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ASIA EDITION

Startup of the year 2024- Aevice Health

January 2, 2025 | Analysis

Improving access for respiratory healthcare



Singapore-based startup Aevice Health, incorporated in 2016, is a medtech spin-off from Nanyang Technological University (NTU) on a mission to improve asthma and chronic obstructive pulmonary disease (COPD) care through its proprietary, non-invasive remote patient monitoring platform and wearable stethoscope, the AeviceMD. Its cutting-edge technology allows for continuous monitoring and real-time disease deterioration tracking, enabling patients to receive personalised care from the comfort of their homes.

Aevice Health's flagship product is a Singapore HSA-approved and US FDA-cleared patient management platform for chronic respiratory disease management, featuring a smart wearable stethoscope suitable for all ages. The platform continuously monitors for biomarkers of interest such as wheezing and early signs of exacerbation. Using a cutting-edge algorithm to analyse heart and lung sounds, the platform continuously monitors the patient for clinical deterioration by tracking biomarkers including respiratory rate, heart rate, and wheezing.

Chronic respiratory disease is currently the third leading cause of death worldwide, with an estimate of 4 million people dying prematurely due to the disease. With millions of patients having limited access to care to assess their conditions, many patients remain unaware of risk factors which can escalate into life-threatening respiratory exacerbations. Further, wheezing is one of the key signs of respiratory diseases such as asthma, and asthma is one of the most prevalent chronic diseases of childhood. It is estimated to affect 14 per cent of children worldwide. In Singapore, the disease affects about one in five children. Many studies have shown that the chronic disease can be difficult to manage in children due to their inability to verbalise their symptoms or even realise that they are experiencing an exacerbation. This could lead to under-diagnosis, under-treatment and inadequate control of the disease.

The founder, Adrian Ang knows too well the struggles of a chronic respiratory disease patient. Growing up with asthma, Ang often worried his parents with his condition. This became a driving factor for him to find a solution to better manage his asthma. And this personal experience became the reason for Ang to create Aevice Health, alongside passionate co-founders and early supporters, with a shared vision- empowering patients with chronic respiratory diseases to take control of their health.

“I grew up with asthma as a child and experienced firsthand the challenges patients face throughout their care journey. It became clear to me that there was a significant gap in the management of asthma—particularly in the availability of tools to help patients and clinicians track and manage the condition effectively. So, in 2016, together with Dr Ser Wee, my professor during my undergraduate studies, and Dr Rex Tan, my classmate at Nanyang Technological University, we co-founded Aevice Health to address this gap by creating a solution that could make a real difference, with the vision of transforming chronic respiratory care”, said Ang.

He further added, “Some of the common challenges in respiratory care today are the lack of continuous and accurate monitoring for chronic conditions like asthma and COPD, particularly when patients transition to home care. This is especially so for young children and older adults, who often struggle to recognise early warning signs of exacerbations, leading to delayed medical attention. Our solution aims to address these gaps by delivering real-time insights into a patient’s respiratory health, enabling timely interventions, reducing hospitalisations, and ultimately enhancing the quality of life for patients.”

2023 turned out to be momentous year for the startup, having received approval from the Health Sciences Authority of Singapore (HSA); and clearance from the US Food and Drug Administration (FDA) as a Class II medical device under the 510(k) route, for its flagship medical device, the AeviceMD.

“While diseases like diabetes or heart failure have seen advancements in technology, there remains a notable lack of comprehensive solutions for respiratory conditions. Unfortunately, the patients requiring these solutions the most are often the ones facing challenges in accessing adequate care. With these clearances, we take a significant stride towards becoming the equivalent of continuous glucose monitors for diabetes, but for respiratory health, a patient-centric, affordable, and accessible solution that empowers patients to achieve a healthy recovery from the comfort of their homes”, said Ang.

Later, the year 2024 saw three major developments taking place for Aevice Health. In February 2024, the startup announced a collaboration with UK-based no-code AI platform Jiva.ai, on a jointly funded co-innovation programme by Innovate UK and Enterprise Singapore aimed at creating a state-of-the-art medical AI platform to predict asthma exacerbations; In May 2024, Aevice Health secured $1 million investment from Japan-based A&D Company, to extend its US FDA-cleared and Singapore HSA-approved flagship product, the AeviceMD, into the Japanese and US markets; and in August 2024, the startup raised $7 million in Seed Plus Round led by Coronet Ventures, the Singapore-based venture unit of Cedars-Sinai Intellectual Property (CSIP) Co.

With these fresh funds and a pipeline of clinical and strategic partners globally, the startup aims to enhance product development and expand access to key markets, positioning its solutions as ubiquitous as the thermometer for home management of chronic respiratory disease.

“Our primary goal is to continue understanding the challenges faced by patients and healthcare professionals, so we can continue to innovate our solutions and maximise the value we bring to them. Over the next few years, we want to introduce our products into both Singapore and Japan, ensuring that our technologies are accessible to those who need them the most”, mentioned Ang.

Seeing his startup grow in the right direction, and making remarkable achievements along the way, makes Adrian Ang very happy and proud as an entrepreneur. “While this journey has undoubtedly been challenging, it has also been meaningful. To be given the opportunity to create medical solutions that directly impact patients in need is immensely fulfilling. In fact, this strong sense of purpose is perhaps the greatest source of motivation for both me and my team every day”, he pointed out.