



Healthcare Market Updates



Symbol	Change
TMX	+0.15
CHK	+2.35
AAPL	+0.14
PRTG	-0.14
AMZN	-0.73
TSLA	+1.08
AVGO	-0.87
SIRI	-0.65

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Wearables

Apple rumored to add sleep tracking capabilities on Apple Watch by 2020 – February 27, 2019

Applicable Product Categories: Wearables

 Technologies	Wearable (Device + App)	 Therapeutic Areas	Sleep Health
 Applications	Remote Patient Monitoring	 Geographic Focus	Global
 Segment Focus	Clinical/ Consumer Grade	 Topics (News type)	Competitive Intelligence
 Companies	Apple	 Others	NA

ANALYST TAKE:

Synopsis: As per a Bloomberg report, Apple is testing sleep tracking functionality for the Apple Watch and, if all goes well, intends to add it to the wearable by 2020.

Industry Need: Inadequate sleep often triggers serious chronic conditions such as high blood pressure, stroke, diabetes, and depression. Based on industry estimates, Globally, in 100 million people with obstructive sleep apnea (OSA), about 80% go undiagnosed. Untreated sleep apnea in middle-aged adults may cost \$3.4 billion a year in extra medical cost for the United States.

Value Proposition: One existing technical gap in the Apple Watch's ability to track sleep has been its limited battery life. Competitor products like the Fitbit Versa have the ability to last days or weeks before needing to charge, in comparison to Apple's promise of one day of full use.

Despite the speculative nature of this news, Frost and Sullivan anticipate sleep to be the next target healthcare foray for Apple both from competition and future scalability for Apple's otherwise comprehensive wellness monitoring. From a sensor hardware standpoint, nothing is holding Apple back. In fact, through the use of third-party apps the Apple Watch has been able to not only track sleep but even detect sleep apnea. Moving forward it will be interesting to see how Apple may culminate the sleep value proposition into its overall growing healthcare product and data service ecosystem.

Ocutrx Vision Technologies Unveils Groundbreaking Oculenz AR Cellular with Eye-Tracking Glasses Design – February 26, 2019 (1/2)

Applicable Product Categories:

Wearables

 Technologies	Wearable (AR glasses + App)	 Therapeutic Areas	Macular Degeneration (AMD)
 Applications	Vision Augmentation, Aged Care	 Geographic Focus	US/ Global
 Segment Focus	Clinical/ Consumer Grade	 Topics (News type)	Product Innovation/ Competitive Intelligence
 Companies	Ocutrx Vision Technologies, LLC and Karten Design	 Others	Microsoft HoloLens

ANALYST TAKE:

Synopsis: Ocutrx Vision Technologies, LLC, a California-based manufacturer of augmented reality (AR) glasses, announced the Oculenz AR Wear glasses. The new aesthetic was co-developed by the product design team at Karten Design and is being unveiled at Mobile World Congress in Barcelona.

Industry Need: As per the US CDC, age-related Macular Degeneration (AMD) is the leading cause of severe vision loss in adults over age 50. It causes damage to the macula, a small spot near the center of the retina and the part of the eye needed for sharp, central vision, which lets human eyes to see objects that are straight ahead. Most people with macular degeneration have the dry form, for which there is no known treatment. The less common wet form may respond to laser procedures and medication injections, if diagnosed and treated early. Additionally, based on research, it seems there is good correlation between AMD and some lifestyle choices, such as smoking.

Ocutrx Vision Technologies Unveils Groundbreaking Oculenz AR Cellular with Eye-Tracking Glasses Design – February 26, 2019 (2/2)

Value Proposition:

- In collaboration with Karten Design, Ocutrx Vision Technologies, LLC, has redesigned and launching a cutting-edge Oculenz AR glasses that are touted to more seamless and more lightweight (200 grams/.44 pounds) than the HoloLens 2 (566 grams/1.25 pounds). The Oculenz AR glasses comes with floating lenses which provide a bright, unobstructed field of view complimenting the uniquely wide micro-display projection capacities—ideal for demanding medical applications, industrial environments and consumer use.
- As per the company, Ocutrx is the first heads-up AR company to fully integrate eye-tracking and cellular connectivity into its headset design. The Oculenz AR Wear features eye-tracking cameras and IR illumination mounted in a streamlined nose bridge is expected to provide clear line-of-sight to the eye without obstructing the user’s field of view. This centralized component design makes the Oculenz easily adapted to different augmented reality applications.
- “We are pleased to work with Karten Design on the all-new Oculenz AR glasses with on-board eye-tracking. This new cellular-connected AR Wear design isn’t just a step forward for Ocutrx, but rather for the entire AR Wear industry,” says Michael H. Freeman, CEO/CTO at Ocutrx. “For example, a surgeon in the operating room will now benefit from the feather light weight and redesigned head strap that provides comfort for extended periods of use and keeps the headset secure as the physician leans forward during surgery for 3D visualization. Additionally, the intuitive flip up display provides protection for industrial wear applications during non-use.”
- On the commercial front, the company aim to first market is for patients with macular degeneration and other low vision conditions.
- Frost & Sullivan view Oculenz AR glasses a timely and user-friendly product with particular value for patients living with age-related macular degeneration (AMD). Its seamless and user-friendly design can helps to relieve the stigma common with worn medical products and a tinted upper lens helps to visually obscure the SLAM sensors and 4K cameras embedded in the glasses.
- Furthermore, with cellular and WiFi connectivity coupled with the easy-to-wear design, Frost & Sullivan anticipate product such as Oculenz AR glasses hold the possible potential to become the “smart-phone” of the future.
- **Target End-User:** Hospitals; Aged Care; Surgeons

