all new healthcare data interchange APIs. The X-eHealth Project is developing an FHIR implementation guide for cross-border information exchange across the EU. Brazil's Ministry of Health uses FHIR as the standard for its National Health Data Network. In 2023, Israel proposed legislation to mandate FHIR APIs and standard terminologies.
- The COVID-19 pandemic underscored the need for common open standards for health data exchange across HCLS sector and geographic boundaries. The easier it is for practitioners and researchers to securely share information, the faster and more accurately the world can respond to emerging infectious disease threats.
- Value-based care arrangements that span HCLS sectors are gaining traction. These arrangements require expansive data sharing, such as pharmaceutical manufacturers participating in chronic condition management and bearing risk for clinical outcomes.
- Open standards-based APIs will eventually reduce the complexity and cost of data exchange for healthcare administration by limiting laborious data translation needed between the proprietary standards of each entity to authorize services, review clinical documentation or pay claims.
- A thriving FHIR server solution market exists that includes open-source applications, every major cloud service provider and niche solution vendors. In addition to the FHIR servers, many vendors are FHIR-enabling solutions such as electronic health records (EHRs), claims engines, care management systems and population health analytics platforms.

Obstacles

- HCLS core clinical and administrative systems innovation happens slowly or not at all. Although FHIR is an open standard and free to use, substantial market or regulatory pressure is needed for vendors (particularly mature vendors with large market share) to support FHIR APIs before they achieve widespread adoption.
- HCLS organizations typically have sprawling data environments that would require heavy financial and resource investment if they are to adopt a new way of encoding health data.
- Technical challenges currently limit FHIR adoption at national scale. Intermediaries can interrupt rather than facilitate data exchange. Patient identity matching across stakeholders is unreliable. Authentication and authorization approaches vary, threatening privacy. No centrally maintained FHIR endpoint directory exists.
- Health data's value makes it a rich target for hackers. API security varies from system to system. EHRs are typically secure environments, whereas mobile apps may store API keys and tokens in clear text.
- FHIR standards are constantly evolving, creating a moving target for implementation and maintenance.

Analyst Notes: Due to high interest, a rapidly maturing vendor market and regulatory mandates pushing FHIR API adoption, we are introducing this innovation near the Peak of Inflated Expectations. However, substantial obstacles to achieving ROI exist — so it will take up to 10 years to achieve mainstream adoption globally. Adoption will be much faster in regions with strong regulatory requirements. Representative vendors have a global presence and offer FHIR services, as FHIR itself is open source.

User Recommendations

- Participate in FHIR workgroups that are defining use case-specific logical models and profiles as well as tackling technical challenges for scaling. These include the Da Vinci Project (for administrative use cases); the Gravity Project (for social determinants of health); Gender Harmony Project (for sexual orientation and gender identity); Project Vulcan (for clinical and translational research); X-eHealth Project (for EU cross-border interoperability); Helios (for public health); and the FHIR at Scale Taskforce (FAST — for resolving technical challenges).
- Evaluate existing core system and data platform vendors for their FHIR API support capabilities and roadmap plans.
- Incorporate FHIR APIs into your API management strategy.
- Collaborate with regional HCLS partners to identify high-value FHIR API use-case opportunities. Pilot (or expand, if existing) connections to establish baseline costs, your implementation time frame and initial performance goals.

Sample Vendors

Alibaba; Amazon Web Services; Google; IBM; InterSystems; Microsoft; Salesforce (MuleSoft); Smile Digital Health

Gartner Recommended Reading

Quick Answer: What Kind of Governance Does Healthcare Data Interoperability Need?

U.S. Healthcare Payer Interoperability Benchmarks, 2Q23

Establish Interoperable Application Ecosystems Early in Your Composable Healthcare Provider Roadmap

Provider Data Management

Analysis By: Connie Salgy

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Provider data management tools and services organize and manage provider data such as demographics, specialty and network contract affiliations. Provider data management (PDM) capabilities include data loading, validation datasets and integration assets for larger payer, provider and consumer workflows and digital tools.

Why This Is Important

Inaccurate provider data leads to poor total experience and increases reputational and compliance risk. Payers rely on accurate provider data to authorize services, administer claims and deliver care advocacy services. This data also drives member-facing tools such as provider directories, health management portals and medical shopping applications.

Business Impact

Payers experience increased consumer and provider satisfaction as well as better financial results and operational efficiency with accurate provider data. For example, there is improved claims payment, lower denial rates and improved financial reconciliation. Additionally, PDM tools reduce the risk of state and federal regulatory penalties for poor provider directory data quality.

Drivers

- Provisions in the Consolidated Appropriations Act, 2021 mandate immediate data improvement action for payers, ensuring that members have the best data available when making care decisions. Section 116 of the Act includes strict provider directory guidelines. These requirements began 1 January 2022, and were built on previous regulations addressing the need to improve poor provider directory data accuracy with Medicare Advantage, and managed Medicaid and Affordable Care Act (ACA) exchange market lines.

- The Transparency in Coverage Final Rule, the Advancing Interoperability and Improve Prior Authorization Processes Proposed Rule and the Improving Seniors' Timely Access to Care Act of 2021 drive more regulatory urgency with payers. These regulations expose network pricing and authorization decision details to the public, including consumers, providers, competitors and third-party service providers. All of these mandates emphasize that accurate and up-to-date provider data is essential to deliver health value to members.

- Payers need to have PDM tools to quickly add new specialty types to data files in response to diversifying provider taxonomies. For example, social determinants of health community resources (e.g., language interpretation, transportation, food banks and government healthcare agencies) have become mainstream partners to payers and providers.

- Payers understand the criticality of ongoing data updates for provider directory maintenance and claims payment purposes. However, payers are just beginning to grasp how PDM investments can drive value within larger workflows for their provider, employees, purchasers and members.

- Payers that lag in PDM efforts will continue to experience consumer dissatisfaction and will be at risk for lower quality scores and Net Promoter Score (NPS) results.

Obstacles

- Payers often fail to see the connection between accurate provider data and improved provider, member and employee experiences, leading them to underinvest in revamping PDM as a foundational capability.

- The agility and modularity that is required to support new data elements within the data pipeline, and used for workflows and tools development, is commonly not supported by payer legacy systems.

- The host of provider network management (PNM) and PDM manual processes and homegrown legacy applications create data and workflow gaps limiting timely PDM adoption.

- PDM tools are often integrated with the larger set of PNM capabilities. As a result, payers struggle to complete the basic data ingestion functions needed (data loading, validation and integration).

Analyst Notes: Despite prior and ongoing PNM IT initiatives, the healthcare regulatory and competitive environment rapidly drives PDM efforts beyond current PNM offerings. As such, we are introducing PDM as approaching the Peak of Inflated Expectations. We expect mainstream adoption within two to five years.

User Recommendations

- Start PDM modernization efforts by creating a technology vision that will bring together initial contract data loading, ongoing data updates and scrubbing functions into a connected workflow. Utilize federal and state regulatory mandates like the No Surprises Act and Consolidated Appropriations Act to secure funding for these provider data improvements.
- Evaluate existing PDM tools, workflows and associated data repositories. Work with the chief data officer to align future PDM capabilities to data strategy.
- Ensure data management teams assess how MDM capabilities will serve PDM use cases. For example, how the data will feed downstream applications like core administrative processing systems, consumer price transparency tools and provider directory applications with up-to-date and accurate provider data in real time.
- Extend data accuracy improvement by working with business leaders to streamline business processes and eliminate data silos.

Sample Vendors

Availity; HiLabs; Infosys; InterSystems; Kyruus; LexisNexis; NTT DATA; Ribbon Health; Veda; Verisys

Gartner Recommended Reading

Market Guide for U.S. Healthcare Payers' Provider Data Management Applications

Improving Provider Directory Data Accuracy for U.S. Healthcare Payers

Market Guide for U.S. Healthcare Payers' Provider Network Management Applications

Top Practices in Physician Credentialing and Provider Data Management for U.S. Healthcare Payers and Providers

Hyperautomation for Healthcare Payers

Analysis By: Mandi Bishop

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Hyperautomation involves the orchestrated use of multiple technologies, tools or platforms to rapidly identify, vet, and automate as many business and IT processes as possible. Examples of these include artificial intelligence (AI), machine learning (ML), event-driven software architecture, robotic process automation (RPA), BPM/iBPMS, integration platform as a service (iPaaS), low-code or no-code tools, packaged software, and other types of decision, process, and task automation tools.

Why This Is Important

Straightforward and mature solutions, such as RPA and BPM tools, automate low-skill, highly repetitive, stable, and rule-based tasks that originate with structured data, and do not require human judgment. Hyperautomation builds on that foundation with learning capabilities to orchestrate complex decision processing in high-skill tasks via repeatable execution patterns, using unstructured and structured data. It is critical to advance ecosystemwide workflow integration and sustain a hybrid workforce.

Business Impact

Hyperautomation tools provide integrated solutions to support complex decision processing, improve total experience and add agility to the organization's processes. They accelerate processes such as prior authorization, reduce error rates and drive down process costs with the goal to improve customer satisfaction, and achieve a significant immediate ROI. They enable payers to make better use of their data to drive actions and automate/augment processes, taking over more decision-based tasks.

Drivers

- According to the 2023 Gartner CIO and Technology Executives Survey, 24% of payer respondents indicate that hyperautomation will receive the largest amount of new or additional funding this year.
- The combination of AI-driven decision-making and orchestration capabilities with automation technologies, is an accelerator to optimize and transform processes throughout the enterprise. This will assist payers in achieving efficiency and cost optimization goals, while accelerating the shift from labor arbitrage to technology arbitrage.
- The hyperautomation vendor market continues to mature on pace with AI technology maturation. Vendors that originated in RPA, BPM and low-code application platforms (LCAPs), as well as new startups and technology giants, are procuring, building, and enhancing their offerings.
- Hyperautomation solution capabilities have accelerated due to consolidation among existing players, and acquisition and entry by larger IT companies. This has led to an extension in vendors' portfolios of software offerings to incorporate wider technologies, coupled with ML and other AI technologies. Over the next year, intrepid vendors will begin to incorporate generative AI capabilities.
- Systems integrators are also presenting solutions through partnerships with various vendors, offering an integrated set of tools and implementation capabilities.

