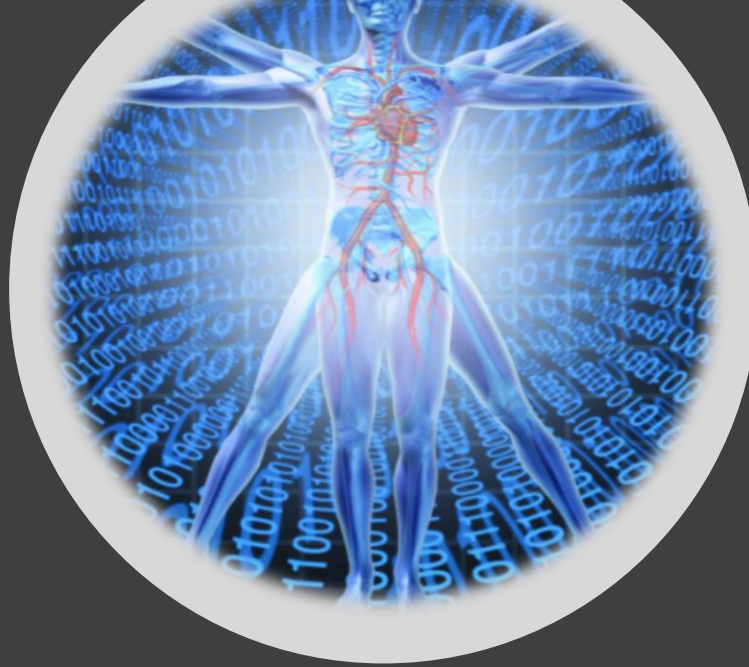


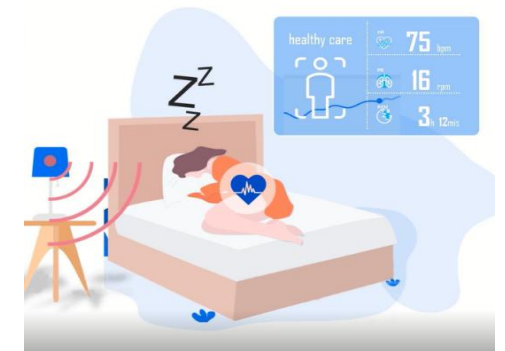


CPHAS: contactless predictive health alert system



Contactless Predictive Health Alert System (CPHAS)

- CPHAS is developing a contactless, predictive ultra-wide band (UWB) radar-based patient monitoring and alert system.
- UWB can monitor vital signs (respiration, heart rate, heart-rate variability, body motion and potentially blood pressure and oxygen saturation, subject to further research) 24/7 without connecting the patient to wires, clips or pads. Other metrics such as temperature may be added via other monitoring systems.
- Predictive and preventive AI model using a risk prediction score combines any changes in vital signs with other data to predict critical incidents like stroke, sepsis and heart attack.
- Gives advance warning of critical incidents to medical staff and carers in hospitals, care homes and at home, saving cost and saving lives.
- System accuracy improves over time via machine learning.



The Need



- Effective and reliable contactless, predictive, continuous patient monitoring system described by a leading Hong Kong private hospital as “the holy grail”. No such system currently available.
- Would alleviate shortages of care staff by enhancing efficiency: one clinician could monitor more patients; care can be prioritized.
- Predictive AI provides actionable alerts in advance which humans could never detect. Early intervention save lives and saves cost.
- Applicable also to care home and domestic settings.
- Further applications in aviation, automotive, construction and other industries.



Why us?



- CPHAS established in Hong Kong in 2026 by the teams behind JintzMed (Hong Kong) and Nine Health (United Kingdom).
- JintzMed has developed innovative diagnostic devices for cardiovascular risk, autonomous nervous system assessment and mental stress. NMPA license granted for heart rate variability (HRV) analyzer. Novel algorithmic model to enhance short-range remote monitoring of multiple vital signs.
- Nine Health has rich experience of clinical AI and healthcare big data. Data lead in major European project (VPH-share); grant from UK National Health Service (NHS) to develop predictive AI wound-healing app.
- Hong Kong-based and global team with clinical, entrepreneurial, bio-medical engineering, financial, business and legal experience



An HSITP company

- CPHAS accepted as one of the first batch of companies to land at Hong Kong-Shenzhen Innovation and Technology Park (HSITP), 2026.
- HSITP is a new and unique innovation & technology park straddling the boundary between Hong Kong and Shenzhen, giving access to the best of both locations.
- Financial and practical support, know-how and connections for incubatee businesses to flourish and grow.