WEBLINK: <https://bit.ly/2GRrjdK>

Fitabase inks integration deal to make Dexcom data available to researchers – February 27, 2019 (1/2)

Applicable Product Categories:

Wearables

 Technologies	Wearable (Device + Platform)	 Therapeutic Areas	Diabetes Care (CGM)
 Applications	Remote Patient Monitoring	 Geographic Focus	Global
 Segment Focus	Clinical Grade	 Topics (News type)	Product Innovation/ Strategic Collaboration
 Companies	Fitabase and Dexcom	 Others	NA

ANALYST TAKE:

Synopsis: Fitabase inks integration deal to make Dexcom data available to researchers. Dexcom is the third company to partner with the wearable-based research company, after Fitbit and Garmin.

Industry Need: Diabetes is predicted to become the seventh leading cause of death in the world by 2030. Industry estimates suggest, about 371 million people have diabetes globally, about 50% undiagnosed. Wearable-enabled CGM and combination with insulin-delivery devices can aid 72 million obese people in mitigating Type 2 diabetes risk. In 9 of 10 cases Type 2 diabetes is avoidable with intense blood glucose monitoring which make application of wearable a timely solution.

Fitabase inks integration deal to make Dexcom data available to researchers — February 27, 2019 (2/2)

Value Proposition:

- San Diego, California-based startup Fitabase, which allows researchers to manage and link data from connected consumer devices, has now branched out into glucose monitoring data through a deal with Dexcom as it looks advance its efforts to support precision medicine.
- The ability to capture glucose values, as well as calibrations, syncs, and alerts, from Dexcom CGMs will allow researchers to study the interplay between blood glucose and the activity, heart rate, and sleep — the metrics Fitbit and Garmin devices currently track.
- As per Fitabase CEO, Aaron Coleman, “This partnership with Dexcom opens the door to a very new and exciting area of research. With the integration of high-resolution continuous glucose data into the Fitabase platform, researchers have a powerful new dataset to combine with our existing data tools around activity, sleep and heart rate.”
- As per Annika Jimenez, Senior Vice President of Data at Dexcom, “Integration of Dexcom CGM devices into one of the leading connected device data management and research platforms will further extend the reach and benefits of our technology, while highlighting Dexcom’s ecosystem-enhanced approach to innovation in diabetes.”
- Frost & Sullivan view this as the continuous commitment from Dexcom to bring in best-of-breed third party solution to further enhance its diabetes management offerings. This deal also vouch for the Fitabase platform proven potential to provide clinically meaningful health insights with a wide range of clinical/consumer wearable devices. This integration is expected to be particularly useful to researchers looking at how behavioral recommendations in areas like physical activity and sleep can affect glucose levels to create more tailored care plans for diabetic patients.
- **Target End-User:** Clinical Trials and Academic Research, Diabetes Care Units

WEBLINK: <https://bit.ly/2GRrjdK>



Mobile Phones/ mHealth

Dexcom G6 users can ask Siri to read their glucose level – February 28, 2019 (1/2)

Applicable Product Categories:

Mobile Phones

 Technologies	AI, Chatbots, mHealth App	 Therapeutic Areas	Diabetes
 Applications	AI based chatbots	 Geographic Focus	Global
 Segment Focus	Clinical Grade	 Topics (News type)	Care Delivery Innovation
 Companies	Dexcom, Apple, Google	 Others	-

ANALYST TAKE:

Synopsis: Dexcom announced a number of added features for its CGM solutions to enhance patient ease of use and comfort. They include an integration with Google Fit, a feature that lets users share their readings with 10 people and a technical inquiries feature.

