FROST & SULLIVAN

Healthcare Market Updates

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Wearables

Wearables pioneer Jawbone is back with a new mission: Warning you about health problems you didn't know you had – September 26, 2018 (1/2)

Applicable Product Categories: Wearable

Technologies	Wearable (Device + app)	**Therapeutic Areas**	Lifestyle and chronic diseases management
Applications	Remote Patient Monitoring; Quantified-Self	**Geographic Focus**	Global
Segment Focus	Clinical Grade	**Topics (News type)**	Business Model Innovation; Competitive Intelligence
Companies	Jawbone	**Others**	NA

ANALYST TAKE:

- **Synopsis:** The San Francisco-based company, which produced Bluetooth earpieces and speakers, announced in July, that it was liquidating its assets. But now, with new investors and a fraction of its original staff (about 110 compared to 600 at its former peak), Jawbone has morphed into Jawbone Health, a medical subscription service that aims to help users catch health problems early. As per the company announcement, the company will offer a wearable device to paying subscribers, but the Jawbone Health platform will be device and sensor agnostic.
- **Industry Need:** With increasing prevalence of lifestyle driven chronic health conditions, there is no denial that wearable technologies will continue to play a critical role to promote self-health/quantified health concepts much needed for preventive care practices. However, for healthcare wearables - strong customer demands and surging sales are one side of the story; the other side of the narrative captures the tale of a highly volatile marketplace where due to intense competition, there is a revolving door of company entries and exits. In fact, based on Frost & Sullivan estimates, for every 100 wearable technologies, less than 5% make it through that door. This mandates wearables OEMs to go beyond the device mind-set and reposition their value proposition as actionable health insight providers to monetize the future health data economy.

Wearables pioneer Jawbone is back with a new mission: Warning you about health problems you didn't know you had – September 26, 2018 (2/2)

- **Value Proposition:** The newly formed Jawbone Health will offer a subscription system to help users monitor their health and catch problems early. Although it will offer a wearable device free to paying subscribers, the new company will be "device and sensor agnostic," partnering with other "clinical-grade" device makers and able to accept data from hardware like the iPhone and the Apple Watch, as per CEO Hosain Rahman.
- Unlike the purely automated Smart Coach software that Jawbone's earlier Up wristbands offered, Jawbone Health will work with a Salesforce product called Health Cloud to protect users' data and securely share it with human doctors.

- Frost & Sullivan views this as a rational move from Jawbone to revive its value proposition beyond the device play and monetize the personalized data economy leveraging its existing expertise around health wearables ecosystem. However, Frost & Sullivan also believes the wearable data aggregation platform space is already dominated by leading platform vendors such as Validic and Evidation Health, and Device OEMs such as Apple (CareKit / ResearchKit) and Fitbit which also provides such platform services. Given the limited details on the key technologies and health conditions/ vitals that Jawbone Health platform would initially focus it is difficult to comment on its future potential.

- **Target End-User:** Healthcare Consumers, Health systems, and Clinical trials

WEBLINK: https://bit.ly/2Pa7gYG

Performance Lab Technologies, Vivametrica team up for life insurance platform – October 01, 2018 (1/2)

Applicable Product Categories: Wearable

Technologies	Wearable (Platform)+ AI Machine Learning	**Therapeutic Areas**	Lifestyle and chronic diseases management
Applications	Remote Patient Monitoring; Quantified Health	**Geographic Focus**	Global
Segment Focus	Clinical/Consumer Grade	**Topics (News type)**	Business Model Innovation
Companies	Performance Lab Technologies; Vivametrica	**Others**	NA

ANALYST TAKE:

- **Synopsis:** Kiwi company Performance Lab Technologies, which specializes in behavior-changing technology, is joining forces with Vivametrica, an activity-based health scoring and insurance underwriting company, to create a new platform called EngageRate. The new platform will let life insurance companies' members track their activity and give feedback, as well as collect users' data for payers.

