

# The Evolution of Healthcare Consumer Engagement Hub Architecture

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Healthcare organizations strive to increase consumer engagement, but they struggle with creating a longitudinal view of individuals. CIOs should use the healthcare consumer engagement hub framework to connect systems, create longitudinal insights and successfully engage consumers.

## Key Findings

- Healthcare and life science organizations have begun investing in supplemental CRM systems to document engagement beyond line-of-business interactions, but they only capture a fraction of the data a consumer generates as they interact with their health.
- Even with CRM systems, healthcare and life science organizations are able to document only a small portion of a consumer's overall health journey. Creating longitudinal insight requires data aggregation from many business partners and independent data sources.
- A few healthcare and life science organizations have begun deploying elements of the healthcare consumer engagement hub (HCEH) architecture, with a focus on improving their organization's direct engagement with consumers.
- Consumer knowledge has great value. However, virtually all healthcare organizations lack the architecture to structure, manage, measure, improve and monetize their consumer engagement intellectual property (IP) during their interactions with business partners.

## Recommendations

Healthcare and life science CIOs developing technology-enabled strategies to improve consumer engagement should:

- Accelerate the adoption of the HCEH as an architectural framework for creating and managing longitudinal consumer relationships.
- Converge existing consumer engagement technologies (such as CRM, contact centers and digital front doors) with the HCEH framework. Focus on the goal of creating consistent longitudinal engagement across organizational functions and communication channels.

- Consolidate consumer data within a single consumer engagement database for use as the single source of truth for the execution of CRM processes and the omnichannel presentation of data. Use the same database to manage, improve and measure the value of consumer IP.

Table of Contents

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Strategic Planning Assumption..... 2

Analysis..... 2

    The Genesis of the Engagement Hub Architectural Framework..... 2

        Cross-Industry Best Practices for Longitudinal Engagement..... 4

    Why Healthcare Engagement Is Unique..... 5

    Why Consumer Engagement Matters — Global Considerations..... 6

    The Healthcare Consumer Engagement Hub’s Architectural Framework..... 7

    How to Get Started..... 11

Gartner Recommended Reading..... 14

List of Tables

---

Table 1. Health Consumer Engagement Hub, HIE Use Case..... 10

List of Figures

---

Figure 1. Longitudinal Engagement of the Healthcare Consumer Engagement Hub..... 3

Figure 2. The Complex Nature of the Healthcare Consumer Engagement Hub..... 5

Figure 3. The HCEH Framework in Healthcare Provider Context..... 8

Strategic Planning Assumption

By 2022, 50% of large organizations will have failed to unify engagement channels, resulting in the continuation of a disjointed and siloed customer experience, while lacking context.

Analysis

The Genesis of the Engagement Hub Architectural Framework

Healthcare organizations have the difficult task of engaging consumers, earning their trust and guiding them on their journey to achieve their best health. This task is performed periodically within

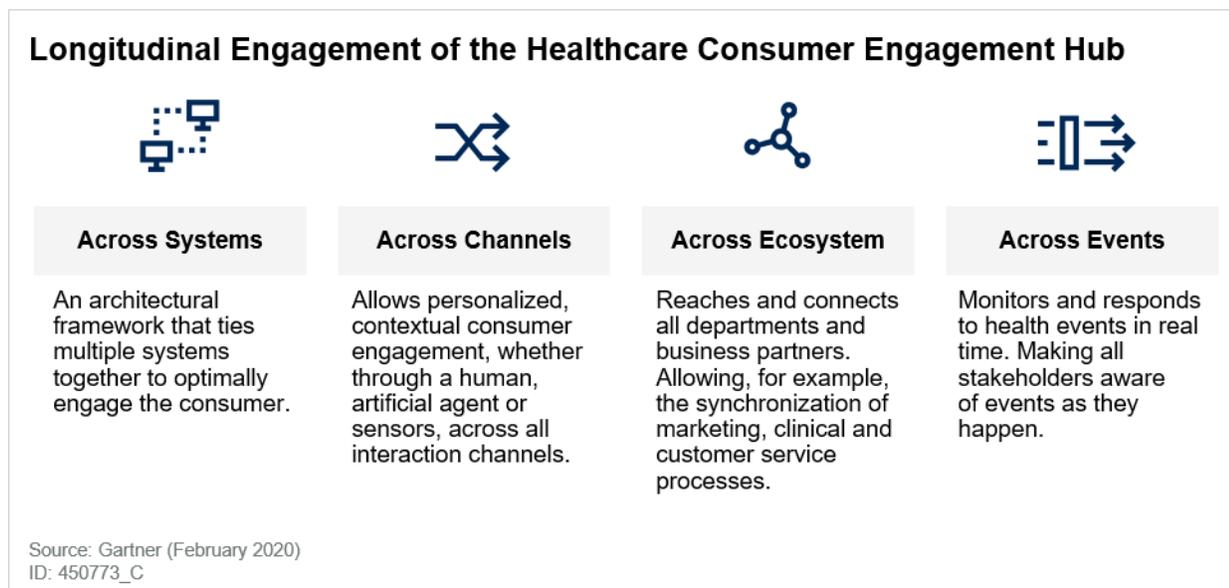
episodes of healthcare or daily over a lifetime for individuals with chronic illnesses. Most healthcare organizations recognize the value of engagement during an episode of care and are investing in the collection of cross-sectional consumer data to support engagement at a single point in time. Many healthcare organizations have recognized the value of longitudinal consumer engagement and are aggregating data collected over a lifetime of health events to support it. A few healthcare organizations are aggregating cross-sectional and longitudinal data to create a “360-degree” view of consumers (see Note 1).

