A New Model May Help Human Beings Achieve Much Longer Health Spans

Jianqing Wu, Ph.D., J.D.

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We recently disclosed a series of research papers, proving why medicine could not find cures for chronic diseases and cancer. In this article, I will show why medicine fails to enable human beings to achieve maximum lifespans and propose a multiple factor approach to achieve long lifespans and health spans.

Challenges to Century-old Mistake in Medicine

Two decades ago, I started exploring legal presumptions when I was motivated to make inventions in legal technologies. Although my work eventually results a dozen U.S. patents and several foreign patents, I realized some legal presumptions used in the foundation of medicine introduced great inaccuracies [6]. I soon realized that the inaccuracies introduced in medical research and treatment models are responsible for failure to find cures for chronic diseases and cancer. However, I could not prove my hypothesis by convincing evidence.

To prove the flaws in the foundation of medicine, I cannot use experimental data or medical performance. Even though, the failure to find cures for chronic disease and poor performance in treating chronic diseases are beyond disputes [2], medical performance data do not reveal specific flaws in the models. Clinic trials have been used for more than a century and there is no way to prove directly that model presumptions are wrong. In the last five years, I finally developed a method for proving my hypotheses [1].

Flaws In Medical Research Models

Randomized controlled trial has been used for centuries, and is regarded as the crown jewel of medicine. I will show three obvious problems when they are used to study chronic diseases, personal lifespans and cancer.

Randomized clinical trial always involves indiscriminate application of a treatment. When a chronic disease is caused by imbalance in body chemistry and structure, a cure for the disease is to correct the imbalance. The correction must be in right amount. If the chronic disease is caused in part by too much fats and too little exercise, a right cure is reducing calories and increasing exercises. However, if such a treatment is applied on patients who have a perfect energy balance, the treatment will make their conditions worse. When a treatment is evaluated in a randomized controlled trial, the treatment is indiscriminately applied to all patients. Some patients experience positive effects and others negative effects. The positive effects on some patients are canceled out by

negative effects on other patients within a treatment group, thus resulting in a lower statistically determined effect. This operation results in failure to identify the weak treatment's effect that would be good to certain patients [1].

Randomized controlled trial is unable to detect weak treatment. A cure for a chronic disease is to correct subtle imbalance in the body, randomized controlled trial is unable to detect weak treatment effect due to existence of a large number of interfering factors. A treatment for extending lifespans may be evaluated by measuring the survival time of patients, the survival time depends on a large number of factors such as age, personal health, sex, genetics, disease condition, exercise, diet, activity level, emotional condition, chronic stress, etc. If a trial is used to study a special diet on lifespan, the effects of the diet are randomly interfered by other factors. Thus a clinical trial is unable to correctly determine the precise effects of the diet. Naturally, medicine consistently rejects all lifestyles factors as potential cures because clinical trials naturally yield "no evidence" that lifestyle factors can cure chronic diseases [1].

Interfering factors ruin clinical trial outcomes. When clinical trials are used to study one single factor, a large number of other uncontrolled factors work like interfering factors [1]. A statistical analysis is conducted to determine if treatment effects exist. However, trial final resultant data normally comprise an average of performance (such as survival time) for the treatment group and an average for the control. To determine if the treatment has a real beneficial effect, the researcher compares the difference (e.g., the net treatment effect) between the treatment average and the control average, with the differences (e.g., variances) within the control and within the treatment. In doing so, the effects of all interfering factors are bundled as an apparent experimental error. In conducting the statistical analysis, the measured net treatment effect is compared to the experimental error. Only if the treatment's effects is sufficiently larger than the experimental error, does the statistical analysis affirms the treatment's effects. If the treatment's effect is closer to or even smaller than the experimental error, the statistical analysis just "regards" the treatment's effect as being caused by "the experimental error", thus failing to recognize the treatment's effect [1].

To prove the seriousness of the three problems, I constructed a simple model to compare a clinical trial with an optimization trial. In the optimization trial, ten similar factors are used as a treatment package which is applied to only matched patients. If each factor has one unit of beneficial effects, the treatment would have 10 units effect. In the clinical trial, the research focus is on one single factor with other nine similar-strength factors being present randomly. If we assume that only 10% matched patients will get benefits, the statistical average of the treatment is only one tenth unit. The difference between the two trials is 10/0.1=100 times [1]. If 100 similar factors are used, the optimization trial would detect treatment effects which are 10,000 times of what the randomized controlled trial could find.

In addition, the statistical analysis also inflates the variances of the

experiment error. If the ten factors have similar variances, the statistic of the optimization trial is about 320 times larger than that for the randomized trial [1]. In a model with 100 similar factors, statistic which is to tell treatment effects may differ by 100,000 times. This simple model analysis shows that randomized controlled trial is a wrong method for studying weak effects in the human body and negative conclusions are false and misleading except by accident.