Obstacles

- Forward-thinking organizations reengineering and rethinking their operational processes are embracing hyperautomation solutions. But the governance around these initiatives is still immature. Generative AI, in particular, is introducing new governance challenges that may prohibit its use, such as a lack of explainability and source attribution.
- Hype about generative AI may cause a pause and rethinking of hyperautomation efforts overall.
- Most payers have not yet comprehensively reviewed their organizations' processes for hyperautomation suitability, or even for automation use-case opportunities more generally.
- Radical process change will not happen in the short term, as payers remain risk-averse and focused on achieving shorter-term efficiency targets using more limited but mainstream technologies, such as RPA.

Analyst Notes: As AI capabilities mature and become accessible to every enterprise stakeholder, hyperautomation solutions will rapidly proliferate. This innovation is advancing past the Peak of Inflated Expectations, and we anticipate that the governance challenges could plunge hyperautomation into the trough quickly. Gartner expects mainstream adoption within five years.

User Recommendations

- Identify a specific and persistent challenge, such as extracting a qualifying event change request from a member email and automating the workflow execution. Initially avoid complex use cases with a myriad of stakeholders, as this may trigger governance roadblocks.
- Evaluate use cases for process reengineering before automation. Do not automate faulty processes.
- Explore generative AI for use cases where the risk of black-box algorithm outputs is low, such as summarizing plan benefits and providing multilanguage translations. Mitigate the risk introduced by a lack of explainability with human review and certification.
- Establish success criteria and KPIs by enlisting data scientists, engineers, and business leaders to develop outcome targets.
- Select vendors that approach hyperautomation with business acumen in your domain and specific use cases, rather than taking a purely technical approach.
- Adopt best practices to address cultural barriers to hyperautomation acceptance. Do not underestimate the importance of change management.

Sample Vendors

Appian; Automation Anywhere; Availity; Hyland Software; Pegasystems; SS&C Technologies; UiPath; WorkFusion

Gartner Recommended Reading

Case Study: Hyperautomation for Healthcare Payer Administration (CVS Health)

Automation Mixology: When to Use RPA, AI and BPM for U.S. Healthcare Payers

Strategic Automation Decision Framework: From RPA to AI on the Journey to Hyperautomation in Healthcare

Quick Answer: How Can Healthcare CIOs Improve the Experience of Prior Authorization Using Automation?

Integrated Member Retail Experiences

Analysis By: Kate McCarthy

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Emerging

Definition:

An integrated retail experience is a payer business strategy using personal interactions enabled by technology tools across platforms and in collaboration with outside entities to provide members with medical and behavioral healthcare, retail products, health advice, and customer service. Integrated retail experiences aim to add health value by establishing trust, deepening member relationships and creating member loyalty.

Why This Is Important

Healthcare is diversifying from conventional services and settings to increasingly fragmented and specialized care delivery, personalized medicines, consumer health technology products, community-based programs and preventive health resources. Care delivered by retailers and virtual care, either in partnership with an existing retailer or using a payer's own resources in a community setting, will allow payers to help members achieve positive health outcomes and perceive comprehensive value.

Business Impact

Retail will be one of the many tools at your disposal to activate members and improve quality by:

- Meeting members when and where they need services the most, and empowering them to choose the physician, retail, virtual or phone services right for them.
- Coordinating with in-person, virtual care and remote care management to provide members with services in the touchpoints and settings they prefer to remain competitive.

Drivers

- Member engagement is perennially ranked as a high priority in the Gartner CIO and Technology Executive Survey. Yet, common approaches like phone-based care management and text appointment reminders cannot achieve breakthrough increases in risk score, quality measures, population health or member relevance.
- Desire to improve member engagement and satisfaction has catalyzed payers to make member service and care management staff available both in the community and virtually where they are the most convenient to members. Teams working outside a payer's walls will, however, also require new staffing models and mobile tools.
- As Amazon, CVS Health, Walmart and others extend retail and digital health services and insurance across the U.S., recognition of shifting competitive paradigms has driven retail, virtual and healthcare integration. Moves like CVS Health's growth of its HealthHUB and virtual care offering, and examples of experience-focused locations, like Humana's neighborhood centers, have changed the payers' calculus.
- Payers are now interested in ways to reach members, provide them with proactive health advice and address social determinants of health. For example, a payer may already host health and wellness content on its member portal for members to find information about healthy foods. However, this experience is completely different from an interaction with a payer's nutritionist who tailors recommendations to the member's specific needs based on clinical, social, administrative and consumer data.
- Today's primary touchpoints of engagement are limited in their ability to engage members. Using multiple communications touchpoints across integrated retail experiences allows payers to extend member engagement efforts beyond mailings, phone calls, portals and apps. Expanded touchpoints also improve member adoption of payers' digital tools and services through a combined in-person and online experience.

Obstacles

- Though payers are advancing member outreach programs, competitors are rapidly launching new options. For example, Walmart and CVS Health continue to deploy low-cost medical clinics in their stores, and Amazon's acquisition of OneMedical has been incorporated to its growing portfolio of healthcare capabilities.
- Few payers have integrated retail experiences that combine technology tools across platforms and incorporate community resources today.
- Payers that launched brick-and-mortar locations in anticipation of Affordable Care Act individual plan sales struggled to realize financial and member service gains from retail spaces focused on sales alone.
- We advance use of this hybrid of strategy and technology in 2023 past the Peak of Inflated Expectations with mainstream adoption in two to five years.

User Recommendations

- Track retail trends and technologies. Retail experiences transform payers' value proposition to members. But establishing a retail offering challenges finance and care management peers' preconceived notions of profitability and member engagement. Cultivate support from business, clinical, and administrative leaders.
- Brainstorm and assess potential partnerships with existing retailers, care delivery organizations with in-person locations, advocacy organizations and community gathering places.
- Propose to your executive peers a pilot program with established success criteria that sparks the next step into eventual full deployment.
- Invest in technologies like multiexperience development platforms (MXDP) and CRM to support member-centric service orchestration across multiple entities operating in the broad healthcare ecosystem.

Sample Vendors

Amazon; Best Buy; CVS Health; Walgreens; Walmart

Gartner Recommended Reading

Top Tech Trend: Total Experience for U.S. Healthcare Payers

How Digital Giants and Big-Box Retailers Are Advancing Consumer-Centricity and Virtual Healthcare

Healthcare CIOs Must Turn Retailers' Care Delivery From Liability to Asset

API Management for Healthcare

Analysis By: Roger Benn, Gregg Pessin

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

API management for healthcare includes IT tools and platforms for the creation, provisioning, monitoring and maintenance of APIs. Comprehensive API management includes the entire API life cycle. The increased adoption of Health Level Seven (HL7) Fast Healthcare Interoperability Resources (FHIR) and the emergence of interoperable application ecosystems have made API management an increasingly important IT capability indicator of real-time health system maturity.

Why This Is Important

Globally, mobile apps, modern web architectures, digital strategies, Internet of Things (IoT) and web APIs have made APIs an essential interoperability component of any digital transformation strategy. APIs are on the leading edge of healthcare's digital transformation and centerpiece of the healthcare industry's recently finalized interoperability rules. Successful APIs will have many active consumers and must be secured, monitored, maintained and managed throughout their life cycle.

Business Impact

API management is vital to healthcare governance, integrity and performance. APIs extend the reach and capabilities of legacy healthcare provider clinical and business systems beyond original product roadmaps. Healthcare delivery organizations (HDOs) are required to manage APIs throughout their life cycle to ensure application solution sets deliver value continuously. API management is vital for HDO participation in interoperable application ecosystems and digital transformation initiatives.

Drivers

- While APIs and service-oriented principles have been around for some time, they continue to gain acceptance and traction by vendors in the healthcare provider market. HDOs require more timely responses to their business and digital transformation requirements than the healthcare software vendor community can accommodate through release cycles and product roadmaps.
- Before FHIR, healthcare APIs were often proprietary, and data sharing between different healthcare systems was challenging due to the lack of a standard format for exchanging healthcare data. FHIR introduced a universal standard for healthcare data exchange, enabling healthcare systems to communicate and share data more efficiently and effectively.
- The adoption of API management continues to increase, as the pace of healthcare provider business and clinical information-sharing requirements increases, along with strategic digital transformation initiatives facilitated by interoperability advances. The introduction of composable application architecture is accelerating interest in API management.
- In the U.S., patient access and interoperability requirements codified by Office of the National Coordinator (ONC) and the Centers for Medicare & Medicaid (CMS) interoperability rules drive API management adoption. These rules require open APIs for healthcare data access and exchange.
- HDOs have begun to expect proprietary and open APIs from their vendor community that can be safely consumed and orchestrated to support new data requirements, workflows and business capabilities. They want to exchange data, share work, and move beyond conventional messaging interfaces and siloed workflows.

Obstacles

- Vendors are marketing API management solutions to the healthcare industry. This may result in solutions that will not easily accommodate traditional healthcare workflows, use cases and information exchange patterns due to a lack of coordination and transparency between vendors.
- Some solutions are only available as cloud-only, which may be a limiting factor for healthcare because most of the industry still deploys most of its IT solutions on-premises.
- The pricing and subscription models of the various API management platform vendors may also be at odds with the high data transaction volumes of typical healthcare provider integration and data exchange workflows.

