



Holmusk

Executive Summary

Mental health disorders remain the highest unmet medical need, surpassing cardiovascular disease, diabetes and cancer. Cumulative economic burden exceed 16 Trillion USD in direct and indirect costs. Holmusk is addressing this problem by building the world's largest Real-World Evidence (RWE) platform for mental health to deliver clinical and regulatory grade evidence to all major stakeholders of the healthcare ecosystem.

Holmusk's proprietary technology is also harnessed to analyze real-world data across other chronic metabolic diseases including diabetes, cardiovascular disease, chronic kidney disease etc. By integrating their work on metabolic diseases with the mental health RWE platform they can generate even deeper insights. Their goal is to develop a system-wide integrated care model between mental and chronic health which makes access to RWE a reality of today, rather than a dream of tomorrow.

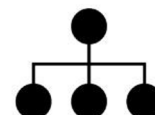
Website: <https://www.holmusk.com/>

Awards and Recognitions:

- Recognized as World Economic Forum Technology Pioneer, 2019
- Resident of JLABS @Shanghai (CN) Life Science Incubator, 2019
- Accepted into Ping An Cloud Accelerator 3rd Cohort, 2019
- Finalist in Parkway Pantai Innovation Challenge 2019
- Accepted into Merck Accelerator China Program 2019
- Resident of JLABS @NYC (US) Life Science Incubator, 2018
- J&J QuickFire Challenge Finalist, 2018
- Ascensia Diabetes Challenge Finalist, 2018
- 2nd prize winner for Merck Diabetes Prevention Innovation Challenge, 2018
- Bayer-NUS Grants4Apps Singapore Challenge Winner, 2017
- Bayer-NUS Grants4Apps Singapore Challenge Audience Choice Innovation Award, 2017
- WTIA Asia Smart App Awards (Certificate of Merit,) 2016/2017
- Asia Actuarial Competition Winner, 2016
- CrowdANALYTIX platform winner: Predict Bidding Price of Generic Drugs, 2016



FOUNDED
2015



TYPE OF ORG
FOR-PROFIT



OFFERING
Prevention,
Screening,
Diagnosis



COUNTRY
United States,
United Kingdom,
Malaysia, and
China.

The Story Behind Holmusk

Holmusk was founded in 2015 by Nawal Roy. Prior to this, Nawal was Cofounder and CEO of HelloPay (Rocket internet venture). Before leading HelloPay, Nawal was a Junior Partner leading the client advisory service line in McKinsey & Company. He has been deeply involved with serving clients across North American, Europe, South East Asia, India, China, Middle East & Africa.

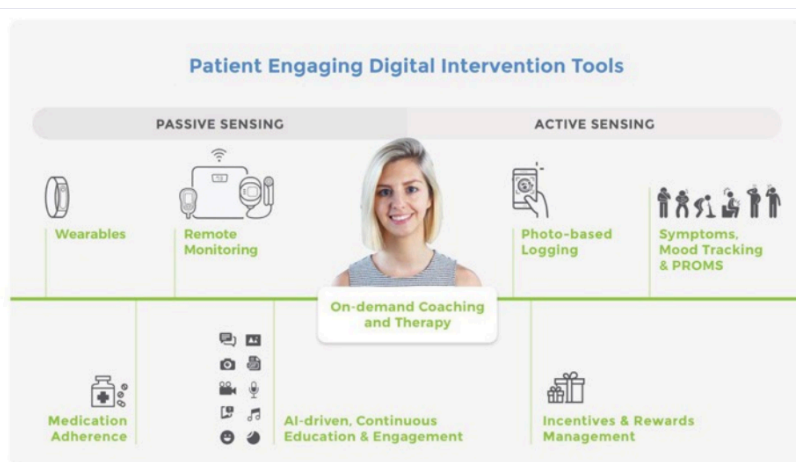
Holmusk is Headquartered in Singapore, with offices in North Carolina, New York City, London, Malaysia and Shanghai. Holmusk's vision is to build the world's largest Real-World Evidence (RWE) platform and enable a leapfrog-change in research and the provision of care through machine learning, deep learning and digital tools.

