Negative Impacts of NIH Funding Policies On the Global Health Landscape and Required Changes

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ABSTRACT

This study is to explore why modern medicine fails to find cures for chronic diseases. By conducting a review of NIH funding policies, I found that NIH is primarily responsible for creating the narrow modern medicine that is unable to cure chronic diseases. By influencing research programs for decades, NIH has promoted peer review system, the general acceptance standard, the use of randomized controlled trials, objective evidence standard, precision medicine, evidence-based medicine, exclusion of personalized medicine, rejection of broader mind-body model, rejection of personal observational evidence, etc. By influencing research programs, NIH is primarily responsible for excluding, rejecting, and suppressing personalized medicine including folk remedies, family-owned remedies, and personal discoveries from the world, and forming the wrong notion of incurable diseases. While most of the NIH research programs may yield potentially useful medical knowledge, most funded programs intended to treat diseases by directly intervening human biological networks failed for decades. I must find that such research programs are expected to fail forever. The bases of my prediction are that (1) medical research methods are grossly inaccurate with most mathematical models being wrong, (2) some fundamental concepts in biochemistry are inaccurate, always incomplete, or even completely wrong, and (3) most health properties beneath the life phenomenon are beyond human ability to characterize. Scientists are unable to

characterize the full details of human biological networks and biological pathway interactions. Those limitations are insurmountable in light of the fact that chronic diseases are caused by small departures in process attributes in the human biological pathway networks. I must also predict that most NIH-funded research programs attempted to intervene the human biological networks are deemed to fail or will not benefit people in our time. I urge NIH to deeply examine its past funding policies and consistent failure in chronic diseases, and expand its funding scope to cover evolution-compatible remedies, fork remedies, and personal discoveries, many of which have been proved by irrefutable evidence to be predictable cures for chronic diseases.

INTRODUCTION

NIH funding practices have been the subject of many studies [1-2]. One thing that has not been studied in the past is how NIH plays its role in shaping up the medical landscape in the world. This article is sent to the Director of National Institutes of Health (NIH) as an open letter, with copies being sent to Directors of selected National Institutes, the Director of Center for Disease Control and Prevention, the Director of FDA, and World Health Organization, and the House Representative and Senator who represent my district. The purpose of this article is to examine the scope of NIH supported research and explore room for improving its future research programs. Based on the performance of NIH-funded research programs in chronic diseases and cancer in the last 50 years, I predict that the massive federal fund and the massive private research funds as influenced by NIH programs will fail the mission of finding cures.

NIH is created by Title 41 the Public Health Act, and has the following mission statements [3]:

[1] to foster fundamental creative discoveries, innovative research strategies, and their applications as a basis for ultimately protecting and improving health;

[2] to develop, maintain, and renew scientific human and physical resources that will ensure the Nation's capability to prevent disease;

[3] to expand the knowledge base in medical and associated sciences in order to enhance the Nation's economic well-being and ensure a continued high return on the public investment in research; and

[4] to exemplify and promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.

In realizing these goals, the NIH provides leadership and direction to programs designed to improve the health of the Nation by conducting and supporting research [3]:

- in the causes, diagnosis, prevention, and cure of human diseases;

- in the processes of human growth and development;
- in the biological effects of environmental contaminants;
- in the understanding of mental, addictive and physical disorders; and
- in directing programs for the collection, dissemination, and exchange of information in medicine and health, including the development and support of medical libraries and the training of medical librarians and other health information specialists.

NIH employs five broad decision criteria in its funding policy. First, ensure the highest quality of scientific research by employing an arduous peer review process. Second, seize opportunities that have the greatest potential to yield new knowledge and that will lead to better prevention and treatment of disease. Third, maintain a diverse research portfolio in order to capitalize on major discoveries in a variety of fields such as cell biology, genetics, physics, engineering, and computer science. Fourth, address public health needs according to the disease burden (e.g., prevalence and mortality). And fifth, construct and support the scientific infrastructure (e.g., well-equipped laboratories and safe research facilities) necessary to conduct research [4]. Although this statement was dated 1999, after searching and reviewing NIH current funding policies and research specifications, I found that NIH current funding practices are substantially consistent with the above statements.

ANALYSIS

This analysis focuses on NIH funding policies, mission statement and research standards that are indisputable. Detailed analysis of problems in funded programs will be presented in future.