- **Industry Need:** As the healthcare industry is undergoing a rapid phase of digital transformation, the health insurance industry is equally constrained to shift from traditional generic insurance to data driven personalized health policies suited to the need of individual members. Given the increasing burden of chronic health conditions, today the healthcare industry demands consumer-centric insurance programs that incentivize individual for adhering to healthy habits/lifestyle. To ensure future growth globally a number of insurance companies are already providing data and digital-driven healthcare services to their policyholders to personalize experience and reduce the cost from potential claims.

Performance Lab Technologies, Vivametrica team up for life insurance platform – October 01, 2018 (2/2)

- **Value Proposition:** Today wearable and mHealth driven activity data has become increasingly valuable to both insurers and consumers. This endeavor between Performance Lab Technologies and Vivametrica to provide EngageRate platform is aimed at engaging life insurance policy holders with their health by offering personalized artificial intelligence coaching and activity tracking. It also helps insurance companies track and validate their underwriting services.
- **How it will work?** Vivametrica uses activity data to more efficiently underwrite for various insurance programs. When a policy holder downloads the platform they are able to track their activity and get personalized coaching tips from an AI avatar. The EngageRate platform is a wearable device and smartphone app agnostic such as Apple Watch, Fitbit, Garmin, etc.
- The company is also developing a user experience page for the policy holders of the insurance company. Policy holders of these insurance companies will be given an app for counting their steps and telling them how many minutes they are active. It will also create a personalized plan for them by taking them through a certain set of questions such as, 'What are your goals?'
- The system can be used with life, disability or healthcare insurance. But for the time being the company is focusing its attention on partnering with life insurers.

- Given growing interest of life / health insurance companies to integrate wearable and activity trackers into their next-gen policies, Frost & Sullivan views the EngageRate platform as a timely solution to meet payers needs. Additionally, Frost & Sullivan believes the EngageRate platform being device or application agnostic provides a compelling partnership opportunity for wearables OEMs.
- As per the comapany's CEO (Mark Agnew), they have been able to demonstrate that activity data is 20% more accurate than traditional underwriting at predicting someone's longevity and mortality.

- **Target End-User:** Insurance Companies, Wearable OEMS

WEBLINK: https://bit.ly/2OwKqxk

Mobile Phones/ mHealth

mHealth Provider Uses Apple Health Records to Support House Calls – October 1, 2018 (1/2)

Applicable Product Categories: Mobile Phones

Technologies	mHealth App; Digital Physician Scheduling	**Therapeutic Areas**	All
Applications	Integration of Apple EHR platform with Heal's physician house call app	**Geographic Focus**	US
Segment Focus	Clinical Grade	**Topics (News type)**	Care Delivery Innovation, Competitive Intelligence
Companies	Heal; Apple	**Others**	NA

ANALYST TAKE:

Synopsis: Heal, a company that offers app driven physician house calls, and digital scheduling and processing platform, announced support for Apple's EHR platform through which consenting patients using an iPhone can share their records from Apple Health Record-compatible hospitals with the doctor conducting the house call.

Industry Need:

- Apple Health Records could impact millions of patients through better access and secure sharing to their health data with physicians, and enhanced engagement with their health systems, ultimately driving better health outcomes.
- Additionally, Apple's extended partnership with 39 health systems (and counting) as well as top EMR vendors in the US — Cerner, Epic and athenahealth — offers a good starting point to further scale its offerings as well as enhance capabilities in terms of ability to upload the health data back to the EMR and support of a more detailed data as opposed to the C-CDA data elements handled today by the Apple Health Records.

mHealth Provider Uses Apple Health Records to Support House Calls – October 1, 2018 (2/2)

Value Proposition:

