ISSN: 2639-0108

Research Article

Advances in Theoretical & Computational Physics

Preface of eBook: Preventive Medicine: Wellness beyond Diabetes (No. 946)

Gerald C Hsu*

EclaireMD Foundation, USA

***Corresponding Author**
Gerald C Hsu, EclaireMD Foundation, USA

Submitted: 2023, Dec 04; **Accepted:** 2024, Jan 08; **Published:** 2024, Jan 24

Citation: Hsu, G. C. (2024). Preface of eBook: Preventive Medicine: Wellness beyond Diabetes (No. 946). *Adv Theo Comp Phy, 7*(1), 01-03.

The author has spent a total of 17 years dedicated to studying eight diverse academic disciplines across seven different universities. These disciplines include applied mathematics, computer science, mechanical engineering, biomechanics, structural engineering, ocean engineering, soil mechanics, finance and marketing.

Throughout his 30-year professional career, he has worked in six major industries, including aerospace & defense, naval battleships and weapons, nuclear power plants, earthquake engineering, computer hardware and software development, and semiconductor chip design. These experiences have largely revolved around practical industrial projects, computer science applications, and the development of artificial intelligence (AI)-based products, such as electronics design automation for semiconductor chips.

In addition to his 17-years of formal education at universities, during the years 2001-2009, he also devoted seven years to self-studying abnormal (traumatized) psychology with an additional two years on behavior psychology. This selfacquired knowledge enabled him to establish five psychotherapy centers in Taiwan, providing support to approximately 200 abused women and abandoned children or orphans.

Since 2010, he has invested more than 40,000 hours, spanning 14 years, in researching four chronic diseases: obesity, diabetes, hypertension, dyslipidemia, and the various medical complications induced by these metabolic disorders.

This includes cardiovascular diseases (CVD), stroke, chronic kidney diseases (CKD), neuropathy, retinopathy, diabetic constipation, diabetic skin fungal infections, Alzheimer's and Parkinson's diseases (dementia), various cancers, and even periodontitis in diabetes patients. Alongside this research, he has also focused on diet, food nutrition, and other crucial lifestyle elements such as sleep and stress. ***In total, he has dedicated 24 years of his life to self-study in the field of "happiness and health".***

Over the course of his adult life, he has been involved in various innovations and inventions. These include pioneering the development of the portable computer, introducing a smart printer equipped with a CPU and data storage, creating threedimensional computer-aided design software for mechanical and architectural applications, autodesign of semiconductor chips and establishing the use of software robotics in commercial, scientific, and medical domains. All of aforementioned industrial applications are based on fundamental knowledge from mathematics, physics, and various engineering disciplines.

In 1994, he founded a prominent Artificial Intelligence (AI) semiconductor chip design tool company, leading to his recognition as the highest-paid CEO and holding the top ranking among 15,000 CEOs in Silicon Valley from 1999 to 2002. Despite his professional success, his accumulated wealth did not contribute positively to his wellbeing. Instead, it took a toll on his health.

Between 1994 and 2006, he faced five cardiac episodes, initially attributing them to the stress associated with his business endeavors. However, it became clear that these episodes were a result of a combination of business-related stress and his prolonged neglect of type 2 diabetes due to a very unhealthy lifestyle.

In the year 2010, his ACR (Albuminto-Creatinine Ratio) skyrocketed to 116, 4 times exceeding the maximum normal range of 30, signaling a severe renal issue. Simultaneously, his triglyceride levels surged to an alarming 1,160 mg/dL, 8 times above the normal range of below 150 mg/ dL, indicating severe hyperlipidemia. In response, three medical professionals in California strongly advised immediate insulin treatments and forewarned that kidney dialysis might become an inevitable part of his future. At the age of 63, he was presented with a stark prognosis: his life expectancy had dwindled to a mere three to five years due to his history of five heart episodes and the newly discovered risk of kidney failure necessitating dialysis. This revelation served as a profound wake-up call for him.

In August 2010, compelled by the imperative to save his own life, he embarked on a journey of self-study and intensive research into six chronic diseases within the field of internal medicine and the intricacies of food nutrition. Initially, he grappled with the

complexity of the subject matter, skimming through numerous medical textbooks and delving into approximately 1,000 medical papers. As of December 2023, he has expanded this knowledge base to encompass more than 6,000 published medical papers.