Regardless of the healthcare organization’s engagement strategy, be it episodic or longitudinal, all organizations are struggling to assemble a more comprehensive view of the consumer. It is a challenge that grows increasingly difficult, given the accelerated increase in the number of health and healthcare products, services and organizations with whom a typical consumer interacts.

In an attempt to solve specific use cases, the CIOs of most health organizations have focused on improving engagement within discrete moments or episodes of engagement, frequently using dedicated CRM systems built for purpose. This approach provides cross-sectional consumer data during episodic engagement.

A few CIOs, who have invested in CRMs, have begun to recognize having cross-sectional data during individual moments of a consumer’s interaction with a healthcare organization does not create a longitudinal understanding of the individual. They recognize that longitudinal engagement requires insight gained from a longitudinal understanding of all of an individual’s health interactions across all engagement channels, healthcare organizations and health events within a *lifelong health journey* (see Figure 1).

Figure 1. Longitudinal Engagement of the Healthcare Consumer Engagement Hub



## Cross-Industry Best Practices for Longitudinal Engagement

Leaders within other highly consumer-centric industries such as entertainment, retail and banking have faced, and made progress on, the challenge of creating longitudinal engagement. Healthcare and life science CIOs should look to these industries for best practices they can apply to the challenge of longitudinal engagement at their organizations. Critical best practices include:

- *Expanding cross-sectional and longitudinal datasets by establishing consumer data (not just health data) sharing agreements with business partners who interact with consumers.* Agreements provide each partner with the opportunity to improve the value of their product by using insight gained from information aggregated among business partners. Examples of data sharing agreements include the agreements between Apple TV and Apple's orchestrated ecosystem of entertainment business partners.<sup>1</sup>
- *Combining customer data gained from ecosystem partners and third parties with internally generated data to create a comprehensive longitudinal consumer engagement database.* The database forms the basis of a longitudinal understanding of the individual and their health and health activities. It is used as the single source of truth to provide the data for the execution of CRM processes. For example, Insurance Australia Group (IAG), a multinational general insurance company headquartered in Sydney, Australia aggregates operational, transactional and sentiment data from their interactions with consumers and the interactions of business partners into a single database so it can improve customer engagement.<sup>2</sup>
- *Sharing consumer data and insight with business partners as required to support their independent engagement of the consumer.* Sharing consumer data with business partners is a primary value exchanged between business partners within a platform business model (see "The Gartner Digital Ecosystem Framework: How to Describe Ecosystems in the Digital Age"). For example, WinField United (a seed and crop protection company) analyzes millions of data points and shares the data and insight with farmers to boost per-acre production.<sup>3</sup> The increased production results in higher revenue for farmers and higher seed revenue for WinField United.

Gartner has researched longitudinal consumer engagement practices within highly consumer-centric industries to distill a customer engagement hub (CEH) architectural framework that is used to create longitudinal understanding and longitudinal engagement of consumers. We have published our findings and defined how the CEH enables personalized, contextual customer engagement, whether through a human, artificial agent or sensors, across all interaction channels. For a discussion of how the CEH connects affiliated business partners to enable synchronization of marketing, sales and customer service processes see "Technologies for CRM and the Emerging Customer Engagement Hub." We have also published our healthcare CEH (HCEH) framework for healthcare providers (see "Introducing the Healthcare Consumer Engagement Hub Architecture for Healthcare Providers").