The founding team



Elaine Taylor-Whilde, Chief Clinical Officer: Experienced clinical professional in the UK's National Health Service (NHS) specializing in neurology, cardiac and respiratory disease. Clinical research lead, NHS Information Centre; specialist in healthcare data governance. Pioneer of AI and big data in healthcare, including EU FP7 project Virtual Physiological Human. Founder of Nine Health CIC and Nine Health Global Ltd



Helen Lam, COO: Founder and CEO of Jintz Medical. Former GM (Global Operations) of Aland Health Holdings, responsible for post-acquisition global team integration and brand business in mainland China. Former banker at JPMorgan and UBS Wealth Management; MBA from University of Chicago, Bachelor of Finance from HKU. Diploma in Healthcare Management in Tsinghua-Johns Hopkins joint programme.

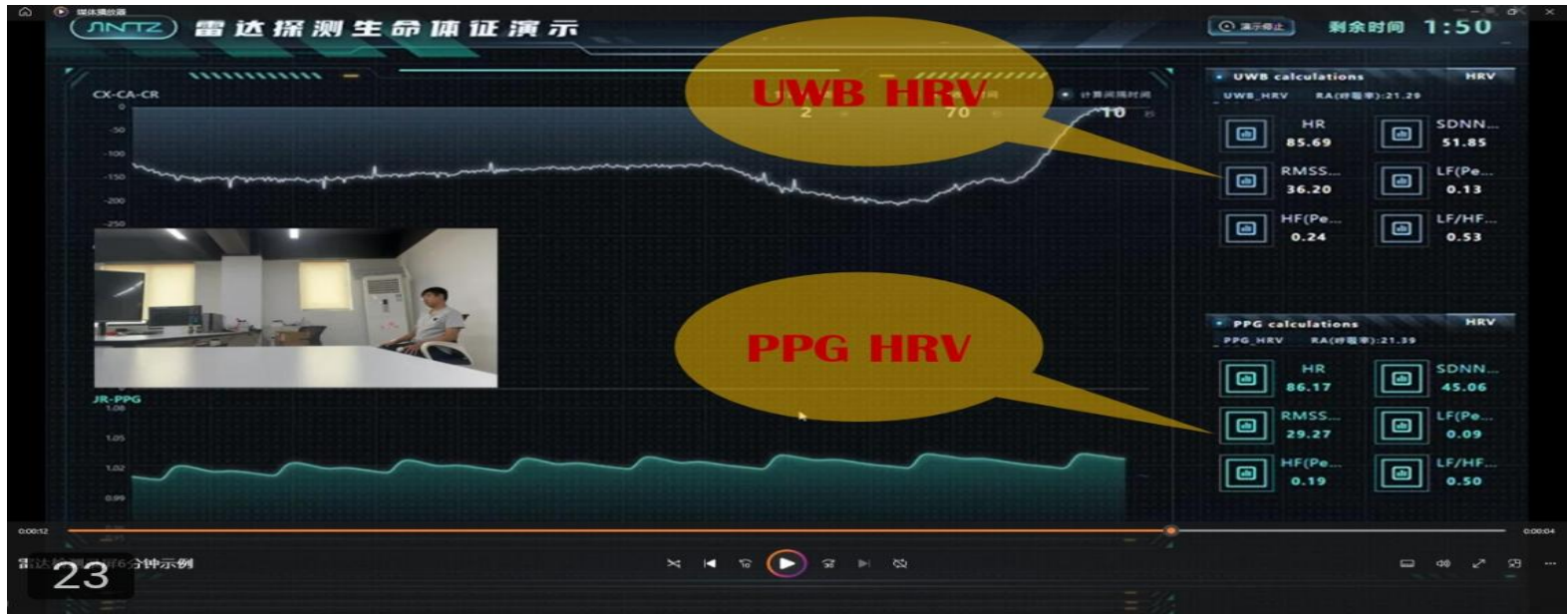


Robin Weir, CEO: Hong Kong-based entrepreneur. Hong Kong and English-qualified corporate and commercial lawyer. Cambridge University graduate; co-founder of successful publishing company, 26 years in Hong Kong and mainland China with a proven track record of helping healthcare and other companies establish and do business in China.