User Recommendations

- Implement an API management program to streamline the delivery of new business capabilities, extend existing applications and systems such as the electronic health record, and enable mobile and other multichannel clients.
- Employ opportunities within interoperable application ecosystems such as clinical communication and collaboration platforms to expose data and functionality through API management.
- Leverage API management technologies to help build, consume, operate, secure and manage self-developed APIs and FHIR resources. Use API management platforms to centralize authentication and authorization for the APIs.
- Source your API management capabilities from purpose-built API management, clinical data interchange platforms and the existing interfacing/integration platform.
- Employ APIs when conventional industry interoperability messaging standards fall short of the health information and workflow needs.

Sample Vendors

Apigee (Google); Axway; Boomi; IBM; Kong; Microsoft; MuleSoft (Salesforce); TIBCO Software

Gartner Recommended Reading

Magic Quadrant for Full Life Cycle API Management

How to Evaluate API Management Solutions

Establish Interoperable Application Ecosystems Early in Your Composable Healthcare Provider Roadmap

Blockchain Platforms for Healthcare

Analysis By: Gregg Pessin

Benefit Rating: Transformational

Market Penetration: Less than 1% of target audience

Maturity: Adolescent

Definition:

Blockchain platforms provide the foundation to create and run blockchain solutions and decentralized networks. This includes support for distributed ledgers, decentralized consensus, tokenization and smart contracts. They enable the creation of blockchain solutions that provide immutability, transparency, decentralized contract execution and tokenization of physical or digital assets. In healthcare, blockchain can facilitate the secure exchange of health information.

Why This Is Important

Blockchain platforms are the foundation on which blockchain applications are built and managed. The key aspects of blockchain — distributed ledger, immutability, transparency, tokenization and support for smart contracts — are implemented through blockchain platforms. The potential of this technology to transform economic interactions could impact the health value chain, regulators, suppliers and consumers.

Business Impact

Blockchain can enable efficiency when reaching new customers, extending relationships with supply chain partners, and offering better quality and more complete linkages between events and data. Blockchain has the potential to expand the boundaries of healthcare by connecting industry systems of record directly to end users, without the burden of centralized control.

Drivers

- Leading enterprises are starting to realize that blockchain can address multiple problems that other technologies cannot. This includes the ability to audit and provide oversight of public fund distribution, delivery and use of healthcare incentives to change public action, and decentralized identity management for contact tracing.
- Development continues to progress in design, testing and piloting across the industries. Furthermore, it has gained more traction with the digital acceleration fostered by addressing the challenges brought about by COVID-19, including digital identity validation.
- Today, breakthroughs are few, with enterprise pilots concentrated on blockchain-inspired or distributed ledger technology (DLT) solutions.
- For the most part, market adoption has halted recently, as the industry continues to explore how blockchain can support business process efficiency improvements. Interest in metaverse implications for healthcare has sparked some new interest.
- As digital acceleration pervades all industries and the public sector, more attention is being paid to specific use cases that blockchain platforms can support, such as credentialing, document management and supply chain.

Obstacles

- Many CIOs realize that standard distributed database-style projects do little to sufficiently boost returns.
- The transformative nature of blockchain at a process, operating and business model level (decentralization and tokenization) implies the need to break and remold decades-old healthcare industry processes, relationships, systems, and structures.
- Most projects require cooperation among different entities, but achieving governance and cooperation across multiple enterprises is difficult.
- Adopting blockchain features and capabilities to provide business value requires enterprise process adjustments, which are disruptive to today's business processes. Adoption in healthcare continues to be very slow.
- The full scope of decentralization demands that the platform solve competing demands regarding cost, performance, compliance and security, while trying to match or better traditional features of enterprise software, including ease of use, developer support, reporting, and interoperability.

User Recommendations

- Track blockchain's market readiness in healthcare, and factor these trajectories into your strategic plans and investment timing. The most transformative and impactful applications will be oriented to ecosystem services with multiple organizations involved, and they will take longer to evolve.
- Differentiate the kinds of blockchain technology providers and disruptors by establishing a map of solution providers in your healthcare industry sector.
- Use Gartner's guidance (see Guidance for Blockchain Assessments) for identifying opportunities and apply the decision framework to determine the blockchain technology approach.
- Experiment with innovative trials using blockchain and be ready for setbacks, as additional use cases emerge and the technology continues to evolve.

Sample Vendors

Enterprise Ethereum Alliance; Hyperledger Foundation; R3

Gartner Recommended Reading

Guidance for Blockchain Assessments

Quick Answer: What Is Blockchain?

Top Five Reasons CIOs Should Care About Blockchain

Sliding into the Trough

Provider/Partner Network Management Platforms

Analysis By: Connie Salgy

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Provider/partner network management (PNM) platforms are the technology tools and services associated with managing the relationships and interactions between payers, providers and other partners in delivering health value to members. These solutions integrate the data sharing, workflows and contractual obligations necessary to support the full life cycle of provider relationships, from network design and onboarding to claims payment, servicing and contract renewal.

Why This Is Important

In an era of increased emphasis on provider directory accuracy, care coordination and value-based networks, mutually beneficial payer and provider relationships are essential for both parties' success. PNM platforms unify contracting, credentialing and data loading onto one system. This "provider data source of truth" feeds data to, and receives information from, all interactions that a payer has with its network of providers and community-based partners.

Business Impact

Payers have a palpable need to bring products defined by network composition to purchasers, while providers need more comprehensive, ongoing relationships with their patients. Thus, IT systems that help support those relationships play a strong role in payers' and providers' digital transformation efforts. The payoff for improving provider interaction applications is lower operating costs by eliminating duplicate entry processes and rework cycles and improved member and provider relationships.

Drivers

- Payer CEOs and boards of directors realize that their provider relationships are a strategic asset. They also realize that provider and member service and regulatory risks arising from poor provider data accuracy (such as fines related to the No Surprises Act, Section 116) are growing.
- Recent stipulations around the Consolidated Appropriations Act, 2021 and Transparency in Coverage drive urgency with payers for PNM transformation. Both regulations require payers to quickly respond to increasing demands and the expanding provider ecosystem (i.e., new provider specialty types, such as transportation and interpretation resources).
- Legacy PNM provider network management point solutions that help payers contract, credential and load providers for claims payment suffer from a lack of integration, inconsistent data formats and poor usability. This results in data gaps, error-prone provider directories, inaccurate claims payment, costly rework cycles and poor member service.
- Payers see better financial results when utilizing PNM solutions than traditional approaches. These results include improved claims payment, improved financial reconciliation and audits with providers, and reduced risk of state and federal regulatory penalties for poor provider directory data quality.
- PNM platforms improve access to accurate provider data and pipeline consistency for advanced analytics on providers' clinical quality and value-based payment relationship performance. They also provide increased visibility into network performance and coordinated provider and member journeys.

Obstacles

- CIOs prioritize member-facing IT applications, and often do not make a connection with the effect that poor provider data has on claims accuracy and timeliness, which negatively impacts member and provider experience.
- IT and business leaders fail to gain buy-in from the provider contracting, provider operations, IT configuration and credentialing teams on moving to a common platform and single source of truth.
- Traditional provider network management solutions struggle to improve the payer or provider experience and often create data silos that lead to dysfunctional workflows and insufficient insight.

- Payers seeking provider network management solutions are increasingly looking for solutions that can manage various stakeholder relationships, such as member and employer relationships. Investment in this space is shifting to CRM-based solutions with RFIs for multiple use cases and functionality needs.

Analyst Notes: Over the past year, we have observed that PNM capabilities are mature but are a focal point for Gartner CIO interactions due to the revisiting of provider data management, data accuracy and the supporting PNM processes. Thus, this profile has moved beyond the Peak of Inflated Expectations. We expect PNM platforms will plateau and achieve mainstream adoption in less than two years.

User Recommendations

- Take a total experience view of relationships, and consider solutions that enable engagement for multiple stakeholders, such as providers, members and employers.
- Prioritize investment in solutions to manage the increasing complexity of provider network relationships under value-based payment arrangements, as well as the increasing burden of provider data regulation.
- Modernize fragmented legacy applications and operational practices to address integration challenges. Follow the digital health platform approach to address the operational challenges of provider data and to enable improved relationships.
- Obtain support from business sponsors of legacy IT systems by assessing the costs of and risks arising from current practices.
- Work with IT leaders to create migration plans that enable real-time integration to care management, quality improvement, risk adjustment optimization and core administrative processing systems. This will help realize ROI from systems.

Sample Vendors

Availity; Cognizant; HealthTrio; Infosys; Newgen; Pegasystems; Salesforce; Verisys; Virsys12; Virtusa

Gartner Recommended Reading

Market Guide for U.S. Healthcare Payers' Provider Network Management Applications

Market Guide for U.S. Healthcare Payers' Provider Data Management Applications

Top Practices in Physician Credentialing and Provider Data Management for U.S. Healthcare Payers and Providers

Digital Health Navigator

Analysis By: Connie Salgy

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Digital health navigators integrate and orchestrate data and workflows across disparate functions — such as health and wellness programs, medical shopping, digital condition management and virtual care — to deliver high-value member interactions. This profile tracks the technologies that support a concierge model, as well as the extent to which payers are deploying this capability to their membership.

Why This Is Important

In contrast with traditional human-resource-intensive service models, digital health navigators help scale care management and increase the value delivered to purchasers from their healthcare insurance spending. These solutions orchestrate member experience across the ecosystem, addressing administrative tasks along with health needs. This is a level of service and convenience that purchasers — employers, individuals and government agencies alike — increasingly expect.

Business Impact

- **Lower claims expense:** Vendor case studies and independent studies from organizations like Aon report significant savings in annual cost per member.
- **Improved Net Promoter Score (NPS):** Most vendors tout an NPS 40 points or more above the health insurance industry average.
- **Higher purchaser account retention and better competitive position:** As a result, digital health navigator offerings are becoming the norm, rather than the exception.