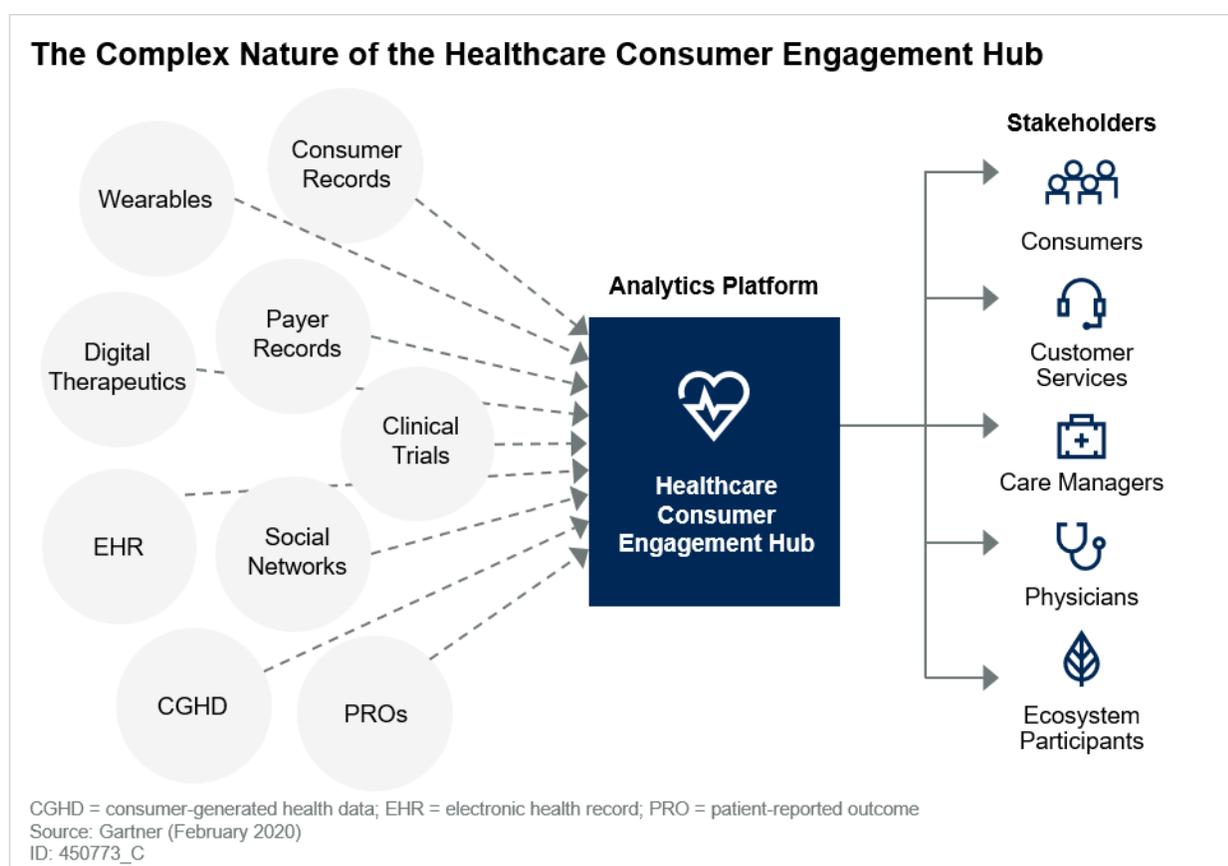
This research expands the application of the HCEH across all health industry segments (payers, providers and life science companies). This framework reflects the many inquiry discussions, presentations and implementations we have observed over the past two years since the HCEH note was first published. In short, we have found the HCEH framework is relevant for all healthcare

organizations seeking to create longitudinal understanding and engagement of individuals during their health activities.

## Why Healthcare Engagement Is Unique

Healthcare and life science organizations have CEH requirements that are far more complex than other industries. These requirements reflect the larger scope and scale of consumer data needed to develop an understanding of an individual's health. This also includes the greater number of people and organizations that are part of an individual's health journey, and the "pediatrics to geriatrics" time frame of a health journey (see Figure 2).

Figure 2. The Complex Nature of the Healthcare Consumer Engagement Hub



Without question, the complexity, size and importance of data is greater within healthcare than any other industry. Netflix, with over 130 million customers from more than 190 countries processes trillions of events and petabytes of data daily to support their business needs.<sup>4</sup> And yet, the average Netflix user only watches five TV shows and three movies per week. Chronically ill individuals require continuous intelligence and analysis of multiple health indicators, events and actions from an expanding array of technologies in, on and around the body. Healthcare insights from this plethora of information must be presented to consumers and other stakeholders in real time in a format that

both informs and encourages real-time decision making and behavior change (see “Stream Processing: The New Data Processing Paradigm”).

Healthcare services are also very personal and private, as are the outcomes from these services. Consumers expect their information to be stored securely, with access to their data managed according to their health needs and controlled by their explicit permission. For this reason, how an organization shares data and insights gained from engagement must adhere to security requirements that are far stricter than in other industries (see “Healthcare Provider CIOs: Prepare for the Consumer-Mediated Health Information Exchange”).