Luo Xiaomin, CTO: Co-founder and R&D head of Jintz Medical. 20+ years' experience in biomedical engineering, specialty in hemodynamics based on photoplethysmography (PPT) technology. Former Senior Engineer/Principal Investigator of Health Division, BGI Research Institute. Former Visiting professor at the Center for Operating Systems, School of Information, Tsinghua University

Appendix I



JintzMed’s breakthrough in the industry in getting HRV metrics - the millisecond-variation between adjacent heartbeats – RR intervals with UWB module



旻智医疗罗晓民教授分享了基于驰芯UWB脉冲雷达提取人体呼吸和心动曲线的方法，与传统的从人体反射的雷达信号中提取呼吸率与心率的方法不同，该方法对各脉冲时间序列进行信号处理，按照距离门分段分别提取出完整呼吸与心动曲线，进而提供一种获得呼吸和心率以外更加丰富的心血管功能信息的非接触式检测手段。



JintzMed presenting at UWB technology innovation seminar organized by a Chinese semi-conductor company in Shanghai



FutureSense Forum: Non-Contact Psychophysiological Monitoring by JintzMed at the 26th China Hi-Tech Fair in Shenzhen

Appendix II

Nine Health with 10+ years working with companies, hospitals and universities in China including Lantone Hangzhou, MiTAC Shanghai, Huadong Medical and MOU with Tsingdata D-Lab.

NHG uses artificial intelligence (AI) and creates a new AI software to identify people likely to develop chronic leg wounds and manage their preventative care.



Research Award

Completed Award

Award ID: AI_AWARD01723

Shortlist: +

Woubot - an A.I. predictive system to produce personalised care recommendations for chronic lower limb wounds

Lead investigator(s):

[Ms Elaine Taylor-Whilde](#)

Co-investigators:

[Dr Christopher Dickson](#), [Mr George Frangou](#), [Mr Philip Davies](#), [Mr Robin Weir](#), [Mr Steve Cowper](#), [Mrs Janine Lane](#)

Award:

£149,738.00

[More award information](#)

Start Date:

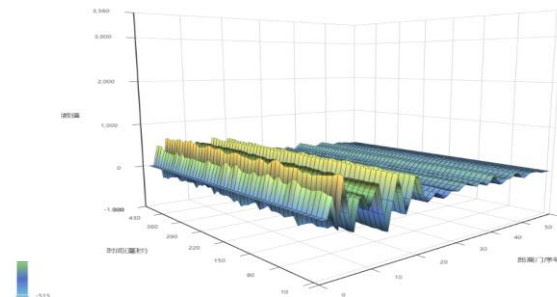
December 2020

End Date:

November 2021

Contracting Organisation:

[Nine Health Global Ltd](#)



Woubot®: A personalized predictive AI system for hard to heal wounds*

Elaine Taylor Whilde^{1,*†}, Janine Lane^{1,2}, Chris Dickson³, Syeda Mah-e-Fatima⁴, Quratal Ain Fatimah⁵ and Ali Hasnain^{6,*†}

¹Nine Health Global Ltd, Leeds, UK

²University Hospital Galway, Ireland

³School of Pharmacy and Biomedical Sciences, Royal College of Surgeons in Ireland, Dublin

Abstract

Management of chronic wounds in healthcare disciplines is a huge financial burden on healthcare systems around the world. An estimated 1.5 – 2 million patients in Europe alone suffer from acute or chronic wounds at a given time. The mental and societal burden of living with a chronic wound is immense. Many studies have shown that treatment of these wounds conservatively (without surgery) is one of the major contributing factors to the cost, with wound dressings being a significant impact. Data from the NHS shows that managing wounds properly such as choosing the appropriate dressing for the right wound and continuous appropriate treatment can significantly increase healing and reduce healthcare spending. Funded by the National Institute of Health Research and NHS England the AI in Health and Care Award Accelerated Access Collaborative (AAC) and NHS AI Lab supported AI technologies across the spectrum of development, from initial feasibility to evaluation within clinical pathways in the NHS and social care settings, to the point that they could be nationally commissioned. In this paper, the findings of a phase 1, project a feasibility study are introduced for discussion and shared learning about an artificial intelligence-based technology which aims in phase 2 to predict the development of hard to heal wounds and their rates of healing and produce recommendations for clinicians dealing with wound care. Woubot® will evaluate the risks of different wound treatments and predict and monitor the progression of wounds. Considering national guidelines on treatment as well as data available, improvements in practice will be recommended, and tailored treatment plans will be suggested for individual patients.

Early analysis of patient data (combined electronic clinical records containing demographic, historical, laboratory tests, intervention details etc.) was completed over a 12-month period. The impact of biological factors affecting wound healing suggested that changes in clinical practice such as carrying out a blood test to detect for example vitamin B12 levels and other circulatory factors could significantly improve wound healing rates. The findings suggest that once detected either simple lifestyle changes (diet) or a clinical intervention e.g., B12 injections may result in improved healing. Initial assessments show the monetized benefits of using Woubot® have been predicted to be around £35 million over a period of 10 years, which is a substantial development in the future of wound management.

Keywords

Chronic Wound, Artificial Intelligence, Woubot®

SeWebMeDa-2022: 5th International Workshop on Semantic Web solutions for large-scale biomedical data analytics, May 29, 2022, Hersonissos, Greece

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