- Patients booking physician house call appointments through the Heal app may now choose to automatically and securely share their personal health record with the physician, thereby helping better informed care decisions. The functionality will, however, be limited only to patients who have had prior treatments in Apple Health Record compatible hospitals, which consist of around 5% of hospitals currently in the US.
- Once the patient consents to share their medical data after booking the appointment, the relevant medical data of the patient will be available on the iPad app interface of the Heal doctor. It is important to note that the data is not stored on the doctor's iPad, but on Heal's HIPAA compliant servers.
- Frost & Sullivan believes the partnership between Heal and Apple is among the first real world use cases of the immense potential of Apple Health Records in driving the quality and access to care at lower costs and enhanced speed. The functionality further addresses the critical component of proper coordination between outpatient, inpatient and home care driven by easy and safe access to patient's health data thereby augmenting care decisions. That being said, the immediate challenge for Apple will be to further scale its offering to the remaining health systems as well as enhance partnerships with other EMR vendors such as Allscripts, Meditech, CPSI, etc. to enable a truly valuable service devoid of challenges of data interoperability, integration and access.
- **Target End-User:** Hospitals; Primary Care Centers; GP Clinics; Patients

WEBLINK: https://bit.ly/2QiWXS7

Medical documentation AI system Sopris Health raises $3.4M — October 2, 2018 (1/2)

Applicable Product Categories: Mobile Phones

Technologies	mHealth app; AI based speech recognition	**Therapeutic Areas**	All
Applications	AI based voice recognition mHealth tool to enable medical documentation	**Geographic Focus**	US
Segment Focus	Clinical Grade	**Topics (News type)**	Care Delivery Innovation
Companies	Sopris Health	**Others**	NA

ANALYST TAKE:

Synopsis: Sopris Health, the provider of clinical operations platform, received $3.4 million in financing for AI based medical scribe app which helps clinicians automatically capture key medical information during patient visits and create industry standard subjective, objective, assessment, and plan (SOAP) notes for the physician to review.

Industry Need:

- As per a 2016 report in the “Annals of Internal Medicine”, physicians in the US spend 50% of their time in administrative work such as clinical documentation and dictation as opposed to only 27% of their time on seeing patients.
- University of California's Riverside School of Medicine had recently concluded that EHR documentation is among the biggest contributors of physician burnout.

Medical documentation AI system Sopris Health raises $3.4M — October 2, 2018 (2/2)

Value Proposition:

- The Sopris system, unveiled in May 2018, includes a smartphone platform and smart watch app which also works as an AI medical scribe app. When prompted, the system captures the physician's conversation with patients and automatically generates structured SOAP notes for the physician to review.
- The time saved on the clinical documentation could be used by the clinician in more productive patient facing work, thereby enhancing overall healthcare system efficiencies.
- The company has partnered with health systems such as Athenahealth to help streamline their clinical documentation processes with its iOS-based app.
- Frost & Sullivan analysis finds that due to increasing shortage of physicians and their resultant burnout, a number of AI enabled voice recognition engines and doctor assistants have been developed by startups such as Notable, Robin Healthcare and Suki, which streamline the documentation of clinician-patient interaction thereby reducing administrative workloads and diminish physician burnout. However, their large scale adoption still remains a distant dream due to challenges related to privacy, lack of clinician buy-in and limited real world use cases for true mainstream adoption.

- **Target End-User:** Hospitals; Outpatient clinics; GP Clinics

WEBLINK: https://bit.ly/2OydG6N

Smart Home Devices & Appliances

Forget 'smart homes,' the new goal is 'autonomous buildings' – September 27, 2018

Applicable Product Categories: Smart Home Appliances

Technologies	IoT, Sensors, Appliances	**Therapeutic Areas**	NA
Applications	Smart Platforms	**Geographic Focus**	US
Segment Focus	Consumer Grade	**Topics (News type)**	Technology Innovation
Companies	Igor	**Others**	-

ANALYST TAKE:

- **Synopsis:** Power-over-Ethernet vendor Igor has launched the Nexos smart building platform.

- The Nexos platform concept takes Frost's vision for a true smart home (or rather an intelligent home, one that learns from and adapts over time to the residents' preferences) and applies it to the entire building. The platform currently serves the needs of lighting, HVAC, communications and security. As the Founder of Igor correctly points out, "The road to autonomy is a step-by-step journey", and "autonomy is achieved one very focused area at time", and therefore we are at the very early stages of "developing the autonomous building". The same rationale of thinking is equally true for smart homes. However, so far the focus has been less on developing healthcare focused applications, but more on consumer centric areas of energy, entertainment and security.