Furthermore, healthcare organizations engage affiliated and unaffiliated stakeholders who may collaboratively and independently engage with, and make healthcare recommendations to, consumers. Physicians, specialists, clinical trial managers, family members, traveling nurses and nursing homes all require access to role-appropriate portions of a consumer’s data in order to provide contextualized health recommendations and care (see “Create Connected Care Pathways That Bridge Consumer and Healthcare Provider Activities”).

For healthcare and life science organizations, the CEH framework has been expanded and optimized to reflect healthcare’s unique challenges and opportunities. We have done so within the healthcare consumer engagement hub (HCEH) framework. In the “Hype Cycle for Consumer Engagement With Healthcare and Wellness, 2019,” we defined the HCEH as:

“The healthcare consumer engagement hub (HCEH) is a technology and process concept that ties multiple systems together to optimally engage the healthcare consumer. An HCEH includes proactive and reactive communication; allows personalized, contextual engagement with consumers across all interaction channels; and orchestrates interactions across all organizational functions. These capabilities enable synchronization of sales and marketing, clinical encounters, administrative service center and care management.”

The HCEH is positioned near the apex of the Peak of Inflated Expectations in our Hype Cycle.

## Why Consumer Engagement Matters — Global Considerations

The benefit of an HCEH varies, based on the business goals of a health organization, but can include:

- For-profit providers of fee-for-service (FFS) healthcare can benefit from the HCEH by engaging consumers, attracting them to services and increasing their rate of conversion into patients. Several health systems have reported generating several hundreds of millions of dollars in

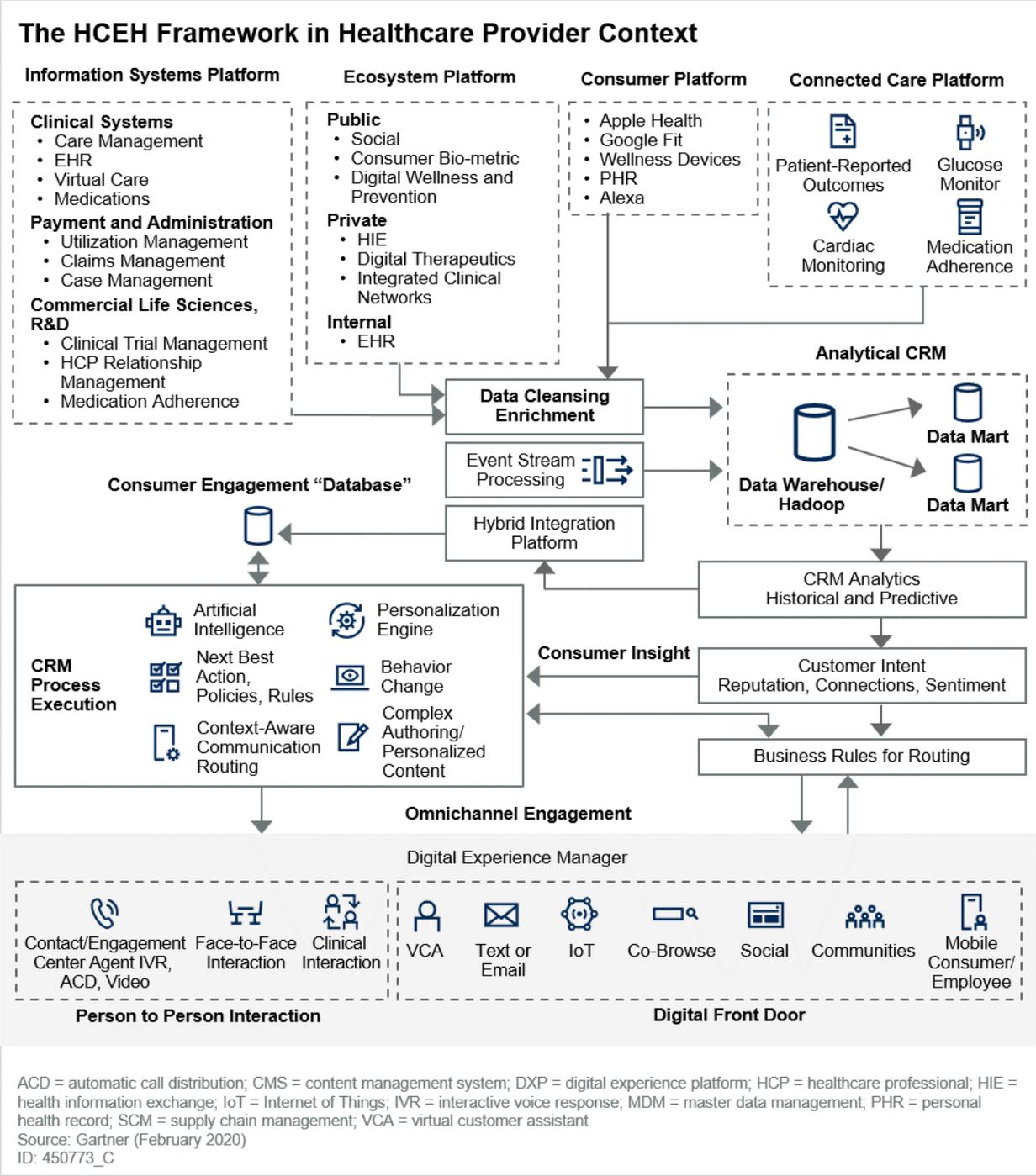
contribution revenue by successfully engaging consumers and effectively converting them into patients at the time of need.