Challenge

Mental health bears the largest global economic burden worldwide, and solutions to mental health issues are limited. Patients with major behavioral health disorders make up 20% of all disabilities in developed countries. Regardless the region of the world, people are underserved when it comes to brain health. There is an impermissible gap in the evidence generation for mental health disorders, and limited understanding of patient outcomes and efficacy of therapeutics. The gravity of this evidence gap and inability to find new therapeutic treatments is magnified by the increasing number of patients affected. The treatment of mental health is not as advanced as other chronic diseases: treatment is highly variable, and diagnosis is subjective and highly symptom-based. Randomized clinical trials are not representative of typical behavioral health patients, who have multiple diagnoses and somatic comorbidities. The lack of a standardized practice contributes to the high variability and large volume of unstructured data in electronic health records (EHRs), causing difficulty for providers faced with tailoring treatment to patients. In creating the world's largest Real-world Evidence (RWE) platform, Holmusk is fundamentally changing mental health awareness and testing hypothesis's for change, with an initial target population of clinically depressed patients.



Nawal Roy, Founder and CEO



Holmusk has developed a data driven, AI powered, human enabled digital therapeutics platform that already supports multiple chronic diseases



Solution

With data at its core, Holmusk's machine learning (ML), deep learning, AI, and digital tools are driving a leapfrog-change in the provision of care and pioneer research into mental health. Holmusk's proprietary in-house analytics and RWE platform are combined to recognize disease progression, articulating personalized intervention strategies and improving drug discovery and development. Data from EHRs and digital therapeutic tools are layered with advanced proprietary analytics to curate, standardize and structure RWD into meaningful use. Mental health progression models are created by integrating RWD with scientific evidence from published research and clinical trials. This data-driven approach allows for quicker evidence generation which is critical to inform clinical decisions and provide pharmaceutical companies a deeper understanding of disease pathways. This is done by:

- Largest longitudinal behavioral health database that merges clinical EHR data with active and passive digital data into one continuous patient record.
- Deep analytics to convert structured and unstructured data into meaningful, predictive simulation models of mental health disorders for drug discovery process.
- Predictive models to identify patients with unmet needs and those who are best suited for new drugs, aiding drug development and quicker market adoption.
- Personalized care protocols aided by clinical decision support tools powered by predictive AI models.
- Leveraging their digital health expertise and the largest mental health clinical database, Holmusk is creating digital treatment tools that connect patient and care providers. The digital solution fosters meaningful patient relationships by actively and passively monitoring patient activity and provides day-to-day insight and predictive services for mental health patients and providers. It is designed to improve real-world outcomes and provide meaningful RWD from outside the clinical setting.

Holmusk's solutions empower patients and providers by making findings accessible at the point of care, provides insights to researchers, and serves as the backbone for drug discovery and care delivery.

Operating and Business Model

Holmusk has partnered with some of the most prestigious research institutions, hospital systems, and pharma companies from all over the world. In the last 4 years, they have built 30+ clients globally.

- 4 global pharma companies
- 6+ universities and health systems
- 20+ hospitals across USA and abroad

Many of their operations are paid through contracts with life science partners, current recurring revenue through their EMR services, and other grants. Outside Series A funding is used to support their expanding EHR capabilities and increase market share to expand clinical data collection; development and validation of the depression app; and expand their data connectivity and integration of databases to connect clinical data from hospital/clinician visits with mobile data.



Impact

It's difficult to estimate the impact they've had, but they know they're just getting started in bringing effective, informed decision making to the treatment of Mental health. If they can:

- Reduce variance in patient treatment protocol
- Enable data driven decision making for healthcare professionals
- Identify the best use of interventions for specific cohorts of population
- Understand the value of interventions by tracking changes in outcomes

The significance would not just be measured in numbers of lives affected, but the quality of each life lived and the shared understanding to treatment.



INNOVATIONS IN HEALTHCARE™

