**PHILIPS**

**Health**Suite

digital platform

**Chipmunk Health case study**

# Redefining
# **Preventative Care**

With an innovative approach
to patient engagement

Managing secure data collection and storage in
the cloud powered by Philips HealthSuite digital
platform and Amazon Web Services (AWS).

**Chipmunk Health is an independent telehealth service
provider offering a reliable and affordable home health
management solution, with a secure link to attending
healthcare providers. The company, with offices in the
Netherlands and Canada, combines modern technology
with personal involvement to seamlessly collect and
manage patient vitals for actionable insights.**

For patients required to monitor their vitals at home,
compliance is typically inconsistent and transfer of data
often unreliable. For physicians, management of such data is
cumbersome and clinical applicability difficult to determine.
Chipmunk Health promises to remove that variability by
providing technology to improve collection and storage of
data and tools to analyze that data for relevant patterns.

Chipmunk's intent is to collect enough data to create digital
models of patients and identify adverse medical events that
warrant physician intervention, before they happen. To be
successful in this venture, Chipmunk must collect months
of daily readings across a broad range of patients, with
assurance the data collected is true. They must develop and
apply algorithms to recognize patterns and more importantly,
anomalies. In this fashion, physicians will only be contacted
when a patient's readings deviate from a defined norm to
suggest an impending adverse event.

The Philips HealthSuite digital platform (HSDP) offers a
comprehensive cloud infrastructure to help Chipmunk
accomplish their goal. HSDP lifts the burden of maintaining
an extensive hardware/software data center from Chipmunk
and allows them to bring their innovative telehealth solution
to the market faster.

## Enjoying the benefits of a connected health ecosystem

Through a subscription-based service, Chipmunk Health provides home-based patients with a hardware package (free of charge) including all the peripherals necessary for their specific situation (i.e. Bluetooth enabled blood pressure monitor, weight scale, activity tracker) and a gateway for data transmission. Data is collected wirelessly from each device, with no patient data entry required, then routed directly to the cloud. Data is stored and managed in the cloud, then filtered to give meaning to the combined data streams. Chipmunk controls the entire data chain from patient to doctor, notifying doctors only when deemed necessary. Two years of study show patient compliance at more than 95%.

**How does HSDP help?**
Philips is able to support Chipmunk in two key areas – safe, scalable data storage and device connectivity to the cloud.

**Flexible storage options**
HSDP provides a range of storage services to match data types and the requirements of unique applications – acquiring, storing and archiving data in different types of cloud-hosted repositories. A fluidity of scale is achieved where the customer pays only for what they use. HSDP conducts external audits and penetration testing, and offers privacy, security and regulatory controls, to assure operational security.
· Offers 'on demand' scalability via 'pay for what you need' server structure
· Meets or exceeds global regulatory compliance standards
· Reduces risk of financial loss due to privacy/security breaches

**Connected care enabled**
HSDP's smart connectivity and device management services moves patient and device data into the cloud in an easy-to-achieve, scalable and secure manner. HSDP safely integrates data from a diverse set of third party systems and IoT devices with an understanding of each unique protocol. There is no need for patient involvement other than compliance – data is moved immediately upon device activation.
· Improves compliance and data integrity
· Increases access to care and improves patient satisfaction
· Reduces data acquisition costs

**Moving toward predictive modelling**
Chipmunk ultimately wants to analyze the data collected to develop algorithms which can predict a prospective adverse event and proactively inform the physician. Philips has the capabilities to assist with an adaptive intelligence (AI) workbench environment and set of tools to support proprietary algorithm development.

HSDP also has the ability to integrate with other data sources such as EMR, RIS, CVIS, etc., then to put that data into data stores that are conducive to inclusion in algorithm and predictive model development.
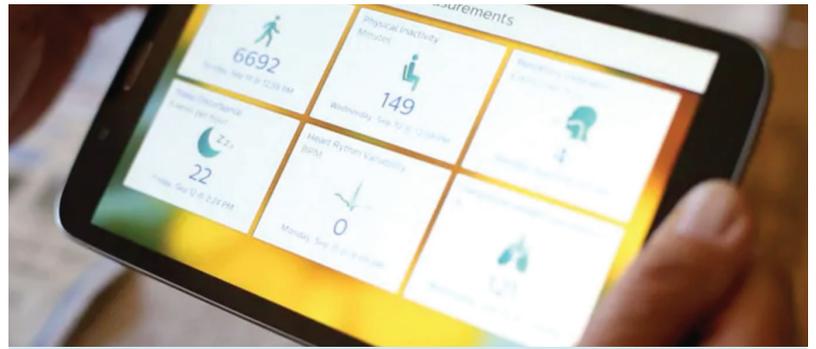
## Challenge

Chipmunk Health sought to have patient medical data collected easily and reliably at home and stored for predictive model analysis, leading to physician engagement only in instances requiring immediate support. However, data management, infrastructure demands, and adherence to diverse privacy and security regulations were significant hurdles.

## Solution

Chipmunk chose Philips HealthSuite digital platform to provide them with the ability to connect medical devices and move multiple datasets through a local gateway to the cloud for storage and analysis. HSDP offers virtually unlimited, scalable server space and broad security services for expected global expansion.

## Results

· Rapid development of a full-service telehealth model, ready for deployment
· Initiation of home-based intervention program for stroke survivors
· Establishment of Chipmunk Clinic telehealth center

**"**
Forward-thinking, creative, but never out-of-touch with reality, Philips perfectly understood what we wanted. Powered by HSDP, we now operate a unique telehealth platform that can deliver what patients and doctors really need, which is not just more numbers and statistics, but useful data-driven and evidence-based services that provide valuable insights to healthcare providers while improving the lives of patients."

www.philips.com

**PHILIPS**