- Health systems of all types can benefit by improving their ability to engage patients and care teams during an episode of care. Effective engagement within an episode of care improves a health system's ability to minimize patient leakage and lowers quality risks during care transitions within the episode. Patients also report substantially higher satisfaction scores when their journey through a care episode is coordinated among all parties.<sup>5</sup>
- For life science companies, longitudinal engagement can reveal the real-world impacts, and variables that drive those impacts, of pharmaceuticals. Life science organizations can use this information to create precision medicines and digital services surrounding their products that address the unique socioeconomic and behavioral deterrents of individual consumer health.
- Accountable care organizations (ACOs), in addition to attracting and converting consumers, can benefit from longitudinal engagement to improve consumer journeys as they transcend health and healthcare events, episodes of care and the management of illness. Engagement is especially valuable to ease transitions within those journeys that cross the ecosystem of partners collectively responsible for the health of an individual. Longitudinal engagement also results in improved outcomes.<sup>6</sup> Early data suggests engagement across the continuum can create an unassailable competitive advantage for ACOs within competitive markets.<sup>7</sup>
- For payers, universal or accountable care health systems, or those responsible for the whole health of an individual, longitudinally engaging citizens (consumers) is a critical capability required for improving the health of citizens and lowering the costs of healthcare.<sup>8,9</sup> Longitudinal engagement activates a citizen to become a proactive participant in their own healthcare, resulting in an elusive behavioral change that is highly effective at improving a consumer's health.<sup>10</sup> The HCEH can become the foundation for engaging consumers in their health and identifying potential health risks in citizens. It can also prompt the citizen to perform self-investigation, self-diagnosis and self-treatment using digital diagnosis and digital therapeutics. Earlier diagnosis and treatment can dramatically improve outcomes, while substantially lowering the cost of care, making the HCEH framework the foundation of a substantial and sustained bending of the cost curve of care.

## The Healthcare Consumer Engagement Hub's Architectural Framework

Figure 3 shows the HCEH architecture framework, which consists of information sources that are ingested to create a consumer engagement database. The database is the source of consumer insight used to execute engagement processes. The engagement is facilitated using an omnichannel platform that provides consistent communication to the consumer regardless of the communication channel used.

Figure 3. The HCEH Framework in Healthcare Provider Context



The HCEH framework consists of eight different component architectures:

1. **Information systems platform** — Core information systems used to operate the healthcare organization. Includes care delivery, claims, clinical trials and administrative systems within

healthcare providers, payers and life science companies (respectively). The information systems vary based on the type of healthcare organization deploying the HCEH. They can include the information systems for:

- Healthcare providers
  - Healthcare payers
  - Life science companies
2. **Ecosystem platform** — Systems used to support collaboration with external ecosystem partners (public, private and internal partners). Public partners can include data from social networks or consumer biometric monitoring devices. Private partners can include information from health information exchanges (HIEs), digital therapeutics or other healthcare organizations. Internal partners could be other divisions or business units within a healthcare organization.
  3. **Consumer platform** — Systems selected or used by the consumer to store consumer health information. Consumer systems also include dedicated CRM systems for managing prepatient, members or trial participants. This could also include personal health records stored by others.
  4. **Analytical CRM** — A subsystem of a healthcare organization’s analytics platform focusing on the analysis of consumer data to derive engagement insights. The results are then matched with a business rule to trigger an action. Basically, this spans historical, descriptive, predictive and prescriptive analytics (see “Gartner Healthcare Analytics Framework for Healthcare CIOs”).
  5. **Connected care platform (CCP)** — A platform that collects real-time data from IoT devices, digital health and digital medicine products and services. The CCP uses event stream processing to trigger actions in the form of an automated process or a face-to-face and/or digital interaction with the consumer.