A. NIH should expand the scope of funding supports to the entire field of medicine

By the odds of striking lightning, I, with help of others, successfully completed my proof [5] that the population-based reductionist research model is flawed in three key components: use of clinical trials, reductionist treatment approach, and use of mathematical model for the purpose of finding cures. My proof is based on factual findings in tens of thousands of studies by other investigators. My findings are particularly important because I found that part of a workable solution for the COVID-19 pandemic is improving personal resistance to the virus. I found that NIH funding scope is largely limited to research for discoveries of antiviral drugs, vaccines, and other drugs that are intended to affect a specific step in a biological pathway. One of my findings is that chronic diseases cannot be effectively corrected by intervening one single factor, one

single step, or limited attributes in a person's distinctive biological network comprising a large number of biological pathways [5].

NIH ignores the original broad definition of medicine and uses its funding influences to narrow down the scope of medicine. By exercising its funding influences, NIH has played a vital role in turning medicine into a revenue-generating enterprise that focuses on drugs, vaccine, radiation, and body biochemistry. Essentially, NIH promotes only a fraction of potential treatment options that should be available under the broad definition of medicine. From searching and reviewing its currently active funding opportunities, I found that very few funding programs are provided to support medical research using personal, environmental, emotional, dietary factors as cures. Although its current research programs could generate potentially useful knowledge of diseases, most of them cannot translate into immediate cures that can root out causes of diseases. Even for COVID-19, for which drug interventions could be effective, restricting its support scope to the narrow options will severely diminish the chance of success.

After finding the flaws in the research models, I also found that the best strategy is improving personal resistance to the virus. Although my proof is very complex, the secrets of the COVID-19 disease are plainly reflected in death risks among affected patients. If two similarly aged persons have completely different disease outcomes, what makes them difference in death risks must exist, and must be extensively explored and used as the most powerful weapons to conquer the disease. Moreover, NIH is on notice that massive research findings have established the causal effects of personal lifestyle factors on personal health and diseases. I found that any distinction between causal factors and risk factors is an artificial concept from misusing the population approach. NIH fails to provide any incentives for such research projects, and then bets that narrowly selected intervention options can adequately address the pandemic.

B. NIH should promote health justice for mankind.

NIH should use its funding power to dismantle the massive barriers that have been set up by the medical establishment over decades. My findings of the flaws in medical research models may have temporary adverse impacts on various players in medicine. Naturally, I ran into all kinds of barriers set up by medical publishers, peer review, medical practitioners, etc. In the entire history, NIH has played its vital role in creating this extremely narrow modern medicine. For example, NIH does not fund research projects in personalized medicine, provides little incentives for exploring lifestyle factors as cures; it does not provide research funds for research projects intended to identify and fix flaws in the foundation of medicine. Instead, NIH has incorporated randomized controlled trials as the best research methods into its funding policies and review standard so that no one can even question their validity. Since most research institutions depend on funding support, any research activities to challenge the foundation of medicine must be outside the scope of funding support. NIH does not provide rewards for ground-breaking activities, not even publication fees for

findings that have been done by personal funds. NIH does not provide any alternative methods to bypass peer review which is expected to suppress any article that is expected to adversely impact the interest of peer reviewers. After NIH has set up all those discriminatory devices, it then pretends to be fair-minded by requiring all medical discoveries be “published by peer-reviewed journals so that the studies can be repeated.” Due to the influences of its huge research funding, its policies are same as precluding and suppressing medical discoveries that NIH discriminates against or imagines to be invalid. The practice has the effect of deciding in 1970s that all future medical discoveries contrary to its belief are invalid.

NIH has an implied statutory duty to make best effort to find cures for diseases. Although it has a plenary power to influence medical research and knowledge dissemination by controlling money, it has not used this power to advance the course of medical research. In dealing with critical medical discoveries, it cannot work like a bystander, waiting for the slow publication process. Deciding the merit of medical discoveries is not the same as deciding a civil case between two persons. In a civil dispute, the outcome will not adversely affect public welfare. However, important medical discoveries affect human life and civilization wellness. NIH is the main federal agency that has the statutory power to influence medical research. In such a situation, NIH cannot work like a bystander, watching bullfighting. NIH historically does not have any program for reviewing medical articles produced by outsiders. But my findings reveal that medical research models are the main reasons for failure to find cures. The findings are expected to impair estimated 30 million global annual premature deaths from chronic diseases, estimated 90% of COVID-19 patients’ fates, national and world economy, and even civilization wellness. Since health and disease is a matter that affects every person, the findings affect everyone in the planet. NIH has 6000 principal researchers and nearly 20,000 staff, and it is in a position to review any article in any field. In addition, NIH could delegate review tasks to outsider experts. U.S. Congress appropriated \$41.68 billion in 2019 for NIH research programs for the mission for finding preventive and treating methods for diseases. A common sense would tell that NIH owns an implied statutory duty to bring controversial and important medical discoveries to the world. Failure to do so is an unexcused breach of this duty.