Drivers

- Increased purchaser expectations and competition for service continue to fuel rapid growth for the healthcare engagement services industry. Payers are in a prime position to deliver these solutions, given their proximity to members and grasp of provider and plan data. In addition, myriad partnership opportunities are available to fill functional gaps, such as digital chronic condition management.
- Payers are maturing online symptom checkers and triage tools to facilitate next best actions, such as scheduling a provider virtual visit or contacting public health agencies. Purchasers increasingly expect more from all their business interactions. Eventually, “concierge service” will become synonymous with “service.” Digital health navigators will become a natural extension of the clinical and administrative processes that payers manage today.
- The integration opportunities to enrich the value of these services continue to multiply, along with the complexity of the services offered, and the line continues to blur between engagement, administration and care management.
- Given the investment activity and revenue growth of independent solutions, as well as the rapid deployment of digital health navigator capabilities, we continue to advance this technology beyond the Peak of Inflated Expectations. We believe these solutions will achieve mainstream adoption in two to five years.

Obstacles

- Payers lag in digital platform adoption, inhibiting their ability to source capabilities from niche partners across the ecosystem and compose an optimal member experience.
- Most organizations still have information and process silos that limit real-time orchestration across their internal, let alone external, domains that interoperability regulation will not solve.
- Payers face fierce competition from nimbler companies and startups built on a culture of customer centricity that doesn’t carry a heavy burden of legacy business models and technical debt.

User Recommendations

- Determine whether your organization's ambition is to develop its own internally managed digital health navigator offering, or to establish strategic partnerships with vendors to streamline account onboarding and improve service. Assess your readiness to deliver concierge services spanning administrative and clinical functions. Identify gaps that strategic partners could fill, temporarily or otherwise.

- Identify and evaluate digital health navigator solutions that your employer accounts currently use as examples to emulate or cultivate as partners. Look for functional and technical capabilities that align to your organization's digital health navigator strategy. Develop a best-of-breed approach to deliver a cohesive, fully integrated offering.

- Go beyond employer group arrangements, and brainstorm digital health navigator deployment plans for each line of business, including Medicare Advantage and managed Medicaid.

Sample Vendors

b.well; CarynHealth; Castlight Health; Collective Health; HealthJoy; Optum; VBA; Virgin Pulse; Zest Health

Gartner Recommended Reading

Quick Answer: How U.S. Payers Can Improve Member Engagement in Health Navigation

U.S. Healthcare Payer CIOs Improve Member Engagement in Health and Wellness Programs

U.S. Healthcare Payer CIOs Must Invest in 2022 Gartner Top Strategic Technology Trend — Total Experience

Top Tech Trend: Total Experience for U.S. Healthcare Payers

Innovation Insight for Consumer Experiences in Healthcare and Life Sciences

Community Resource Network Management

Analysis By: Mandi Bishop

Benefit Rating: Transformational

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Community resource network management (CRNM) is an operational model that an entity (typically a payer, provider or government agency) adopts. CRNM aims to optimize the utilization of nonmedical services and ameliorate the effects of social determinants on health status and outcomes. CRNM components include analytics, integrated workflows, service provider directories, referrals management and outcomes measurement.

Why This Is Important

Most healthcare organizations have active health-equity-focused initiatives addressing social determinants of health (SDOH). However, most are limited in their scope and focus on a certain subpopulation or a single nonmedical determinant, such as food insecurity. Organizations have struggled to succeed at an enterprise scale that encompasses all needs. CRNM combines individual initiatives and integrates data and workflows across constituencies to address these needs at scale.

Business Impact

CRNM has the potential for transformative benefits such as:

- Transcending typical ecosystem boundaries to align partnerships and incentives across public health, healthcare organizations, social services, government agencies, community organizations, retailers, digital giants and other technology service providers
- Closing health disparities and advancing health equity
- Significantly reducing future morbidity and the cost burden for medically and socially complex members

Drivers

- SDOH represents 60% or more of the contributors to health outcomes and, by extension, medical costs. Healthcare organizations are under enormous pressure to control medical costs and are looking to implement and scale CRNM to reap the rewards of its transformational business and health benefit potential.
- The economic burden of health disparities is increasing. A 2023 study (NIH-Funded Study Highlights the Financial Toll of Health Disparities in the United States) funded by the U.S. National Institutes of Health (NIH) found that racial, ethnic and educational disparities collectively cost over a trillion dollars in 2018. Race-based inequities, alone, cost $451 billion in 2018 — a 41% increase from 2014.
- The pandemic exposed the extent of global health inequities due to SDOH, underscoring SDOH's significance to population health. For example, a March 2022 study by the international poverty research organization Oxfam, based on excess death estimates, reports COVID-19 Death Toll Four Times Higher in Lower-Income Countries Than Rich Ones. Women and children in low-income countries are disproportionately affected. On a per capita basis, deaths in low-income and lower-middle-income countries are 31% higher than in high-income countries.
- Hunger has serious long-term physical and mental health effects, and the pandemic has dramatically increased the population at risk. According to The World Is at a Critical Juncture by the Food and Agriculture Organization of the United Nations, up to 811 million people worldwide faced hunger in 2020. Nearly one in three people in the world did not have access to adequate food.
- The World Economic Forum in Time to Act: Investing in Addressing Social Determinants to Improve Health estimates that interventions addressing SDOH could reduce disease burden so much that they would add $12 trillion to global GDP by 2040.
- This global moment creates an opportunity for innovators to get in front of overwhelming and growing nonmedical needs by establishing community service provider networks and funding mechanisms to sustain them.
- As executive support for and commitments to health equity and CRNM continue to increase, the investment will accelerate.

Obstacles

- There is not yet a proven business model for operating CRNM at scale across regions. Although it is integral for advancing population health outcomes and value-based care, sustainable funding to implement and maintain community resource networks and ensure service fulfillment is still elusive.
- Consumers will be alarmed by new processes and data sharing used to address leading determinants of health.
- Social service agencies are complaining of duplicative efforts to digitize community resource directories and referral processes. The “medicalization” of certain social services could make those services more expensive overall, especially in the U.S.

Analyst Notes: Accelerating investment is expanding the vendor solution offerings and CRNM process maturation. However, the lack of best-practice examples and outcomes for large populations and lagging standards for interoperable SDOH data exchange will remain barriers to scale. Thus, CRNM is sliding into the Trough of Disillusionment and we expect it to achieve mainstream adoption within five years.

User Recommendations

- Drive urgently improving coordination with community resources by promoting CRNM with your population health and consumer experience peers. Invoke analogies from established, core competency “referral networks” or from “provider network management.”
- Evaluate the current state of CRNM within your organization to establish a baseline for program participation and performance. Assign a business analyst to document the current state of community resource network integration within your organization. Identify use cases, user stories, pain points and opportunities for improved technical and process support.
- Form a cross-functional team of population health management leaders and IT partners from your organization to assess vendors for new implementations or for scaling new capabilities. Depending on your organization’s CRNM maturity, collaborate with the team to hold product demonstrations, establish a pilot, refine an existing implementation or scale to new markets.

Innovation in Practice:

- In 2023, Finland is scaling a governance approach that appoints “well-being services counties” to administer integrated health and social service programs. By the end of the year, there will be 21 such entities that will help standardize the integrated care approach nationwide. See Wellbeing Services Counties Will Be Responsible for Organising Health, Social and Rescue Services on 1 January 2023.
- In late 2022, U.S. health insurance company Blue Cross Blue Shield of Massachusetts introduced a financial model rewarding healthcare providers for closing racial and ethnic disparities in care, which will encourage CRNM investments. See Blue Cross Blue Shield of Massachusetts Signs Groundbreaking Value-Based Payment Contracts Incorporating Equity Measures.

Sample Vendors

Arcadia; Cedar Gate Technologies; Cityblock Health; Findhelp; Health Leads; Lightbeam Health Solutions; mPulse Mobile; Papa; Unite Us; WellSky

Gartner Recommended Reading

Innovation Insight for Advancing Population Health With Community Resource Network Management

What Is the Relationship Between Health Equity and Social Determinants of Health?

Use Social Determinants of Health Analytics to Inform Health Equity Strategy

Consumer Journey Analytics in HCLS

Analysis By: Kate McCarthy, Faith Adams

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Consumer journey analytics is the process of building a complete understanding of a healthcare and life science (HCLS) consumer’s journey, and using analytics to optimize the value of that journey. Consumer journey analytics collects data by tracking and analyzing the way consumers interact with their health and wellness over time.

Why This Is Important

HCLS organizations continue to accelerate the use of digital touchpoints for consumer engagement. These member, patient, provider and clinical trial participant journeys yield vast amounts of information that can be used to construct and analyze the consumer's experience. Consumer journey analytics enable HCLS CIOs to analyze and optimize consumer experiences across engagement touchpoints.

Business Impact

Healthcare and life science organizations stand to benefit from customer journey analytics due to:

- Higher customer satisfaction from seamless, personalized interactions across touchpoints.
- Increased visibility into consumer interactions.
- Better allocation of investment in functionality and capabilities for each engagement touchpoint.
- Refined consumer segments that increase the effectiveness of campaigns.
- Improved data-driven personalization that gives a more complete view of the consumer.