Data from all five platforms is ingested by data cleansing and enrichment tools. Examples of tools include an ecosystem-side master consumer index (EMCI) tool that assigns a unique identifier to each consumer for use in consolidating data from all databases. Or, a data quality manager (DQM) tool that merges and resolves consumer data matches, corrections and enhancements.

6. **Consumer engagement database (CED)** — A compiled single source of truth for consumer data. All ecosystem organizations that are collaborating in the healthcare of a consumer can access and use data from the CED in accordance with business rules. This data informs ecosystem partners about the consumer, so they can engage the consumer with a longitudinal understanding of their health journey.
7. **CRM process execution** — Systems that process CED data to determine the specific action to be taken with the consumer. These processes can include next best actions, nudge recommendations and personalization of content.
8. **Omnichannel engagement** — A communications infrastructure that allows for seamless escalation of a customer conversation, from a mobile app, to a website, to a phone and over social media. Business rules clarify how to route direct interactions to the appropriate

ecosystem partner and channel. A digital experience manager (DXP) observes and optimizes the cross-channel communications.

Table 1 describes activities within the HCEH that support the use case of a patient encounter with a primary care physician (PCP).

**Table 1. Health Consumer Engagement Hub, HIE Use Case**

HCEH Component	Consumer Engagement Value
Core Systems	A patient schedules an appointment. The patient's medical history is presented for analysis. Data indicates the patient has not selected a PCP, either proactively or empirically.
Consumer Systems	Consumer data is presented for analysis. This includes consumer biometric data collected by the consumer, and records of data downloaded by the consumer from the health system digital front door, including socioeconomic environment, behavioral and engagement levels. Data indicates a male patient has concerns about his hip and pain management. He has been monitoring his steps using his fitness tracker. He has also been tracking pain levels using the hip disability and osteoarthritis outcome score accessed on the health system website.
Ecosystem Systems	Data is collected from the HIE that indicates the patient has seen a couple of specialists without a PCP referral from the health system. The econometric data indicates the patient is single, with no family support located near to them. The health insurance information provided defines estimated out-of-pocket expenses.
Analytical CRM	Analytical systems stratified the patient based on engagement levels, potential for activation, clinical risk, personal preferences and behavioral characteristics.
Consumer Engagement Database	The information and insight on a consumer are stored within the CED. CRM processes predefined by ecosystem partners use this information to provide insight into the communications channels that are most effective for this person.
CRM Process Execution	The initial PCP visit process prepares and presents a profile of the patient that includes information from multiple engagement platforms (IS, consumer ecosystem and connected care platforms). The patient is provided with a set of questions that can help validate or add to the compiled consumer data stored in the CED. The PCP is also provided with a set of recommendations personalized for this patient.
Omnichannel Engagement	The PCP is the primary communications channel during the appointment. Information the PCP collects assists the PCP in performing the diagnosis and devising a treatment plan that is personalized and provides the highest value to the individual. Once the patient leaves the PCP, the consumer remains engaged in their health through multiple channels. Engagement actions include referral management, connected care platforms, prevention digital services and other actions that keep the patient engaged with healthcare between face-to-face encounters.

Source: Gartner (February 2020)

The HCEH is a critical capability that enables mass personalization of care for all patients and consumers (see “Industry Vision: Mass Personalization of Consumer Healthcare Engagement” for additional detail on mass personalization). In this example, the HCEH successfully creates a longitudinal view of the patient and presents the history, recommended probing questions and an

analysis of the fit within alternative recommendations the PCP could consider. This allows the PCP to make a recommendation based on a full understanding of the individual they are treating.

## How to Get Started

At this time, there is no vendor offering an HCEH with the capacity to interconnect the vast number of data sources, ecosystem partners, stakeholders, engagement capabilities and whole-person health objectives required within healthcare. Although, many leading CRM vendors share the vision of the HCEH framework and are building out their platform to meet the needs of healthcare.<sup>11,12,13</sup> Through 2023, we anticipate healthcare and life science organizations will continue to integrate best-of-breed software and service providers into the HCEH framework.

