TELEHEALTH 2018

VENDOR ASSESSMENT AND MARKET OUTLOOK

CR CHILMARK RESEARCH

MARKET SCAN REPORT

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Executive Summary

Interest in telehealth technology is rising among healthcare's key stakeholders – the provider organizations that deliver care, the insurers and employers that pay for care, and the patients that receive care. Most momentum to date has focused on low-acuity direct-to-consumer (DTC) services and high-acuity inpatient services. While these two markets have clear differences in use case, execution, and value proposition, they are similar in one key way: They emphasize single episodes of care and rarely account for what happens to patients when they are not being cared for directly or virtually.

This report examines a third, largely untapped market: telehealth beyond the hospital, when patients are not being cared for directly but are otherwise participating in their care, whether through passive monitoring or active engagement with their care team.

In this report, Chilmark Research identifies the challenges and opportunities associated with engaging with patients between in-person care episodes using various telehealth technologies. We describe the market segments that are best positioned to support telehealth beyond the hospital and forecast the extent to which new or emerging market sub-segments may disrupt incumbents over the next 10 years. We profile leading vendors and assess the maturity of their core functionality. Finally, we offer recommendations for healthcare providers, as well as vendors looking to invest in telehealth to extend care, now and in the future.

MARKET DYNAMIC

The American Telemedicine Association, which now uses the terms telemedicine and telehealth interchangeably, offers the following definition for telehealth:

> **Telehealth** *is the remote delivery of healthcare services and clinical information using telecommunications technology. This includes a wide array of clinical services using internet, wireless, satellite, and telephone media.*

Figure 1: Definition of Telehealth

Further, there are three main types of telehealth services:

> **Asynchronous telehealth** (also known as store-and-forward) transmits data to medical professionals for later use. This type uses data collected from wearable devices, passive sensors, or other peripherals to help inform clinicians' decisions during diagnosis and treatment.

> **Synchronous telehealth** (also known as real-time) enables clinicians and their patients to communicate remotely using desktop or mobile video, kiosk, telephone, or emerging modality such as a chatbot or voice assistant. This type of telehealth most closely resembles an in-person appointment.

> **Remote patient monitoring (RPM) telehealth** tracks patients' data from their home or a third-party care facility. Data can be collected from wearable devices, passive sensors, or other peripherals. Since RPM telehealth typically services high-acuity or chronic patients, data is collected and monitored by medical professionals more frequently than it is for asynchronous telehealth.

Based on our research and discussions with providers and vendors, Chilmark Research takes these accepted definitions of telehealth one step further for reasons described below. We have defined telehealth beyond the hospital as follows:

> **Telehealth beyond the hospital** *is the delivery of services and information outside of an inpatient setting, with the goal of supporting ongoing care in the form of follow-up visits, guided condition or disease management, RPM, or care coordination.*

Figure 2: Definition of Telehealth Beyond the Hospital

Telehealth primarily benefits four key stakeholders: Patients, employers, payers, and providers. Some groups differ in their primary motivation for paying for or using telehealth. Traditionally, providers use telehealth to complement high-acuity care across an enterprise HCO – in the ICU or specialty care such as stroke treatment, cardiology, or radiology. Meanwhile, patients, payers, and employers typically view telehealth as a low-cost and convenient way to receive low-acuity care.

The ecosystem of solutions providing telehealth beyond the hospital is shown in Figure 3.

> > The wedges of the circle represent the sites of care enabled or enhanced by telehealth technology, both traditional (an acute care facility) and emerging (the retail health clinic). The larger the wedge, the more mature the use of telehealth at that site of care.

> > The colors represent the telehealth market segments of the vendors mentioned in this report. Some market segments serve more the one site of care. For each market segment, we indicate which stakeholder(s) typically pays for the telehealth technology with a dollar sign.