We Can Live Only Fractions of Lifespans

There are long debates in human lifespans. We found that the statistical life expectancy does not really exit in population because actual deaths were often caused by chronic diseases but few deaths were truly from exhaustion of biological potential; life expectancy is found under inferences of a large number of uncontrolled variables such as usable organ capacity decline rates, a large number of life stresses, and changing thresholds of death of organ functions; population-based life expectancy bears no relevance to specific persons. Excess metabolic capacities are tens to thousands of times more than what are needed to maintain life. A study shows that a person's organ reserve loses only 30% from the age of 30 to 90. Based on excess metabolic capacities, potential human lifespans are at least 200 plus, with the maximum being 400 years while individual persons' lifespans can vary by great extents [4].

Personal lifespans depend on usable organ capacities decline rate, life stresses, and thresholds of deaths. Nearly all reported deaths are not caused by exhausted metabolic capacities, but are unfortunate outcomes in the death condition that depend on hundreds of factors [4]. Nearly all deaths occur when usable organ capacities are depressed temporarily and thus do not reflect potential lifespans.

To show the second flaw in medicine, I have proposed the death condition: the usable organ capacities are below what are required to maintain vital functions for a sufficiently long time. The time scale can be as short as two minutes to several days or even months.

Humans have a very important mechanism to maintain survival against aging process. When a person ages, the body slowly shrinks. I note that tissue volume could be reduced by as much as 50%. This change results in shortened capillary lengths and potentially increased capillary inner diameters, and reduce the overall flow resistance of the vascular system. The reduced flow resistance results in reduced pulse pressures on the heart, thus reduces mechanical stress on heart muscles, reduces the heart power for maintaining necessary blood circulation. This change can be almost enough to offset the lost usable organ capacities reported for humans from the age of 30 to 90. I attribute this factor together with conservative lifestyles to the observed mortality plateau.

Among all the factors, the biggest factors attributed to lost lifespans are diseases and infections, drug side effects, disuse of body functions, and excessive life stress. Currently, people can live only fractions of their potential lifespans.

However, due to misuse of randomized controlled trials, medicine has produced a massive inaccurate findings on the true effects of lifestyle factors. In a health optimization with 100 factors, a trial would show 100 units of benefits when they are used on matched persons. A randomized trial will detect 0.01 unit or even negative effects due to indiscriminate application of treatment. A randomized trial naturally rejects each of the factors as having no effect, and inadvertently mislead the world by failing to find scientific evidence to show that lifestyle factors can extend lifespans. By stressing evidence that is often wrong and inaccurate, medicine creates a false impression that lifespans can be extended only by using one single treatment like a magic pill.

By relying on meaningless evidence from randomized controlled trials, medicine has misled people for centuries by underestimating drug side effects. The root reasons are exactly same as studying weak treatments. The true side effects cannot be determined in clinical trials [1], but may be estimated by tracking the lives of survivor patients and examining changes in cells and tissues. The problem is very obvious in cancer treatment. None of cancer drugs are firmly recognized for their roles on shortening patient lifespans. Based on the organ's role in the death condition, anyone can make a reliable inference that chemotherapy must be in part responsible for cancer deaths [2]. Both the cancer cells and cancer drugs have effects to depress the usable organ capacities [4]. However, medicine does not accept the most compelling evidence. Instead, it insists on using randomized controlled trials and statistical analysis as final arbiters. Due to obvious flaws, such research method commingles drug adverse effects with cancer adverse effects. When a patient die, it is always convenient to attribute the cause of death to cancer. When everyone trust randomized controlled trial, no patient even questions the hidden roles of cancer drugs.

Some cancer patients may die by combination effects of invasive cancer cells and invisible drug side effects. Death occurs when a disease or life stress temporarily pushes organ capacities below thresholds of death as in case of acute organ failure. If cancer cells have caused usable organ capacities to lose 50%, the patient may still live. However, if a drug causes the organ to lose additional 25% of capacities, the patient may die. The drug is a substantial cause of death even though the primary cause of death is cancer. Sometimes, a patient may actually die more from drug side effects than from damages caused by cancer cells. Drug side effects that temporarily depresses usable organ capacities by 60% may be invisible, while the cancer can be used as a scapegoat.

A large number of factors may cause the usable organ capacities to progressively go below the threshold of death. Thus, longest lifespans cannot be achieved by using one treatment or several things. Dying in most cases is not an uncontrollable random event, but often becomes uncontrollable when dying is imminent. Indeed, all deaths happen as a result of making a series of unwise decisions. A poor lifestyle can cause the usable organ capacities to decline faster; failure to prevent diseases can result in repeated damages to vital organs, and conscious acceptance of life risks may lead to avoidable death. Even most accidents can be prevented by avoiding risky activities and using a risk-averting

lifestyle. Most common and routine diseases could be prevented by improving personal health conditions and taking precarious measures.