The following list adopts the 10-step approach documented within CEH research for healthcare CIOs.<sup>14</sup>

1. *Identify **high value** portions of customer journeys for improvement* — Start by looking at transitions between healthcare ecosystem partners. These are typically the low point of satisfaction for consumers and patients alike.<sup>15</sup>
2. *Translate the improvement opportunities into business and technology imperatives* — What are the key metrics that are improved? Focus on outcomes, cost, quality and experience.<sup>16</sup>
3. *Secure the project owner and budget* — This may require investigation into benefit sharing from the value creation achieved in improving a journey. For example, medication adherence and the use of lower-cost generic drugs are substantially increased if the physician and consumer have access to the consumer's out-of-pocket cost for alternative medications during the development of a treatment plan. The value creation should fund the technology and business improvement.<sup>17</sup>
4. *Discover cross-departmental and cross-ecosystem collaboration opportunities* — May require cross-ecosystem partner ideation and process improvement teams.<sup>18</sup>
5. *Take stock of the "as is" HCEH components* — Health systems have many legacy stand-alone CRM systems that require integration. Identify common APIs and interfaces. Examples of technologies that are commonly used within an HCEH include:
  - Email, web, mobile campaign management<sup>19</sup>
  - Web content management<sup>20</sup>
  - CRM<sup>21</sup>
  - Digital commerce platforms<sup>22</sup>
  - Digital personalization engines<sup>23</sup>
  - Business process management<sup>24</sup>
  - Contact centers<sup>25</sup>

- Voice of the customer solutions<sup>26</sup>
  - Web analytics<sup>27</sup>
  - Customer experience analytics<sup>28</sup>
  - Journey analytics<sup>29</sup>
  - Social media services<sup>30</sup>
  - Customer self-service<sup>31</sup>
  - Chatbots and conversational platforms<sup>32</sup>
6. *Identify technological convergence when selecting technology components* — Use a platform architecture approach. Develop a list of API standards that will be used to share data.<sup>33</sup>
  7. *Develop a “pervasive integration” strategy to support the HCEH* — Formalize API standards into a set of minimum requirements for all subsequent system procurements.<sup>34</sup>
  8. *Establish a two-tiered approach: one for the implementation project and one for the ongoing operations* — The implementation of systems is separate from the creation of CRM processes. Develop a CRM orchestration governing body that can work across the ecosystem to find opportunities for collaboration.<sup>35</sup>
  9. *Plan for the “big change,” and build a culture of fluid change* — Consumer engagement will always be evolving. The transformation process must be built using a combination of big investments complemented with continuous improvement.<sup>36</sup>
  10. *Design the measurement of business impact on productivity and customer experience* — The system must be capable of measuring behavior change, process improvement and improvements within the quadruple aim.<sup>37</sup>

The creation of the HCEH should initially focus on the biggest potential wins from consumer engagement. For some, this will be adding longitudinal engagement to attract and convert consumers into members or patients of an individual company or an ecosystem of business partners. For others, it may be using longitudinal engagement of consumers to enable early risk identification and early intervention that reduce or eliminate the need for a consumer to become a patient of the health system or consumers of an expensive medication or service.

The HCEH should also focus on the long-term objectives of bending the cost curve, increasing the health of the population, increasing the quality of life of the population and improving the experience of consumers with the health system. Regardless of where a health organization is on the path of creating cross-sectional and longitudinal engagement, the HCEH is an architectural framework that can be deployed today and can guide engagement investments henceforth.

## Acronym Key and Glossary Terms

<b>ACD</b>	automatic call distribution
<b>ACO</b>	accountable care organization
<b>CCP</b>	connected care platform
<b>CED</b>	consumer engagement database
<b>CEH</b>	customer engagement hub
<b>CGHD</b>	consumer-generated health data
<b>Consumer</b>	The period of time an individual is consuming health-related goods, services and information
<b>Consumer engagement</b>	Experiences in which individuals have the information, tools and motivation to interact meaningfully and realize value for themselves and those for whom they are caring
<b>CMS</b>	content management system
<b>DQM</b>	data quality manager
<b>DXP</b>	digital experience platform
<b>EHR</b>	electronic health record
<b>EMCI</b>	ecosystem master consumer index
<b>ERP</b>	enterprise resource planning
<b>FFS</b>	fee for service
<b>HCEH</b>	health consumer engagement hub
<b>HCP</b>	healthcare professional
<b>HIE</b>	health information exchange
<b>IAG</b>	Insurance Australia Group
<b>IoT</b>	Internet of Things
<b>IP</b>	intellectual property
<b>IVR</b>	interactive voice response

<b>MDM</b>	master data management
<b>Patient</b>	The period of time an individual is under the care of a healthcare professional
<b>Patient activation</b>	The level a patient is an active participant in achieving their healthcare goals
<b>Patient engagement</b>	This is achieved through patient empowerment and activation
<b>PCP</b>	primary care physician
<b>PHR</b>	personal health record
<b>PRO</b>	patient-reported outcome
<b>SCM</b>	supply chain management
<b>VCA</b>	virtual customer assistant

## Gartner Recommended Reading

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

“Make Your Customer Engagement Hub Real Time With Continuous Intelligence”

“The Future of the Customer Engagement Center”

“Critical Capabilities for the CRM Customer Engagement Center”

“Magic Quadrant for the CRM Customer Engagement Center”

“2019 Strategic Roadmap for CRM Technologies”

“U.S. Healthcare Payer CIOs Must Match Digital Platform Models to Their Local Provider Engagement Strategy”

### Evidence

<sup>1</sup> [“Apple Offers to Share TV Data to Entice Programming Partners,”](#) New York Post.