> > The smaller circle in the middle represents Digital Therapeutics and the Smart Home, as they are emerging sites of care enabled by technology that serves multiple market segments (all but the Acute Care market).
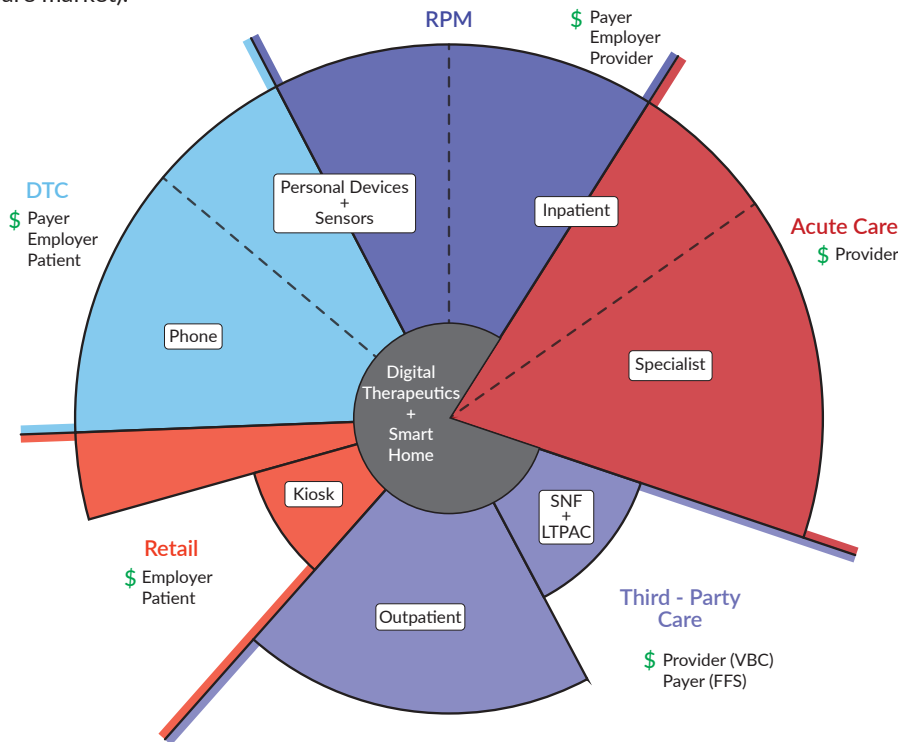

Figure 3: Ecosystem of Telehealth Solutions

Appendix A: Scope and Methodology

To compile this report, Chilmark Research combined extensive primary and secondary research techniques. Primary research was divided into three distinct steps.

First, we solicited targeted vendors for their involvement in the research. We chose to include vendors that met the following criteria:

> A minimum of 3 clients, with at least 2 in the United States.

> A minimum of 25 employees.

> Recognition as a leader in serving its primary market segment.

> Demonstrated movement into a second primary market segment by acquisition and/or additional service offering.

> Published impact on patient outcomes or care costs.

Second, we asked participating vendors to complete a questionnaire whose purpose was to collect qualitative and quantitative information about the company and the markets it serves. Questions included number of employees, primary market, number of healthcare entities currently using its solution, and more in-depth questions regarding solution features and functions.

Third, we conducted briefings with each vendor that we profiled. These in-depth telephone interviews typically lasted 30 to 60 minutes and aimed to clarify responses to the questionnaire and gather additional information. This portion of the research gave us the opportunity to discuss not easily captured by a written questionnaire, including competitive positioning, product roadmap, partnership strategy, and which solution features are most attractive to prospective customers.

Prior to publication, all vendors were given an opportunity to review their profile narratives for fact-checking purposes. Their comments and feedback were considered and, where relevant, incorporated into the final profile narratives.

In compiling this extensive report, Chilmark Research maintained absolute objectivity throughout the entire research process. It is our sincere hope that this report brings greater clarity to this developing market.

Appendix B: Acronyms Used

Term	Definition
ACO	Accountable care organization
AI	Artificial intelligence
AMC	Academic medical center
API	Application programming interface
CCM	Chronic care management
CDA	Clinical document architecture
CDS	Clinical decision support
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic obstructive pulmonary disease
CPT	Current procedural terminology
DME	Durable medical equipment
DTC	Direct to consumer
ED	Emergency department
EHR	Electronic health record
FDA	Food and Drug Administration
FFS	Fee for service
FHIR	Fast Healthcare Interoperability Resources
HCO	Healthcare organization
HL7	Health Level 7
HRA	Health risk assessment
ICU	Intensive care unit
IDN	Integrated delivery network
KPI	Key performance indicator
LOS	Length of stay
LPR	Longitudinal patient record
LTPAC	Long-term post-acute care
ML	Machine learning
PCMH	Patient-centered medical home
PCP	Primary care physician
PGHD	Patient-generated health data
PHM	Population heath management
PRO	Patient reported outcome
RPM	Remote patient monitoring
SDoH	Social determinants of health
SNF	Skilled nursing facility
UX	User experience
VBC	Value-based care

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