Drivers

- Consumer journey analytics is an essential tool for optimizing and personalizing HCLS consumer journeys. Leading HCLS organizations are increasingly using it to improve the attraction, conversion and activation of members, patients, providers, and clinical trial participants.
- In recent years, several tools and techniques for assessing and reimagining consumer experiences have gained significant adoption in healthcare. These include persona development, voice of the customer applications and journey mapping. The output of these efforts among leading organizations has helped foster an enterprise understanding of both the current and target state vision of consumer experience.
- Consumer journey analytics yield valuable insights into an HCLS consumer's needs and preferences. This enables the identification of the next best action for the consumer and the appropriate nudge to encourage the consumer to take this action, through analysis of data collected from engagement touchpoints. These touchpoints include human interaction (call centers, care manager, provider encounters), digital (websites, mobile, voice, wearables), assisted help (live chat and co-browsing) and virtual care.
- HCLS organizations can obtain increased revenue tied directly to satisfaction measures, medical risk and channel utilization.
- They can gain a better understanding of how improvement in experience relates to improved clinical and financial outcomes.
- They can also gain a direct line of sight into how the following are either supporting or preventing the ideal customer journeys — business partners within the sector (e.g., physician to physician), business partners across sectors (e.g., retail clinics and payers providers) and business partners across industries.

Obstacles

- HCLS organizations lag other industries in their use of consumer journey analytics. While comparable benefits are available to the industry, the complexity of HCLS journeys, continued dependence on face-to-face interactions, and the vast amount of data required remain barriers to widespread use and adoption.
- HCLS IT business leaders fail to use the minimum necessary touchpoints to build complete consumer analytics.
- Lack of data fluidity across siloed systems adds complexity to implementation and execution of journey analytics.
- HCLS organizations are overly reliant on today's legacy systems, such as electronic health records (EHRs) and core administration platforms. These technologies slow down progress in advancing both touchpoints and consumer journey work. As a result, this year, the innovation advanced further into the Trough of Disillusionment with two to five years before reaching maturity.

User Recommendations

- Adopt a total experience approach to address the insights employees need to support diverse healthcare and life sciences consumers.
- Prioritize projects that gather and analyze consumer journey data within new digital products and services.
- Examine opportunities to implement consumer journey analytics as a part of digital projects that transition call volumes from a call center.
- Use agile analytics approaches to quickly pilot consumer journey analytics for important personas. This will give business and IT leaders a sense of what is possible, and will guide investments in capabilities.
- Use consumer journey analytics to build a longitudinal understanding of consumer experience that includes encounters with other enterprises (e.g., external specialists); interactions with healthcare industry sectors (e.g., out-of-pocket costs for a procedure, life science patient support programs); employers (e.g., wellness incentives); social media; and consumer wearables.

Sample Vendors

[24]7.ai; Adobe; Genesys; Mercury Healthcare; Salesforce; SAP; Teradata; Virgin Pulse

Gartner Recommended Reading

Emerging Technologies and Trends Impact Radar: Customer Analytics for Customer Experience

Innovation Insight for Consumer Experiences in Healthcare and Life Sciences

Quick Answer: How Can U.S. Payers Overcome Consumer-Centric Product Complexity to Grow Revenue?

Where to Find Data to Inform Customer Experience Personas and Journey Maps

Clinical Data Integration

Analysis By: Mandi Bishop

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Adolescent

Definition:

Clinical data integration (CDI) enables the acquisition, normalization and enrichment of standards-based patient data from electronic health record (EHR) systems or health information exchanges (HIE), and the integration of that data with payer systems and business processes. Formats include Fast Healthcare Interoperability Resources (FHIR); HL7 admission, discharge and transfer (ADT); XML consolidated clinical documents (CCDAs); and legacy continuity of care records (CCRs) or proprietary files.

Why This Is Important

By acquiring and ingesting clinical data directly from provider EHRs, payers can substantially improve their administrative efficiency and reduce costs through better provider/partner alignment, advance population health management capabilities, increase their revenue, and improve total experience. CDI enables timely and efficient care coordination and decision support, as well as meaningful interactions with all ecosystem constituencies.

Business Impact

Scaling CDI helps payers achieve:

- **Care coordination:** Enabling faster and more seamless authorizations for care and the timely exchange of a member's health data between providers.
- **Risk score optimization:** Richer documentation of medical risk to improve revenue in programs such as Medicare Advantage.
- **Quality measure improvement:** Improving revenue related to the Healthcare Effectiveness Data and Information Set (HEDIS) and Medicare Star ratings.
- **Advanced analytics:** Identifying rising risk populations before they become high cost.

Drivers

- A sustained upward trend in strategic planning initiatives and investments to establish CDI as a payer core capability, with many positioning CDI as a strategic initiative enhancing total experience for providers, members and plan employees.
- The vendor landscape is robust with niche players and hyperscalers offering capabilities, providing a plethora of options for payers.
- CDI contributes to streamlining administrative processes and enables payers to become rich information sources for members and providers. Regulations such as the No Surprises Act and the Transparency in Coverage final rule, as well as the proposed U.S. Centers for Medicare & Medicaid Services (CMS) rule targeting prior authorization, are increasingly focused on administrative efficiency and transparency in cost and decision making.
- CIOs are eager to expand clinical data connections with providers, aggregators and EHRs to begin to achieve a positive ROI from the FHIR infrastructure investments that they made to comply with the 2020 CMS Interoperability and Patient Access rule. New regulatory requirements focused on provider FHIR enablement will advance those goals.
- The U.S. Department of Health and Human Services (HHS) approved the first cohort of applicants to be Qualified Health Information Networks (QHINs) under the Trusted Exchange Framework and Common Agreement (TEFCA). The goal of TEFCA, and these QHINs, is to implement nationwide CDI — and, more broadly, health data sharing — across ecosystem participants such as providers, payers, public health and government agencies.
- Many payers and the CDI vendors that support them are driving HL7 Da Vinci and Gravity projects that will advance payers' quest to attain rich clinical and health data. These workgroups are developing implementation guides to support use cases such as provider-to-payer clinical data exchange (CDeX) and aggregating social determinants of health (SDOH) data for sharing.

Obstacles

- The approaches and technologies that support CDI today remain highly fragmented, and payers haven't typically acquired and processed standards-based clinical data with any consistency at scale.
- Technical challenges — such as standardized and mandated EHR interoperability methods — remain but will be decreasing with the industry and regulatory entities coalescing around FHIR data exchange standards. However, even with the proliferation of FHIR APIs, earlier HL7 event and document standards will persist for years.
- Provider data-sharing agreements, as well as change management across healthcare information technology (HIT) vendors, provider IT departments and payer IT departments, remain barriers.

Analyst Notes: Due to the forces propelling CDI, we expect it to achieve mainstream adoption within the next three years. Gartner is tracking more than 60 vendors that offer CDI capabilities. The representative vendors in this profile are the initial QHIN cohort and top CDI partners reported in our 2Q23 U.S. Healthcare Payer Interoperability Benchmarks Survey. However, there are currently considerable challenges in achieving scale, which places this innovation deep in the trough.

User Recommendations

- Evaluate available Qualified Entities, HIEs, Regional Health Information Exchanges (RHIOs) and QHINs to identify opportunities to leverage aggregators and networks.
- Participate in the Da Vinci and Gravity projects to take advantage of ecosystemwide common FHIR APIs and use case development.
- Assess CDI success barriers between payers and providers, and develop a strategy to prioritize and address them. Providers may not trust that the data shared will be used for only agreed-upon purposes or may not have the IT resources or funding for new interfaces.
- Invest in an enterprise solution. Emphasize data quality, normalization and enrichment capabilities, not just the acquisition of the clinical data from various EHRs.

- Substantiate vendor statements about their CDI capabilities. Require disclosure of any solution components that depend on partner capabilities, and details about those partnerships. Evaluate internal versus external capabilities — and generally, a vended solution will be optimal.

Sample Vendors

1upHealth; athenahealth; CommonWell Health Alliance; eHealth Exchange; Epic; Health Gorilla; InterSystems; KONZA National Network; Kno2; Smile Digital Health

Gartner Recommended Reading

Clinical Data Integration Capabilities and Sourcing Recommendations for U.S. Healthcare Payers

Clinical Data Integration: IT Readiness Assessment and RFP Questions for U.S. Healthcare Payer CIOs

Quick Answer: Use FHIR to Jump-Start Clinical Data Integration for U.S. Healthcare Payers

Prospective Payment Integrity Solutions

Analysis By: Austynn Eubank, Mandi Bishop

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Early mainstream

Definition:

Prospective payment integrity (PPI) solutions enable payers to proactively avoid paying claims improperly, versus paying and then chasing claims dollars. These technologies facilitate accurate claims processing with minimal payment leakage, addressing contracts and services, eligibility, and payment accountability, along with fraud, waste and abuse (FWA). They incorporate claims editing, data mining and complex clinical review, as well as advanced analytics and AI.

Why This Is Important

PPI solutions mitigate a broad range of potentially improper claims payment activities by identifying, and correcting for, claims inaccuracies prior to claims payment. PPI solutions could reduce payer (and taxpayer) burden, such as the $1.7 billion in fraud recovered retrospectively by the U.S. Department of Justice in 2022.

Business Impact

PPI solutions:

- Thwart fraud
- Decrease claims spend by 1% to 2% on average (with some vendors claiming 10% or more)
- Improve claims appeal rates
- Reduce the percentage of claims requiring rework
- Lower the cost per claim processed
- Reduce claims-related provider call volume
- Limit member touchpoints related to areas such as subrogation and balance billing
- Improve member and provider experience
- Identify and educate providers by illuminating patterns of poor payment integrity practices

Drivers

- Cost avoidance from PPI solutions and practices represents a larger benefit opportunity than revenue recovery. Between 3% and 7% of all healthcare claims are paid inaccurately — and only a fraction of those claims payments are later corrected. For example, in 2022, the U.S. Department of Health and Human Services Office of Inspector General (HHS-OIG) estimated that it would recover $3 billion in investigative work.

- Overutilization and upcoding are more common than fraud. Claims complexity is rising because of factors like COVID-19 payment policy exceptions, specialty drugs, medically complex patients and value-based payment arrangements. Such complexity requires sophisticated payment integrity solutions.

