

25<sup>th</sup> Global Meet on  
**CANCER RESEARCH & ONCOLOGY**  
&  
World Congress on  
**PRIMARY HEALTHCARE AND MEDICARE SUMMIT**

May 20-21, 2019 | Rome, Italy



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**From a public health point of view to investigate the control of obesity, diabetes, and cardiovascular risk via nutrition and exercise (GH-Method: math-physical medicine)**

**Introduction:** In 2017, public health data revealed that the United States had 2 million deaths which included diabetes, heart diseases, stroke, and nephrosis that occupied 45% (~907,000) of this number. Furthermore, >85% of type 2 diabetes (T2D) patients are overweight and >50% are obese.

**Methods:** The author spent 23,000 hours during the past 8.5 years using math-physical medicine to conduct his research. He has collected and processed ~1.5 million data, including ~300,000 medical conditions, and ~1.2 million lifestyle details. He then utilized the GH-Method: math-physical medicine (MPM) which involves advanced mathematics, optical physics, signal processing, energy and wave theories, statistics, big data analytics, machine learning, artificial intelligence to develop five prediction models, including weight, FPG, PPG, adjusted glucose, and HbA1C.

**Results:** His clinical case studies have offered the following results:

- (1) BMI reduction from 32 (obese) to 24.7 (normal)
- (2) FPG reduction from ~200 mg/dL to ~105 mg/dL; PPG from 279 mg/dL to 119 mg/dL; Daily average glucose from >250 mg/dL to ~116 mg/dL; HbA1C from 10% to <6.5%
- (3) Risk reduction of having cardiovascular diseases and stroke from 74% prior to 2010 (suffered 5 cardiac episodes) to 26.4% in 2017.
- (4) Averaged carbs/sugar intake amounts (38% contribution on PPG): 14.5 gram/meal and ~60 grams/day (low carb diet). Exercise amount (41% contribution on PPG): 4,300 steps/meal and 18,000 steps/day.

**Conclusion:** His MPM methodology and prediction models (>99% accuracy) are proven to be effective tools on controlling T2D. His flow diagram can also provide an effective guidance to patients to control and improve their conditions on obesity, diabetes, and heart problems. These technology-based prediction and prevention models can be used as educational tools to help diabetes patients through public-health platforms, channels and programs.

**Biography**

The author received an honourable PhD in mathematics and majored in engineering at MIT. He attended different universities over 17 years and studied seven academic disciplines. He has spent 20,000 hours in T2D research. First, he studied six metabolic diseases and food nutrition during 2010 to 2013, then conducted his own diabetes research during 2014 to 2018. His approach is "quantitative medicine" based on mathematics, physics, optical and electronics physics, engineering modelling, signal processing, computer science, big data analytics, statistics, machine learning, and artificial intelligence. His main focus is on preventive medicine using prediction tools. He believes that the better the prediction, the more control you have.

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Health Examination Record	2010	2017	No
C (<6.4%)	10	6.1	
days Average Glucose (<120 mg/dL)	279	113	
R (<30)	116.4	12.3	
glyceride (<150)	1161	67	
L (<40)	24	48	
L (<130)	174	74	
al Cholesterol (<200)	253	118	
qd Pressure Index M3 (<1.0)	1.2	0.7	
II (<25.0)	31.0	24.7	
ight (lbs)	210	167	
istline (inch)	44	32	
etabolism Index (MI / GHSU: <73.5%)	140% / 103%	49% / 55%	
art episodes (1994 - 2006)			5 tin
iney			Ye
der			Ye
Ulcer			Ye

Figure 1: Health Exam Results Comparison

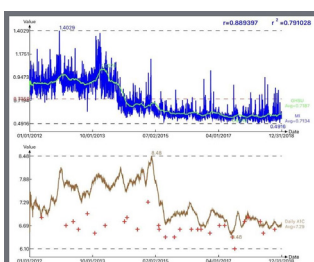


Figure 2: Metabolism Index and HbA1C

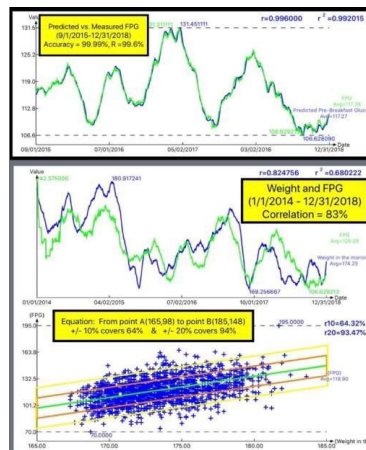


Figure 3: FPG

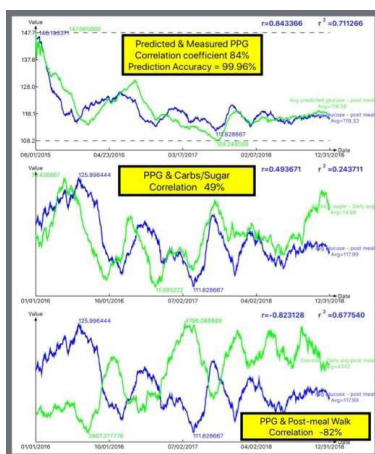


Figure 4: PPG

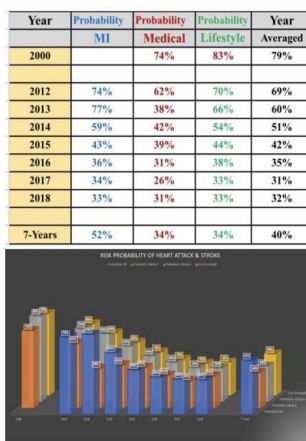


Figure 5: Risk Probability of CVD & Stroke

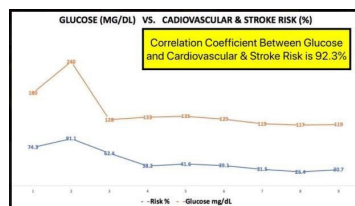


Figure 6: Correlation Between Glucose and CVD Risk

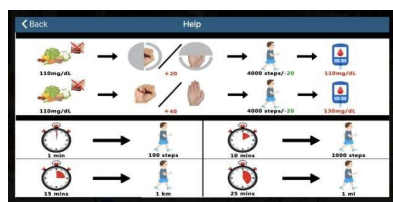


Figure 7: Nursing Guide of T2D Control

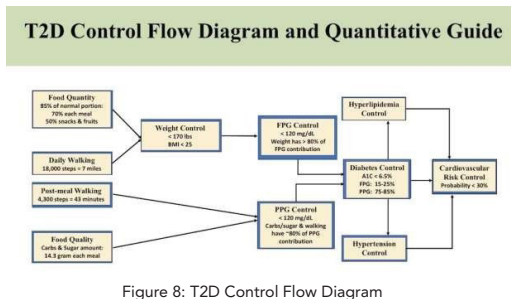


Figure 8: T2D Control Flow Diagram