WEBLINK: https://bit.ly/2xJsTbt

Amazon and Google see something they like in this health care startup – September 28, 2018

Applicable Product Categories: Smart Home Virtual Assistants / Bixby

Technologies	IoT, Sensors, Appliances	**Therapeutic Areas**	NA
Applications	AI, Virtual Assistants	**Geographic Focus**	US
Segment Focus	Consumer Grade	**Topics (News type)**	Technology Innovation, Competitive Intelligence
Companies	Aiva, Amazon, Google	**Others**	-

ANALYST TAKE:

- **Synopsis:** Aiva, a healthcare startup focused on voice applications, received funding from both, Google and Amazon in the same week.
- Aiva provides patients and seniors with smart speakers, including Amazon Echo and Google Home, to stay in touch with their care providers. It is currently piloting its tech at Cedars-Sinai Medical Center in Los Angeles.
- While Aiva is being used in the hospital setting currently, Frost envisions these applications to be used for home use as well – even for chronic disease patient education and management, for example. The simplicity and convenience of a voice interface makes it so appealing (but would require touch interfaces too, in some cases), and therefore interesting enough for the two rivals to invest in the same startup at the same time. This will be an interesting development to watch, since the funding from the two tech rivals is aimed at building a better ecosystem of voice applications than the other.

WEBLINK: https://cnet.co/2pAqXxt

Stroke Patients Will Help “Smart” Appliances – September 29, 2018

Applicable Product Categories: Smart Home Appliances

Technologies	IoT, Sensors, Appliances	**Therapeutic Areas**	Stroke
Applications	AI	**Geographic Focus**	UK / EU
Segment Focus	Consumer Grade	**Topics (News type)**	Technology Innovation
Companies	University of Birmingham	**Others**	-

ANALYST TAKE:

- **Synopsis:** Sensor based technologies can help stroke patients to perform everyday skills without missing ‘logical steps’ – a “common consequence of a stroke – a violation of the logical order, mixing stages when performing a particular task.”

- Having fed the correct sequence to a computer, any mistakes or missed steps are displayed as reminders to the patient on a display. For example, “a person wants to make tea but forgets to pour boiling water into a Cup and puts the teabag in the sugar bowl. He simply forgets about the existence of the Cup.” Reminders can be fed to the

- Frost believes that enabling this technology is complicated with microstages of actions requiring programming to provide the correct logical order. With ongoing developments in robotics and artificial intelligence, this process may be automated in the future, and maybe then serving smaller / niche populations of stroke or dementia with such technology might be easier and feasible. Smart home sensors can also support such solutions.

WEBLINK: https://bit.ly/2y3g9g2

Google Home Hub: Everything we know about Google's new Smart Display so far – October 1, 2018

Applicable Product Categories: Smart Home Appliances, Bixby

Technologies	IoT, Sensors, Appliances	**Therapeutic Areas**	NA
Applications	AI, Voice virtual assistants	**Geographic Focus**	US
Segment Focus	Consumer Grade	**Topics (News type)**	Competitive Inelligence
Companies	Google	**Others**	-

ANALYST TAKE:

- **Synopsis:** Google is expected to launch the Home Hub at this year's Made by Google event next week.

- Beyond voice, a touch screen interface is also necessary for specific uses – right from interactivity when kids are asleep in the same room (hence voice cannot be used), to use by the deaf and/or mute, and also for those who might face language, or accent challenges. Frost believes this is a winning combination, from a choice of interface perspective, but pricing the product right for the correct value proposition is crucial. Besides, using the same functionalities (if enabled) on the smart phone would be more convenient, to allow users to control smart homes even remotely – not just from inside the home, and without having to carry one additional device.

WEBLINK: https://bit.ly/2y3g9g2