- Capabilities like social analytics, predictive modeling and machine learning are proliferating across PPI solutions, and payers are starting to embrace this approach. There is a burgeoning market of AI-enabled PPI solution providers, with some specializing in fraud and a few offering robust, integrated case management across payment integrity functions.

Obstacles

- Almost all payers have some form of retrospective payment integrity scanning in place today. However, payers have been slow to adopt PPI — in part because the ROI for cost avoidance is more difficult to calculate than the ROI for cost recovery. For example, payers do not typically account for the cost avoidance associated with claims edits within an integrated revenue cycle management (RCM) process. Additionally, payers often implement incentives for staff to open cases for postpay audits, creating an unintended disincentive for PPI.

- Few payers have an enterprise payment integrity program that provides governance and oversight across all regions, products, provider networks, capabilities and vendors. Fragmented procurement and operations of PPI solutions diminish the ROI of cost avoidance or, at least, hinder accurate aggregation of savings realized across the organization and provider networks.

Analyst Notes: PPI solutions such as claims editing and pricing are mature and experiencing a resurgence in procurement activity. Interest and investment in prospective FWA capabilities are increasing. However, we position PPI solutions in the Trough of Disillusionment due to lingering challenges. Calculating cost avoidance is difficult, and KPIs pit traditional retrospective results — and compensation inputs — against prospective performance. We expect these solutions to reach mainstream adoption within three years.

User Recommendations

- Invest in PPI solutions that detect and prevent improper payments in addition to those that perform retrospective claims payment analysis. These activities can start before claims submission (ensuring that the provider submits an accurately coded claim) and can follow through adjudication (ensuring that the claims detail aligns to payment and medical policies).
- Investigate expanding relationships with existing payment integrity vendors after evaluating their capabilities to deliver PPI solutions.
- Decrease redundancy, reduce operational burden and save costs by rationalizing PPI functions across the enterprise.
- Seek vendor solutions that facilitate provider education processes to improve provider experience, head off issues before they arise and reduce payers' administrative costs.
- Prioritize solutions that support real-time updates to policies and employ advanced analytics, automation and AI. These features will help you quantify and optimize cost avoidance, and remain compliant with CMS and other regulatory updates.

Sample Vendors

ClarisHealth; Codoxo; Cotiviti; EXL; Healthcare Fraud Shield; HealthEdge; MultiPlan; Optum; Zelis

Gartner Recommended Reading

U.S. Healthcare Payer CIOs Must Invest in Prospective Payment Integrity to Improve Member Experience

Quick Answer: What KPIs Do U.S. Healthcare Payers Track for Payment Integrity Programs?

Top 4 Ways Healthcare Payers Can Reduce Provider Burnout by Improving Payment Integrity

Adopt Prospective Payment Integrity to Thwart Healthcare Fraud and Improper Claims Payment

Fight Healthcare Fraud With Enterprise Payment Integrity for U.S. Payer CIOs

Climbing the Slope

RPA for Healthcare Payers

Analysis By: Mandi Bishop

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Mature mainstream

Definition:

Robotic process automation automates repetitive human tasks by emulating the transaction steps traditionally taken by humans, mainly via orchestrated UI interactions. It maps a human process or task in RPA software language, for a software script — commonly known as a "robot" or "bot" — to follow, with runtime allocated to execute the script by a control dashboard or orchestrator. Bots can be developed by programming or by using intuitive low- or no-code GUIs native to the RPA software platform.

Why This Is Important

Adoption of RPA at scale is foundational to an enterprise automation strategy for healthcare payers. RPA reliably delivers faster transactions and fewer errors, leading to labor savings. Legacy modernization initiatives — particularly core system replacements — are notoriously difficult to fund and have long payback periods. RPA provides a cost-effective option to deliver results and show value more quickly.

Business Impact

Healthcare payers can use RPA to:

- Increase operational savings by freeing up resources or reducing cost.
- Improve purchaser alignment and Net Promoter Score (NPS) by instantly retrieving and reconciling information during interactions.
- Improve provider or partner alignment (and NPS) by streamlining administrative interactions.
- Assure compliance and data quality to avoid penalties.
- Reduce the percentage of claims requiring manual resolution.

- Replace phone calls to reduce IT service desk interactions.

Drivers

- Payers lag years behind cross-industry peers in adopting digital processes — and digital processes are critical for cost optimization and operational efficiency. RPA plays a foundational role in the task and process automation capabilities that streamline administrative workloads. These capabilities are the starting points on the journey to hyperautomation (that is, the AI-enabled orchestration of multiple automation capabilities).
- Purchasers, providers and partners increasingly expect real-time, one-stop data retrieval and process execution similar to what they experience with retailers and digital healthcare organizations. Low first-call resolution rates or week-long waiting periods for contract instantiation or authorization decisions are no longer acceptable.
- Due to the high benefit rating and relative maturity of the technology, combined with the evidence of significant interest and increased investment from payer CIOs, we are accelerating RPA through the Trough of Disillusionment. We anticipate that it will reach mainstream adoption within two years.

Obstacles

- RPA is not a panacea for legacy processes and systems. Without a proper strategy and oversight, RPA implementations will compound legacy debt and further complicate long-term modernization initiatives.
- Payers are establishing automation centers of excellence (COEs) to provide governance intended to maximize the value of RPA and minimize the risk associated with the haphazard use of these technologies. However, many payers lack the necessary subject matter expert and IT resource bandwidth or the mature process and information governance practices established to implement and optimize a COE.
- A high upfront implementation cost to establish new RPA capabilities may exist. Most vendors do not have gain-sharing pricing models.
- Clarity on the ROI amount and time frame is often elusive prior to implementation, and executive expectations for immediate savings are typically unrealistic. This leads to disappointment with the initial investment and can derail efforts to scale.

User Recommendations

- Apply RPA to manual, high-volume, repetitive, low-skill and structured data-driven processes that are routine and stable with well-defined rules.
- Set performance targets and implement KPIs for RPA, such as lowering the cost per claim processed or increasing the rate of customer service call dispositioning.
- Assess internal IT staff against skills needed to effectively implement RPA while considering vendor partners to add expertise.
- Compare and contrast the vendors by focusing on how easy they make the process of configuring processes and how they align with existing IT and business skills. Further, consider value-added competencies such as domain expertise, integrated AI, business process management (BPM) and optical character recognition (OCR).
- Develop a centralized approach to enterprisewide RPA implementation and management. This way, you avoid replicating an environment similar to the proliferation of Excel-driven processes.
- Evaluate alternative options, including BPM tools and core system replacement.

Sample Vendors

Appian; Automation Anywhere; Microsoft; NTT DATA; Olive; Pegasystems; SS&C Technologies; UiPath; WorkFusion

Gartner Recommended Reading

Automation Mixology: When to Use RPA, AI and BPM for U.S. Healthcare Payers

Quick Answer: How Can Healthcare CIOs Improve the Experience of Prior Authorization Using Automation?

Strategic Automation Decision Framework: From RPA to AI on the Journey to Hyperautomation in Healthcare

Advanced Analytics Architecture for Payers

Analysis By: Jeff Cribbs, Laura Craft

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Advanced healthcare analytics architecture represents payers' next-generation approach to deriving value from data. Traditional payer analytics architecture typically includes information portals (reports and dashboards) and an analytics workbench (data exploration). Advanced architecture adds data science capabilities (for advanced modeling) and a decision hub (to deploy real-time insights into operations), and coordinates all four functional elements.

Why This Is Important

Advanced analytics architecture enables more pervasive and forward-looking insight than payers can accomplish with conventional architecture. In critical areas like actuarial science, provider network analysis, care management and payment integrity, the addition of advanced analytics has enabled payers to differentiate their offerings and outperform their competition. This architecture also prepares a payer organization to adopt AI engineering.

Business Impact

Payers that have adopted advanced analytics architecture have seen the greatest impact in consumer engagement, population health management, payment integrity and provider analytics. More recently, consultative analytics programs that provide ad hoc analysis as a part of external relationship management (such as relationships with employer groups), have started to utilize more advanced statistical methods and decision intelligence to improve performance and demonstrate value.

Drivers

- Most large healthcare payers now have one or more installations of a data science and machine learning platform, at least a few data scientists utilizing them, and a handful of projects or pilots completed, some successfully, many less so. This has normalized the presence of next-generation analytics talent and technology (at least in some departmental pockets) and laid a foundation for accelerated investment.
- Gartner clients say that partnership approaches with hyperscalers for cloud-based analytic services — especially Amazon Web Services (AWS) and Microsoft — have more of a defined "playbook" feel, which aids adoption. This approach has accelerated further still with recent strategic partnerships between cloud providers and licensed advanced analytic tools, such as Microsoft Azure and SAS's Viya platform.
- Payer business and clinical leadership increasingly recognize the opportunity to derive more insight from nonconventional payer data sources. The most important of these new sources are electronic health record (EHR) — originating data, which will be increasingly available in Fast Healthcare Interoperability Resources (FHIR) resources, with new batch transmission requirements and vendor offerings for conversion to relational environments. Other novel data sources include member wearables, call center recordings and home health workforce monitoring.

Obstacles

- Payer data is generally poorly governed, buried in organizational silos and hard to access. The renovation of the data core toward a "data fabric" architecture is the single greatest project facing payer analytics.
- Many payers have analytic environments with duplicative capabilities and use cases. This creates internal rivalries and confusion among various stakeholders about which environment is best suited to addressing new analytic requirements.
- Payer-specific solution providers have been slow, relative even to their healthcare provider counterparts, to add advanced analytic capabilities to their offerings.
- Payers chronically underinvest in the deployment technologies and operational systems that can make analytic insight and automation pervasive in the business. In all key "next generation" payer technology spaces, such as care management, core admin, and provider network management — the ability to deploy advanced analytics into the workflow is a critical capability.