To keep survival, one must defeat the death condition in all time in one's lifetime. Death condition may be satisfied when only one major factor or several factors strike. A person may escape from such strikes when the person is young and his usable organ capacities are very large. When the person gets older, change in one or several factors may satisfy the death condition. Each person might have different ways to die. If the person had not died from the last instance, the person might have a long life to live because the biological potential has not been used up. Most people have died not because they should have died. They died because they have failed to defeat the death condition in one time, often due to making unwise life decisions, undertaking risky activities, or by stroke of bad luck. Even bad luck is not always beyond control.

Strangely, natural law favors dying events. Assuming that a person has entered the mortality plateau which holds constant death rate at 50%, the “chance” for this person to live for another ten years is only about 1/1000. In order to survive, a person must defeat the death condition in every hour, every day, every month, and every year from the year of birth to the year of death. However, the mortality plateau does not mean that a person can live forever. Rather, it means that the person must utilize all relevant factors to defeat the death condition. The relevant factors may concern lifestyle, environment, physical condition, and emotional states. For death to happen, one only needs to make one unwise life decision, undertakes one risky activity, or fails to prevent one accident that is enough to trigger death. In the end, I must deny the existence of mortality plateau. Other human lifespans and their deaths have absolutely nothing to do with any specific person’s life courses. The odds of dying must be based on individual person.

Dying has little to do with law of probability. The time of death of a specific person has nothing to do with those of other persons. Observed death data are pseudo-statistical data that appear to be controlled by law of probability. In reality, such population death data are the result of death events under the influences of medical practices and population health wisdom. When all people in the population use the same medical system, conduct similar benefit-risk analysis, and use prescription drugs to maintain health, dying appears to be a random event. Under the medical culture, a compressed survival cure is seen where extremely few die at young ages and most people die from 75 to 95. Most people can live only fractions of potential lifespans.

Final Remarks

Medicine has dramatically extended human lifespans by addressing infections, treating trauma, preventing diseases, and preventing deaths at young ages, but has severely shortened lifespans due to its failure to understand treatment’s long-term impacts and inability to determine weak and slow adverse effects. Conclusions from conducting statistical analysis are as absurd as

witchcraft: the life and death of one person have anything to with others people. The failure of medicine in extending lifespans can be attributed to the randomized controlled trials and population-based approach. Those flaws have prevented medicine from translating 99% of basic discoveries into real cures. I estimate there are millions of studies on the benefits of exercises on virtually all diseases, but none has attempted to enable people with the knowledge to cure specific diseases. Ignoring millions of discoveries in lifestyles, activity, emotion, toxins, pollutants, etc, medicine continues to focus on single strong factor, single drug, and single treatment. By using permutation, medicine naturally finds that each of potentially hundreds to thousands of relevant or influencing factors cannot cure chronic diseases and extend lifespans. By relying on population and conducting statistical analysis, medicine could not focus on specific causes of death, and naturally unable to provide usable strategy for extending lifespans and health spans.

Our Research Papers

1. Wu, Jianqing and Zha, Ping, Randomized Clinical Trial Is Biased and Invalid In Studying Chronic Diseases, Compared with Multiple Factors Optimization Trial (November 4, 2019). Available at SSRN: https://ssrn.com/abstract=3480523 or http://dx.doi.org/10.2139/ssrn.3480523.

2. Wu, Jianqing and Zha, Ping, Surgery, Chemotherapy and Radiotherapy Promote Cancer Growth Speeds and Shorten Patient Lives (November 14, 2019). Available at SSRN: https://ssrn.com/abstract=3487080 DOI: 10.13140/RG.2.2.17967.28321

3. Wu, Jianqing and Zha, Ping, Surgery, A Cancer Theory: The Central Nervous Systems Adaptive Changes Make Chronic Diseases Incurable (November 4, 2019). Available at SSRN: https://ssrn.com/abstract=3480562 or http://dx.doi.org/10.2139/ssrn.3480562; https://www.researchgate.net/publication/336775211

4. Wu, Jianqing and Zha, Ping, A_Multi-Factor Model for Estimating Relative Lifespans and Extending Health Spans. Accessed at https://www.researchgate.net/publication/337900952

5. Wu, Jianqing and Zha, Ping, Safe and Predictable Cancer Cures (November 26, 2019). Available at SSRN: https://ssrn.com/abstract=3493825 https://www.researchgate.net/publication/337547448

6. Wu, Jianqing and Zha, Ping. The Population-Based Medical Model Should No Longer Be Used as An Exclusive Model in Medicine. https://www.researchgate.net/publication/336026313

ABOUT DR. JIANQING WU

Jianqing Wu, Ph.D., J.D. is a scientist, registered patent attorney and prolific inventor named in 12 U.S. patents and many patent applications. He was born in a medicinal family in China and was exposed to medicine since childhood. He earned B.S. in China, M.S. and Ph.D, and J.D. in the U.S. He did postdoctoral research in Medicinal Chemistry at University of Illinois at Chicago and the National Institutes of Health. He started exploring Qigong in 1980 and using mind to tackle health problems and later proposed many theories on fighting chronic diseases and the special role of Central Nerve System. He and Dr. Zha developed a new health art known as Health Optimization Engineering.