<sup>2</sup> [“How IAG Uses First-Party Data to Drive Customer Engagement,”](#) CMO.

<sup>3</sup> [“Using Analytics to Improve Customer Engagement,”](#) MIT Sloan Management Review.

<sup>4</sup> [“Keystone Real-Time Stream Processing Platform,”](#) The Netflix Tech Blog.

<sup>5</sup> [“Association of Patient-Reported Care Coordination With Patient Satisfaction,”](#) The Journal of Ambulatory Care Management.

<sup>6</sup> “Incorporating the Chronic Care Model to Improve Activation, Engagement, Satisfaction, and Health Outcomes,” American Academy of Ambulatory Nursing.

<sup>7</sup> “What the Evidence Shows About Patient Activation: Better Health Outcomes and Care Experiences; Fewer Data on Costs,” Health Affairs.

<sup>8</sup> “Citizen Health Care: A Model for Engaging Patients, Families, and Communities as Coproducers of Health,” American Psychological Association.

<sup>9</sup> “Whole Health,” U.S. Department of Veterans Affairs.

<sup>10</sup> “Supporting Patient Behavior Change: Approaches Used by Primary Care Clinicians Whose Patients Have an Increase in Activation Levels,” National Center for Biotechnology Information.

<sup>11</sup> “The Dynamics 365 Healthcare Accelerator,” Microsoft.

<sup>12</sup> “Transform the Way You Acquire, Service, Engage, and Innovate,” Salesforce.

<sup>13</sup> “Outpace the Pace of Change,” Veeva.

<sup>14</sup> “Ten Steps for Planning Your Customer Engagement Hub”

<sup>15</sup> “Healthcare Payer CIOs Must Adopt Digital Business Platforms to Create and Orchestrate Health Value”

<sup>16</sup> “How to Manage a Collaborative Journey Mapping Initiative That Uncovers Customer Experience Opportunities”

<sup>17</sup> “How to Turn Persona-Driven Customer Journey Maps Into an Actionable, Cross-Functional Customer Experience Plan”

<sup>18</sup> “Healthcare Innovation Trends: Managing a Health Ecosystem”

<sup>19</sup> “Critical Capabilities for Multichannel Marketing Hubs”

<sup>20</sup> “Critical Capabilities for Web Content Management”

<sup>21</sup> “Critical Capabilities for the CRM Customer Engagement Center”

<sup>22</sup> “Critical Capabilities for Digital Commerce”

<sup>23</sup> “Use a Personalization Engine to Deliver Consistent Digital Experiences”

<sup>24</sup> “Market Guide for Enterprise Business Process Analysis”

<sup>25</sup> “The Future of the Contact Center”

<sup>26</sup> “How to Successfully Implement a Voice-of-the-Customer Solution for Measuring Customer Experiences”

<sup>27</sup> “How to Evaluate Web Analytics Technology Options for Marketing”

<sup>28</sup> “Hype Cycle for Customer Experience Analytics, 2019”

<sup>29</sup> “Market Guide for Customer Journey Analytics”

<sup>30</sup> “Getting the Most Out of Your Social Media Strategy”

<sup>31</sup> “How to Develop a Winning Customer Self-Service Strategy”

<sup>32</sup> “Architecting and Integrating Chatbots and Conversational Platforms”

<sup>33</sup> “A Guidance Framework for Evaluating API Management Solutions”

<sup>34</sup> “How to Implement a Hybrid Integration Platform to Tackle Pervasive Integration”

<sup>35</sup> “How CIOs Can Build Six Key Competencies to Advance Healthcare Ecosystem Orchestration Ability”

<sup>36</sup> “Healthcare Innovation Trends: Bridging Consumers’ Engagement Gap With Their Health”

<sup>37</sup> “Healthcare Provider CIOs: Measure Digital Progress by Establishing Digital Key Performance Indicators”

#### Note 1 Gartner’s Definition of a 360-Degree Consumer (C360) View

A 360-degree view of consumers is made possible by a consolidated, integrated and exhaustive set of data relevant to a company’s relationship with its customers. That dataset will include relevant information about consumers’ profiles, health history, socioeconomic determinants, behavior, real-world data, preferences, relationships and interactions with other healthcare organizations. Healthcare organizations typically seek to build such a view to improve their level of activation; improve health outcomes; improve a consumer’s CX and their engagement with their health.

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