Analyst Notes: As anticipated in our 2022 write-up, we observe significant investment in governing the coordination of the "four functional elements" of the architecture. The profile is on track to graduate in 2024 with 35 to 45% adoption. Note that adoption is driven substantially by larger payer organizations (namely Humana, UnitedHealth Group and Elevance Health). Representative vendors in this category cover various components of the architecture or strategic consulting services in this direction.

User Recommendations

- Begin by incorporating advanced analytics in your enterprise-level data and analytics strategy and operating model (DASOM). This strategy must rationalize data management and analytic capabilities, and guide investment decisions in new capabilities (see Creating a Modern, Actionable Data and Analytics Strategy That Delivers Business Outcomes).
- Invest today in data governance, master data management and enterprise services integration, which are concrete steps toward the data fabric foundation that will position payers well as new tools, functions and use cases become available.
- Investigate composable architecture, which presents special opportunities and efficiencies to payers who seek a more scalable way to deploy analytic insight into operational technology, through the creation of analytic packaged business capabilities.

Sample Vendors

RapidMiner; SAS Institute; Tensile AI; Teradata; TIBCO Software; Quantiphi

Population Health Management Solutions

Analysis By: Amanda Dall'Occhio, Roger Benn, Jeff Cribbs

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Population health management (PHM) solutions are sets of IT capabilities and related services that enable healthcare organizations to achieve health, cost and experience goals for a discrete population of individuals. These capabilities commonly include data integration, performance analytics, care management and patient engagement.

Why This Is Important

Many global health systems struggle with a common set of challenges: rising medical costs, disparities in access, inconsistent clinical outcomes and aging populations. As an operational model of value-based care, PHM focuses on care management and coordination initiatives to improve the quality of care and reduce healthcare costs.

Business Impact

Fully implemented PHM technology will enable improvement in most aspects of healthcare operations. However, organizations typically deploy PHM progressively as they gain experience in value-based care, learn more about the technology, and find more of their financial incentives reliant on successfully operating in a PHM model. The typical progression, in order, is: (1) data management, (2) reporting, (3) performance management, (4) workflow (care management) and (5) patient engagement.

Drivers

- Value-based care continues accelerating in both public and privately funded health systems. More organizations are signing at-risk contracts, and more money is at stake in renewing those contracts.
- National, state and local e-health initiatives often include more mature PHM capabilities — such as integrating health and social care, community-based care coordination, and remote patient monitoring.
- Business models are changing incrementally, and organizations often install initial technology without a full vision of PHM capability. However, the vendor market has adapted and many offer a sequential playbook and modular capabilities to better align to the roadmap stage and progress.

Obstacles

- Healthcare organizations often make PHM investments very narrowly to support the new requirements of a value-based contract or initiative. This includes acquiring claims data, managing an attribution patient registry or maintaining certified quality reporting. The lack of a comprehensive PHM technology vision means initial capabilities are often not forward-compatible with new capabilities or requirements.
- Technology solution design for PHM, particularly for healthcare providers, is complicated by a lack of comprehensive PHM vision from healthcare organizations. This is also the case for PHM capabilities that overlap with adjacent spaces (like electronic health record [EHR], CRM and health information exchange [HIE]) and confusing vendor hype.
- Megasuite EHR vendors that offer PHM capabilities often do not keep pace with more mature PHM program requirements. However this is slowly shifting.
- Efforts to configure the EHR for PHM compete with a long list of conventional care delivery-focused EHR optimization projects.

User Recommendations

- Ensure that immediate PHM solution decisions are compatible with a robust population health vision that extends at least five years into the future.
- Evaluate your incumbent EHR vendor objectively by asking for its reference clients with the most mature population health implementations. Then compare those experiences with PHM vendor references with similar program maturity levels.
- Assess the vendor's support model beyond the technical nuts and bolts. Understand their commitment to helping you transform your operations and achieve your targeted PHM objectives.
- Explore each vendor's built-in social determinants of health (SDOH) and community resource connection capabilities, as well as the ability to incorporate new external data sources as best practices continue to advance.

Sample Vendors

Arcadia; CareEvolution; Cedar Gate Technologies; Forward Health Group; Health Catalyst; Innovaccer; Lightbeam Health Solutions; Optum; Persivia

Gartner Recommended Reading

Population Health Management Framework for Healthcare Provider CIOs

3 Critical Views of Population Health Management Capabilities for Healthcare CIOs

Healthcare CIOs: Enable Real-Time Ecosystem Collaboration to Excel in Value-Based Care

Cloud for Healthcare Payers

Analysis By: Austynn Eubank

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Early mainstream

Definition:

Cloud for healthcare payers tracks enterprise cloud strategy implementation, which includes new implementations as well as migration. Cloud computing provides internet-based scalable and elastic, IT-enabled capabilities as a service to external customers via public (shared), private (single organization) and hybrid solutions. Cloud benefits include economies of scale and security, as well as sharing of resources that can reduce costs and increase technology choices.

Why This Is Important

Cloud technology enables more robust and adaptable technology architectures, promoting interoperability and faster innovation. Cloud application and service providers are increasingly SOC 2 and HITRUST-certified, HIPAA-compliant and willing to enter business associate agreements (BAAs), minimizing payers' liability concerns. Cloud-based analytics environments reduce the time to value of big data workloads as well as upfront capital investment and IT support.

Business Impact

Cloud solution benefits include:

- Elasticity and agility that enable real-time health ecosystem participation
- A plausible path via cloud analytic services to short-term AI value realization

- Increased stakeholder alignment facilitated by improved information access and collaboration capabilities
- Support for a new IT operational model that embraces digital partnerability and ecosystem-sourced capabilities

Drivers

- Seventy percent of global healthcare payers are increasing investment in cloud platforms, according to the 2023 Gartner CIO and Technology Executives Survey.
- Respondents to Gartner's 2Q23 U.S. Healthcare Payer Benchmark Survey report that 60% are moving their on-premises core administration solutions to the cloud, and 17% are replatforming from mainframe to modern architecture — showing a shift toward payer cloud adoption.
- Healthcare payers recognize the drive to digital care and engagement — and that cloud is essential to enable real-time care team collaboration.
- Interoperability rules from the U.S. Centers for Medicare and Medicaid Services (CMS) and the Office of the National Coordinator for Health IT (ONC) mandate API-based data exchange.
- Legacy architecture and processes are incapable of meeting the administrative needs of an increasingly complex partner ecosystem or the timely and open data sharing of the CMS and other regulatory mandates.
- Cloud subscription agreements allow payer CIOs to be more flexible in their storage and computing usage. On-premises environments require payers to make cost decisions about storage years in advance.
- Cloud architecture is fundamental for composable business and innovations such as serverless computing will continue to make cloud more affordable and decrease costly technical debt.
- Member data protection and cybersecurity are a perennial concern for payers. With some cloud service providers being SOC 2 and HITRUST-certified as well as HIPAA-compliant, payer CIOs are more confident with these partnerships.
- Cloud service providers innovate at a rapid pace and are increasingly focusing on payer-specific challenges and capabilities within their cloud application landscape, which alleviates some internal IT burden and the need for constant innovation for cloud-first payer organizations.
- With rapid adoption and investment, we anticipate mainstream adoption within two years.

Obstacles

- CEOs and boards have historically been reluctant to prioritize increased funding for modernization initiatives — extending cloud adoption timelines. The shift from a capital expenditure (capex) to operating expenditure (opex) funding model is also a challenge for many organizations.
- The total cost of ownership (TCO) for cloud is higher for many payer use cases — contrary to conventional wisdom. TCO is negatively impacted especially when lifting and shifting legacy systems, rather than purpose building for the cloud.
- Humans managing the cloud will continue to introduce vulnerabilities that CIOs must actively mitigate and govern.
- Payers are rightly mindful of risk, given their need to protect sensitive data, and some payers are still reluctant to move core data and workloads to the cloud due to lingering security concerns. This risk-averse mindset has provoked a slower adoption of cloud, more so than other sectors.

User Recommendations

- Articulate an updated position on cloud to the business, including its security, appropriateness for the enterprise, implications for existing data center investments and other benefits.
- Enforce a cloud-first mindset for all new development efforts and vendor engagements. Establish a cloud-first delivery option requirement for new RFPs, as well as contract renewals.
- Evaluate modernization initiatives to determine whether cloud migration (or replacement) would be more cost-effective, efficient and a higher-quality architecture than continuing custom development and data center investments. Going forward, cloud should be the preferred deployment option.
- Develop aggressive targets for having a significant portion of the IT portfolio in cloud environments within the next two to three years.
- Weigh cost, efficacy, solution speed to market and new capability delivery opportunities against business goals, compliance requirements and IT budget in the cloud decision process.

Sample Vendors

Amazon Web Services (AWS); ClearDATA; Cloudticity; Google; IBM; Inovalon, Infosys, Microsoft; Oracle

Gartner Recommended Reading

Innovation Insight for Digital Healthcare Payer Platform

Tool: U.S. Healthcare Payer CIO Executive Presentation for Building the Composable Payer Business

Creating the Composable Healthcare Organization for Healthcare and Life Science CIOs

Tool: Healthcare and Life Science CIOs Executive Presentation for Composable Data and Analytics

Entering the Plateau

Next-Gen Core Administrative Processing Solutions

Analysis By: Mandi Bishop, Connie Salgy

Benefit Rating: Moderate

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Next-generation core administrative processing solutions (CAPS) enable payers to manage their enrollment, premium billing, claims processing and payment operations more nimbly than with legacy applications. Solutions must meet the following criteria: support cloud delivery models; allow clients to configure policies and processing rules without IT; decouple modular business functions and support third-party module integrations; enable value-based payment; and provide configurable interfaces.

Why This Is Important

CAPS modernization is a top strategic imperative that delivers operational improvements and administrative cost savings through increased efficiency and accuracy, freeing funds and resources for innovation. Monolithic legacy CAPS hinder business leaders' ability to bring new products to market quickly or support regulatory changes. Next-generation CAPS are an incremental step toward composability — offering modern architecture, flexible delivery models and robust integration options.