Industry Need:

- Management of diabetes as a healthcare condition is complicated, requiring patients to change their lifestyle, food habits as well as regular health monitoring patterns to manage glucose levels.
- Amidst such complicated lifestyle choices, companies have been vying to make the patient's life easier with a host of features, leveraging the recent uptick in digital health tools and initiatives, which ultimately add to the patient's comfort levels and helps them better manage their conditions.

Dexcom G6 users can ask Siri to read their glucose level – February 28, 2019 (2/2)

Value Proposition:

- As per the announcement, Dexcom's companion app, will include a slew of new features for the Dexcom G6 continuous glucose monitoring system, including the ability for Siri to read a user's glucose level out loud and display graphs directly on the lock screen.
- The new additions to the app will include a number of integrations with big names in tech, including one with Google Fit to display Dexcom CGM data on a three-hour delay. Users will also have the option to add a icon to check their glucose level when customizing the face of their Apple Watch Series 4.
- The update includes a feature that lets user share their glucose reading with 10 people, another that gives a 24-hour reminder before it is time to replace a sensor, and a way to submit technical inquiries through a browser launched through the app.
- Frost & Sullivan research has indicated that diabetes, followed by cardiovascular, is the top chronic disease area witnessing high focus by medtech as well as non-medtech companies to adopt data platforms to augment their management, through digitization and data analytics support . Management of diabetes requires not just blood glucose data, but meals, medications, physical activity, and moods need to be integrated to provide a true holistic picture of the patient. Amidst such high requirements, patient centric, personalized tracking of known biomarkers, non-invasively and continuously, driven by technology tools such as AI, data analytics, voice based chatbots and algorithm based insights has a huge market potential.
- **Target End-User:** Hospitals; Primary Care Centers; Clinical care nurses, physicians

WEBLINK: <https://bit.ly/2GRrjdK>

CardioComm gets FDA nod for smartphone app, new ECG device – February 28, 2019

Applicable Product Categories:

Mobile Phones

 Technologies	mHealth App;	 Therapeutic Areas	Cardiovascular
 Applications	ECG monitoring	 Geographic Focus	Global
 Segment Focus	Clinical Grade	 Topics (News type)	New Approval
 Companies	CardioComm	 Others	-

ANALYST TAKE:

- **Synopsis:** CardioComm, a longtime player in the handheld personal ECG space, announced a 510 (k) clearance for its GEMS Mobile smartphone app which makes data available on consumers' smartphones on both iOS and Android devices. The company also received clearance for a new ECG device called HeartCheck CardiBeat. Notably, these are over the counter clearances, allowing the app and device to be sold directly to consumers.
- The app was announced to be capable of integrating not only with CardioComm devices, but with ECG devices from other manufacturers as well. In addition to Bluetooth connectivity, CardiBeat differs from previous CardioComm devices in that it can be used in two different ways — to record medical grade ECG readings by holding the device in both hands or by holding the device in the right hand and against the left side of the chest; and for diagnosing arrhythmias such as atrial fibrillation and atrial flutter.
- Frost & Sullivan believes that moving into smartphone connectivity is a timely strategic play by a legacy player like CardioComm, as with increasing consumer awareness of the handheld ECG space, consumers, often turned off by Apple's price point or lack of real-time telemetry, may be looking to legacy players like CardioComm and AliveCor.

WEBLINK: <https://bit.ly/2Nz8Hzl>



Smart Home Devices & Appliances

ALONE charity launches smart home tech for older people in Galway

February 26, 2019

Applicable Product Categories:

Smart Home Devices

 Technologies	IoT	 Therapeutic Areas	Elderly Care
 Applications	Aging-in-Place	 Geographic Focus	UK
 Segment Focus	Consumer Grade	 Topics (News type)	Care Delivery Innovation
 Companies	ALONE Charity	 Others	-

ANALYST TAKE:

- “The goal is to install this tech in 60 homes in Galway, Mayo, and Roscommon to keep older people connected to services that will help them monitor their health, and feel secure.” “The BConnect programme’s smart home tech includes a personal alarm, motion, temperature, and door sensors in the home which will throw up an alert if they get worrying, and the BWell app that comes with a daily seven-question wellness test.”
- Frost & Sullivan notes that several of these projects limit themselves to services around security and some basic health monitoring programs. H2 2018, and H1 2019 will continue to see such pilots, but H2 2019 and 2020 onwards, we will begin to see the next phase of integration – remote monitoring of vitals or health conditions, and even telehealth approaches being incorporated as well. This would be especially true for the UK, where the NHS is undertaking massive digitalization efforts to leverage digital health technology. That would begin the journey for the true smart home for healthcare approach, beginning with elderly care.