However, this self-study approach presented its challenges. The intricate Latin and Greek-based medical terminologies, coupled with a lack of explanations regarding the horizontal and vertical relationships of medical phenomena, posed significant hurdles. While he could grasp the introductory and concluding sections, the methods and results sections often eluded him due to the foreign terminologies rooted in pathology, physiology, and complex biomedical concepts based on both biology and chemistry which he has had no preparation for.

Nevertheless, by relying on his natural intelligence, prior knowledge, unrelenting focus, indomitable willpower, and unwavering perseverance, he managed to gradually unravel the complexities of the biomedical field. ***In 2010, he made a solemn pledge to uncover the underlying causes of his health problems and attain a profound comprehension of his own body.*** Over the past 15 years, he has steadfastly pursued this objective with unwavering determination.

Leveraging advanced mathematics encompassing topology, partial differential equations, complex variables, and nonlinear algebra, he integrated principles of physics, including strength of materials, stress and strain relationships, optical physics, modern physics, energy theory, wave theory, and signal processing, into his 15-year foray into medicine study and medical research. Complementing this endeavor were essential engineering modeling techniques such as finite element analysis, solid mechanics, viscosity, fluid dynamics, viscoelasticity and viscoplasticity along with cutting-edge computer science tools, including big data analytics, machine learning, and artificial intelligence (AI). This comprehensive approach empowered him to develop his initial five mathematical models focused on diabetes, each equipped with prediction equations, thus transcending reliance on statistical tools alone:

1. Metabolism Index (MI) mathematical model during the entire year of 2014. This is the foundation of his medical research model.
2. Body weight prediction model in April 2015.
3. Postprandial plasma glucose (PPG) prediction models in June 2015.
4. Fasting plasma glucose (FPG) prediction model in 2016.
5. Hemoglobin A1C (HbA1C) prediction models in 2016.

By meticulously analyzing approximately three million metabolic and health data points pertaining to his own body, all five of these prediction models have displayed remarkable prediction accuracy rates ranging from 95% to 99.9%. Furthermore, he successfully identified the primary influential factors and their corresponding contribution margins for both FPG (involving approximately six influential factors) and PPG (comprising around 22 influential factors, mostly secondary influential factors such as ambient temperature).

During the initial phases of his diabetes research, he received invaluable emotional support and words of encouragement from medical professionals. One such individual was Dr. Jamie M. Nuwer, a young internal physician at Stanford Medical Clinic, who not only attended to his medical needs but also inspired him to pursue his medical research. In 2016, Dr. Jeffrey Guardino, a cardiologist from Stanford Medical Center, recognized the significance of his extensive data and unique research approach incorporating mathematical and physical principles. Dr. Guardino encouraged him to document his diabetes research findings in a paper. Given him lack of formal training in biology and chemistry, he has no choice but approached medicine in a non-traditional manner. Drawing from his background in mathematics, physics, and engineering, he started from meticulously observing the physical phenomena resulting from biological structures and their internal chemical interactions. Subsequently, he gathered, organized, and thoroughly analyzed the relevant data, employing statistical methods, mathematical concepts, tools from computer science, principles of physics, and engineering modeling techniques. Through this process, he aimed to develop several comprehensive mathematical models and equations capable of accurately predicting biomedical behaviors and outcomes, such as symptoms, based on the identified multiple influential factors. This methodology aligned with his previous experiences in engineering, where he designed complex systems such as space shuttles, naval battleships, nuclear power plants, and semiconductor chips. He named his research approach ***the GH-Method: math-physical medicine (MPM).***

Throughout this extensive research journey, he didn't hire or depend on any associates or assistants; he worked in isolation for a painstaking fourteen years. However, by the end of 2017, it became apparent that he needed to break free from this isolation and engage with the international medical community.