Business Impact

Use of next-generation CAPS:

- Lowers transaction costs, improves data access and streamlines operations.
- Employs modern architecture that supports real-time data and transaction processing.
- Enables business model changes, such as value-based payment arrangements.
- Increases delivery model options to capitalize on cloud technology's economies of scale and security.
- Improves the ease of integration with payer or third-party applications.

- Decreases reliance on IT or expensive professional services to maintain policies and rules.

Drivers

- Diversification of payer business models, including complex care delivery and retail vertical integration, is accelerating. Next-generation CAPS address this challenge by easing integration of new and complex product lines and enabling digital health partnership.
- Policy exceptions and innovations in areas such as medical necessity and provider network alignment are increasing, requiring interoperable data and workflows across ecosystem partners.
- Regulatory mandates are forcing payers to improve the timeliness and transparency of various administrative processes, such as communicating costs before a service is rendered, matching fee schedules and executing prior authorizations.
- Data from Gartner's U.S. Healthcare Payer Priority and Performance Benchmarks, 1Q23, indicates accelerated investment in replacing legacy CAPS with cloud-based CAPS, as well as replacing proprietary solutions with commercial software products.
- CIOs who expect CAPS to meet next-generation criteria are shifting from evaluating these solutions as differentiating to considering these features the minimum requirements for multiyear purchases.

Obstacles

- Next-generation CAPS technologies are not new, yet conflicting payer business priorities, risk aversion to workflow disruption and solution costs create impediments to mainstream adoption.
- Although next-generation CAPS are cloud-delivered, they are not cloud-native. They may not be as client-configurable as advertised. Seventy-one percent of respondents to the 2023 Gartner Healthcare Payer Client Survey (February 2023) report developer dependencies for many configurations.
- While most vendors support modular licensing agreements, many require end-to-end implementations to support capability enablement. That is, they are not fully componentized — or composable — in their technology architecture.

- Replicating legacy processes and unnecessary customization with new CAPS inhibits digital progress — whether or not the new system is next-generation. Yet few payers undertake the business process transformation that would help drive ROI from next-generation CAPS adoption.

Analyst Notes: Although dozens of CAPS vendors exist, only a few consistently win RFPs for large plans offering comprehensive medical insurance to commercial group and government programs. Every commercial CAPS product outside of niche markets is shifting, or has already shifted, to meet the minimum next-generation criteria. Thus, this innovation advances to the Plateau of Productivity with an expectation that it will become mainstream within the next year.

User Recommendations

- Prioritize strategic versus commodity CAPS capabilities to evaluate investment decisions. The former include FHIR enablement, real-time processing or effective-now configuration to accommodate scenarios such as the Dobbs decision's regulatory fragmentation.
- Analyze whether licensed applications, SaaS or business process outsourcing (BPO and BPaaS) solutions for each CAPS capability are best.
- Evaluate new versions of CAPS as greenfield. Old CAPS versions are not representative. However, weigh prior experience with vendor delivery heavily.
- Search for modular CAPS components that allow a partial or phased implementation, and prioritize solutions that offer configurable interfaces.
- Validate the vendor's primary market. Some CAPS have their most significant footprint in a segment like provider-led health plans, third-party administrators or dental. Consider whether influencing a vendor's product roadmap outweighs the early adopter risk.
- Address the diminishing resource pool available to support legacy systems. Updated technologies will entice job candidates.

Sample Vendors

Cognizant; Evolent Health; HealthEdge; Oracle; PLEXIS Healthcare Systems; VBA

Gartner Recommended Reading

U.S. Healthcare Payer CIOs Must Pursue Next-Generation Core Administrative Processing Solutions

Market Guide for U.S. Healthcare Payers' Core Administrative Processing Solutions

U.S. Healthcare Payer Priority and Performance Benchmarks, 1Q23

Healthcare Administration Requires a Real-Time Payment Ecosystem Under Value-Based Care

Appendixes

See the previous Hype Cycle: Hype Cycle for U.S. Healthcare Payers, 2022

Hype Cycle Phases, Benefit Ratings and Maturity Levels

Table 2: Hype Cycle Phases

(Enlarged table in Appendix)

Phase ↓	Definition ↓
Innovation Trigger	A breakthrough, public demonstration, product launch or other event generates significant media and industry interest.
Peak of Inflated Expectations	During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the innovation is pushed to its limits. The only enterprises making money are conference organizers and content publishers.
Trough of Disillusionment	Because the innovation does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.
Slope of Enlightenment	Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the innovation's applicability, risks and benefits. Commercial off-the-shelf methodologies and tools ease the development process.
Plateau of Productivity	The real-world benefits of the innovation are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. Growing numbers of organizations feel comfortable with the reduced level of risk; the rapid growth phase of adoption begins. Approximately 20% of the technology's target audience has adopted or is adopting the technology as it enters this phase.
Years to Mainstream Adoption	The time required for the innovation to reach the Plateau of Productivity.

Source: Gartner (July 2023)

Table 3: Benefit Ratings

Benefit Rating ↓	*Definition* ↓
Transformational	Enables new ways of doing business across industries that will result in major shifts in industry dynamics
High	Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an enterprise
Moderate	Provides incremental improvements to established processes that will result in increased revenue or cost savings for an enterprise
Low	Slightly improves processes (for example, improved user experience) that will be difficult to translate into increased revenue or cost savings

Source: Gartner (July 2023)

Table 4: Maturity Levels

(Enlarged table in Appendix)

Maturity Levels	Status	Products/Vendors
Embryonic	In labs	None
Emerging	Commercialization by vendors Pilots and deployments by industry leaders	First generation High price Much customization
Adolescent	Maturing technology capabilities and process understanding Uptake beyond early adopters	Second generation Less customization
Early mainstream	Proven technology Vendors, technology and adoption rapidly evolving	Third generation More out-of-box methodologies
Mature mainstream	Robust technology Not much evolution in vendors or technology	Several dominant vendors
Legacy	Not appropriate for new developments Cost of migration constrains replacement	Maintenance revenue focus
Obsolete	Rarely used	Used/resale market only

Source: Gartner (July 2023)

Evidence

[1] Healthcare's Affordability Problem Is About to Get Worse, Becker's Hospital CFO Report.

[2] Hospitals Faced 'Worst Financial Year Since the Start of the Pandemic' in 2022, Kaufman Hall Data Show, Fierce Healthcare.

Document Revision History

Hype Cycle for U.S. Healthcare Payers, 2022 - 15 July 2022

Hype Cycle for U.S. Healthcare Payers, 2021 - 13 July 2021

Hype Cycle for U.S. Healthcare Payers, 2020 - 5 August 2020

Hype Cycle for U.S. Healthcare Payers, 2019 - 18 July 2019

Hype Cycle for U.S. Healthcare Payers, 2018 - 18 July 2018

Hype Cycle for U.S. Healthcare Payers, 2017 - 14 July 2017

Hype Cycle for U.S. Healthcare Payers, 2016 - 1 July 2016

Hype Cycle for U.S. Healthcare Payers, 2015 - 1 July 2015

Hype Cycle for Healthcare Payers, 2014 - 23 July 2014

Hype Cycle for Healthcare Payers, 2013 - 23 July 2013

Hype Cycle for Healthcare Payers, 2012 - 24 July 2012

Hype Cycle for Healthcare Payers, 2011 - 20 July 2011

Hype Cycle for Healthcare Payers, 2010 - 16 July 2010

Hype Cycle for Healthcare Payers, 2009 - 30 July 2009

Hype Cycle for Healthcare Payers, 2008 - 27 June 2008

Hype Cycle for Healthcare Payers, 2007 - 29 June 2007

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

Understanding Gartner's Hype Cycles

Tool: Create Your Own Hype Cycle With Gartner's Hype Cycle Builder

Tool: Gartner Essential Frameworks — U.S. Healthcare Payers

Tool: U.S. Healthcare Payer CIO Executive Presentation for Building the Composable Payer Business

Innovation Insight for Digital Healthcare Payer Platform

Healthcare Administration Requires a Real-Time Payment Ecosystem Under Value-Based Care

Market Guide for U.S. Healthcare Payers' Provider Data Management Applications

U.S. Healthcare Payers and Providers: Collaborate to Build Intelligent, Seamless Prior Authorizations

Table 1: Priority Matrix for U.S. Healthcare Payers, 2023

Benefit	*Years to Mainstream Adoption*			
↓	*Less Than 2 Years* ↓	*2 - 5 Years* ↓	*5 - 10 Years* ↓	*More Than 10 Years* ↓
Transformational		Community Resource Network Management Consumer-Centric Health Products LLMs for Healthcare Payers	Digital Healthcare Payer Platform Hyperautomation for Healthcare Payers Intelligent Prior Authorization Personalized Health	Autoadapting and Autocomposing Products Blockchain Platforms for Healthcare
High	Advanced Analytics Architecture for Payers Cloud for Healthcare Payers Population Health Management Solutions Price Transparency Analytics Provider/Partner Network Management Platforms RPA for Healthcare Payers	Clinical Data Integration Consumer Journey Analytics in HCLS Digital Health Navigator Integrated Member Retail Experiences Prospective Payment Integrity Solutions Provider Data Management	API Management for Healthcare CIAM for Healthcare FHIR APIs Next-Generation Value-Based Payment	
Moderate	Next-Gen Core Administrative Processing Solutions	AI-Enabled Fraud Detection	Composable Core Administrative Processing Solutions	
Low				

Benefit	*Years to Mainstream Adoption*			
↓	***Less Than 2 Years*** ↓	***2 - 5 Years*** ↓	***5 - 10 Years*** ↓	***More Than 10 Years*** ↓

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