WEBLINK: <https://bit.ly/2SxxC7S>

And finally: Your Fitbit will soon be able to control your smart home –

February 24, 2019

Applicable Product Categories:

Smart Home Devices

 Technologies	IoT	 Therapeutic Areas	Activity / Fitness Tracking
 Applications	Smart Home Controls	 Geographic Focus	US / Global
 Segment Focus	Consumer Grade	 Topics (News type)	Business Model Innovation
 Companies	Fitbit, Home Connect	 Others	-

ANALYST TAKE:

- “Compared to Apple Watch and Wear OS, Fitbit just doesn't have the same app catalogue - a catalogue that lets you adjust your thermostat, turn off your lights, and control all manner of other smart home appliance. Fitbit is getting in on this a little more thanks to a new partnership with Home Connect, a platform that connects all your appliances to the fabled Internet of Things. You'll be able to use your Fitbit Ionic and Versa to do things like pre-heat your oven or check if your refrigerator door is open.”
- Frost & Sullivan always envisioned a platform based approach for smart homes, where different applications could be used at will (much like apps on a smartphone). With this approach, Fitbit provides users with yet another control interface apart from smartphone apps, tablets or voice –a wearable device that also does health tracking. While Frost always believed consumer companies would be initiators to look at health (just like Google and Amazon are expanding in the area), it is refreshing to see a consumer wearable device maker (with solid health related ambitions itself) venture in the consumer electronics / smart home space. These being early days, consumers will be limited by proprietary protocols and partnerships – not affording a full complement of services possible, but in the future –multi-format control of smart homes will be available for all smart home users.

WEBLINK: <https://bit.ly/2Efob7N>

MIT partners with digital health business to develop home healthcare tech for elderly population – February 22, 2019

Applicable Product Categories:

Smart Home Devices

 Technologies	IoT, AI	 Therapeutic Areas	Elderly Care
 Applications	Regular vitals monitoring	 Geographic Focus	US / Global
 Segment Focus	Clinical / Consumer Grade	 Topics (News type)	Technology Innovation
 Companies	MIT, WeHealth (Servier subsidiary)	 Others	-

ANALYST TAKE:

- “Cambridge-based Massachusetts Institute of Technology has partnered with pharmaceutical firm Servier's digital health business, WeHealth, to conduct research on technology for home healthcare.” “The introduction of ambient intelligence throughout the time, empowered by machine learning algorithms, is especially well positioned to motivate healthy behavior and proactively reduce the probability of catastrophic event such as missed doses of medication and falls.”
- Frost & Sullivan notes that the initiative aims to establish interoperability between available solutions and EHRs, apart from research in to new solutions. This initiative, in Frost’s opinion, will be one to watch from a digital health perspective. Although it might still be limited to the pharma space (medication dosing, reminders, possibly more), yet it might lay down the blueprint for tech solutions to be developed for use in a ‘smart home’, where medical device players and others could also play a role.

WEBLINK: <https://bit.ly/2H6ERkL>

Other Interesting Articles

When available, other interesting articles will be covered here in short.

News Title	Link	Remarks
LG set to “aggressively” expand voice-controlled smart home appliances in 2019	https://bit.ly/2SuigAX	Unsurprising, but a move likely to be mirrored in myriad ways by other smart home appliance makers. Voice control will be a dominant feature that improves convenience, but also supports the physically disabled (and may be elderly, with right tweaks to make voice tech old-age friendly).
Israeli startup eyes unprecedented connectivity with chip that makes everything 'smart'	https://bit.ly/2VfsO8D	Wiliot makes battery-free chips (harvest energy for ambient RF waves of WiFi / BlueTooth etc.) that can make anything smart. Not the first startup to do so, but the applications are innumerable. The future may have smart homes leveraging several of these to make lives simpler, and automate several aspects of the true smart home.
Google and Amazon Are Killing the Smarthome Hub, and That’s Great	https://bit.ly/2tCAN43	While this is obvious, the implications of having a ‘virtual butler’ in the form of Google Home or Amazon Alexa can be gleaned from one of the several sci-fi fantasy shows that depict them – Jarvis from Iron Man, or an AI assistant from the TV series Eureka, and several more. The convenience of smart home control via app or voice cannot be overcome by an app alone!
The Ai Helping You Keep An Eye On Mom ... While Guarding Her Privacy	https://bit.ly/2VirCkZ	The system described is the Cherry Home (described in Issue 34). This article includes price points – “To equip a two-bedroom home, CherryHome costs around \$1,800, with one sensor per room. Then there’s the video subscription service, which is \$30 per sensor, per month. That’s far less than the cost of the average nursing home or assisted living. Nationally, assisted living facilities average about \$43,536 per year, and nursing homes cost between \$82,128 and \$92,376 per year.”