His journey took a significant turn when his very first medical paper was accepted by the United Nations, World Health Organization's International Diabetes Federation during their bi-annual medical conference in Abu Dhabi in December of 2017. There were only 300 papers accepted (5%) to be published from 6,000 submissions over the world. This event marked the beginning of a new chapter in his research. After working in isolation for eight years, he had little insight into the potential impact of his research, its outcomes, or its relevance to others. Encouraged by the warm reception and interest shown by diabetes research organizations and fellow scientists of the IDF 2017 conference, he resolved to emerge from his seclusion and communicate with his medical research peers.

In 2018, he took an active step towards collaboration by participating in 26 medical conferences, presenting a total of 44 medical papers. Additionally, he authored and published 22 full-length articles in various medical journals, sharing his unique approach and biomedical findings with the medicine community.

By now, October 2023, his dedication to medical research work and the dissemination of learned knowledge is evident through his contribution of over 900 papers during the past 14 years. His journey complimented with more than 200 presentations

at various medical conferences, which were, unfortunately, reduced during the COVID-19 years, and over 900 published medical papers by 2023. Additionally, several hundreds of his medical research papers have also been published in esteemed physics, engineering, and economics journals, attracting diverse readerships and emphasizing the wide-ranging interdisciplinary applications of his research in the field of medicine. These publications of medical application have focused particularly on areas such as internal organs, soft tissues, hormones, and nerves (i.e. a "black box" analogy) offering valuable insights into these intricate aspects of human physiology and disease pathology.

These invitations to speak and the numerous paper publications have extended beyond his initial focus on diabetes, metabolic disorders, endocrinology, and chronic diseases. Since 2015, his research efforts have expanded into various medical fields, including Cardiology, Stroke, Nephrology, Urology, Neurology, Liver, Pancreas, Dementia (Alzheimer's, Parkinson's), various Cancers and Oncology, Geriatrics and Longevity and even Dental Health, among others. All of these medical conferences and publications have exhibited a common keen interest in learnings d applying his math-physical medicine (MPM) research methodology.

Looking ahead to 2024, he plans to continue his research by exploring new subjects and using newly collected data. Additionally, he has initiated the transformation of his full-length papers into an eBook format of "abstracts" comprising 500 words or less in plain English for worldwide patients, avoiding medical or scientific terminology. Each abstract is designed to provide patients with scientifically validated, clearly stated messages focusing on specific diseases or symptoms, along with actionable conclusions or "what-to-do" lists. Furthermore, he intends to utilize ChatGPT to translate his English transcript of abstracts into multiple foreign languages for patients who require those languages.

His ultimate goal is to directly share his research findings in preventive medicine with individual patients worldwide, aiming to make a significant and meaningful impact on their overall well-being.

His mission remains steadfast: to provide assistance to patients with obesity, diabetes, or other related complications around the world by leveraging the existing infrastructure of medical profession which includes research scientists, medical school professors, medical clinic doctors, nutritionists, nurses, public health personnel, podcasting, YouTube, and publishing journals, especially Amazon's distribution channel. This commitment is the driving force behind his prolific presentation and publication efforts across a diverse range of platforms spanning the continents of the US, Canada, Europe, the Middle East, Asia, Africa, Central and South America, and Australia, New Zealand.

A significant revelation during his interactions with hundreds of doctors at these conferences is that they are all dedicated, competent, and compassionate medical professionals. His mission is to leverage the existing channels and convey his concept and message of "Doctors without Distance" to reach chronic disease patients in the US and worldwide. He is compelled to share his knowledge and effective methods to prevent patients from suffering further complications similar to his own case or, worse, losing their lives. ***His objective is very clear: to spread his message and help other patients.***

As a proponent of preventive medicine, with a strong emphasis on effective and scientifically sound lifestyle management, he would like to share insights into his own approach to manage his health and his daily life. For him, medical research is not just a primary pursuit, it is his sole interest at this stage of his senior life. He firmly believe that the most important aspect of life is life itself, and every individual deserves a healthy and joyful existence right from the start.

He has come to understand the profound reasons behind dedicating the last 24 years to self-study and research in both psychology and psychotherapy (initial 9 years) and internal medicine (another 15 years). While he does not hold strong personal positions on political or religious issues, ***he firmly advocates for one fundamental human right: the right to "health, happiness, and freedom" for every individual. This, he believes, is the calling and mission of his remaining senior life.***