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**POV:** WITH CAREKIT, APPLE MOVES  
HEALTH CLOSER TO THE QUANTIFIED SELF

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## EXECUTIVE SUMMARY

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This week, Apple pushed further into the intersection of healthcare and technology with its latest health-related app framework, [CareKit](#). Dubbed by [some](#) as Apple's "most ambitious health product yet," CareKit is a software framework focused on giving users the ability to construct, manage, track and share information about their health. It's an extension of [Apple's ResearchKit](#), the open-source framework announced this time last year to enhance clinical studies.

This POV will look at what Apple CareKit is, what it already offers and what its potential could mean for pharma.

## WHAT DIFFERENTIATES CAREKIT FROM OTHER HEALTH-TRACKING APPS?

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Certainly, individuals, startups and even major pharmaceutical companies have created health-tracking and info-sharing apps in the past. But the time, cost and complexity required to create these tools has often offset the perceived benefits. CareKit removes many of the technical, time and cost barriers that would have previously precluded development of apps containing this level of complexity.

The sheer pervasiveness of Apple devices in the United States alone makes CareKit big health news.

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## CAREKIT MODULES ENABLE RAPID MHEALTH APP DEVELOPMENT

From a development standpoint, CareKit will offer four foundational modules:

- + **Care Card** — This module will assist users in tracking tasks associated with their health, such as medication reminders and exercise regimens. Integration with iPhone and Apple Watch makes automated tracking possible through device sensors. Care Card leverages passive and active data collection to maximize the patient's treatment tracking.
- + **Symptom and Measurement Tracker** — This module will provide a way for users to input symptom data using multiple mediums; direct input, photos, surveys and device sensors are all available. For example, range-of-motion improvements can be tracked post-surgery. The patient can input status updates over time to create a timeline of symptoms and healing progress.
- + **Insight Dashboard** — This module will allow users to map treatment progress and efficacy against Care Card action items, giving the user insight into how their health plan is performing.
- + **Connect** — The information-sharing module will allow users to share data and communicate easily with family, care teams and healthcare professionals (HCPs) about their health state and progress.

CareKit's level of integration and interactivity will provide a tremendous boost to the development of apps that would benefit from these functions.



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## CAREKIT APPLICATION EXAMPLES

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A few of the known planned implementations of CareKit [include](#):

- + Helping people who take antidepressants know if their medication is working and helping doctors deliver more informed care (in collaboration with Iodine's "Start")
- + Improved health guidance and connectivity (in collaboration with Texas Medical Center)
- + Healthy pregnancy tracking (in collaboration with Glow, Inc.'s "Glow Nurture")
- + Diabetes management (in collaboration with One Drop)
- + Chronic care management via home health monitoring (in collaboration with Beth Israel Deaconess Medical Center)

In addition to these apps already in the works, Intouch Solutions sees a wide variety of potential apps using CareKit, such as:

- + Migraine monitoring — The ability to monitor for the physiological conditions (e.g., irritability, muscle stiffness, fatigue, depression, etc.) that tend to precede the onset of a migraine in order to help patients make appropriate preparations
- + Clinical trial apps — The ability to reduce the time to market and cost for these apps that tend to have a limited use
- + Virtual rehab apps — The ability to monitor various health indicators (i.e., passive and active data collection) and send information to a care team for remote analysis and mitigation

## A NOTE ON HEALTH DATA SECURITY

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It's important to note the potential privacy implications of CareKit. As we know from [recent events](#) in the news, Apple products have some of the most sophisticated encryption in the tech world. However, CareKit stores a patient's information on the device (at least until the point that the data is transferred to the patient's physician, caregiver, etc.), so data security with CareKit is paramount. [Wired](#) has called CareKit "the best argument yet for strong encryption." It's important to embark upon any mobile application endeavor with eyes wide open with respect to security and privacy concerns.

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## IMPLICATIONS FOR PHARMA

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So what does CareKit mean to the pharmaceutical industry? In short, it simplifies the creation of mHealth apps and beyond-the-pill opportunities and further expands the concept of the “quantified self” into the healthcare sphere. At the same time, CareKit enables a broader set of developers to create mHealth apps and has the potential to drive rapid and widespread health app development. In fact, in some ways, CareKit enables new competition for pharmaceutical companies.

In addition to CareKit and ResearchKit, in 2014, Apple introduced [HealthKit](#), a cloud-based framework built into iOS 8 that connects apps, wearables and healthcare services by allowing them to share data with one another. If you’re seeing a pattern of Apple getting deeper involved in health app development, you’re not alone. Is Apple the new big pharma? We were asking this very question last summer [on our blog](#).

Mobile apps, and certainly the recent explosion in truly connected wearables, have changed the ways in which healthcare and pharma companies can enhance programs to support improved outcomes. CareKit further enables and increases the speed to market of these initiatives.

CareKit is slated for release in April 2016 as an open-source development resource. To see how Intouch can assist you in an Apple CareKit implementation or for more information, please reach out to your Intouch representative.

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