NIH puts its full faith to medical publishers, which publish articles for revenues. NIH should be on notice of big problems of the current publication practice and the peer review system. Publishers have right to reject articles without review, and decisions are often mainly based on how articles affect their publication revenues. Peer review is based on a wrong assumption that the support of two or three out of potentially millions of reviewers at the time of publication can prove “scientific validity”. Peer review is based on extremely small sampling which must produce unpredictable outcomes. Peer review giving right to reject is a deceptive marketing device for publishers. Peer review did not produce valid medical knowledge pool, but massive obsolete, inaccurate or poor knowledge [5]. Peer review is the main reason of suppressing creative thinking in

medical research. Most researchers depend on research funding, and their abilities to get research funds depend on publication of their articles. They must restrain their thinking to what is generally accepted or what peer reviewers would like or accept. This negative incentive thus prevents important theories, hypotheses and bold experimental designs from seeing the light of day. This is why we have seen a research culture where similar research projects in epidemiological models were repeated thousands of times. Research becomes an enterprise game.

Early publishers developed the flawed peer review system. Instead dismantling the flawed review system, NIH supports it. For example, NIH does not cite, index, or use unpublished articles for the sole reason of being not peer reviewed. So, what NIH trusts is an approval odds of 2 out of millions, overridden by publishers' decisions solely based on publication revenues. By accepting this wrong merit standard, NIH supports the notion that "revenue-generating articles must be scientific valid." If a sponsor can spend unlimited revenues, it can have anything published to get NIH endorsement. By relying on this flawed review system, NIH promotes a research culture that wastes federal research fund.

The practice of determining the merit of medical discoveries before the world has a chance to see is fundamentally wrong. Anyone could identify volumes of obsolete and wrong theories and wrong practices in medical literature, and NIH should note that the merit of medical discoveries is difficult to decide. Abundant medical controversies reveal that it is very difficult to determine medical discoveries in short time. Contrarily, many published discoveries may be rejected, modified, and improved after one hundred to two thousand years of discoveries. What must be wrong is to systematically suppress discoveries before they are published. NIH should provide channels to prevent important medical discoveries from being suppressed. I have produced irrefutable evidence elsewhere to show how some traditional medical publishers selected articles by judging their effects on their revenues without regarding the costs to human lives and world economy.

While NIH does not need to interfere with professional practices in medicine in every aspect, NIH should do what is necessary to neutralize its past adverse impacts.

C. NIH should do its part to fix the dysfunctional medical system.

Medicine has become a profession with no channel to fix flaws in its foundation. When medicine is built on a flawed foundation, such flaws must be found in every part of the medical system. Clinical trials are able to detect only strong effects, so that they can be used to investigate strong treatments such as drugs, radiation, surgery, etc. However, clinical trials always produce misleading results if they are used to study weak effects, and the widespread misuse of clinical trials have resulted in a misleading belief that that none of those weak lifestyle factors can be used to cure diseases. Since clinical trials can only focus

on one or few factors, even the specifications of research articles used by most medical publishers are tailored to reductionist research articles. By using objective evidence and standardized research model, medicine tries to reduce the most difficult tasks into a simple task like comparing health property measurements between different groups. Comparisons are made without understanding massive interfering or co-causal factors. Such studies produce findings that appear to be scientific valid but often wrong.

In the U.S. and some Western nations, modern medicine is accepted as almost an exclusive brand of medicine. The population-based reductionist treatment model is accepted a gold standard by medical schools. American medical board only certifies doctors in modern medicine. Federation of State Medical Boards and the National Board of Medical Examiners can certify only physicians with an MD degree before being permitted to practice medicine in the United States. American Board of Medical Specialties certifies only doctors who hold a license in modern medicine. By influences of medical education, flawed medical research and treatment models are accepted by Internal Revenue Service, state regulatory agencies, federal regulatory agencies, health care foundations, other organizations, etc. They are found in FDA regulations, federal tax law, state tax law, private reimbursement policies, Medicare policies, hospital regulations, doctor regulations, hospital laws, etc. Under the influences of scientific validity, the population based reductionist research and treatment models have misled governments, health organizations, and all people in the world.

Ordinarily, federal, state and private laws should be written without specifically incorporating research models, theories, and practicing standards because those things are expected to change. However, in the U.S., interest groups can always use the law-making process to achieve occupational monopoly. Population based research model, reductionist approach, clinical trials, statistical analysis, objective evidence standard, and certain practices are distinctive components or signs of modern medicine. Incorporation of those distinctive components into existing laws and regulations has an effect of excluding competing alternative health art such as the holistic model, mind-body personalized medicine, folk remedies, families-owned remedies, etc. After substantially all laws and regulations for medicine have been tailored to the narrow modern medicine, such a medicine cannot be overhauled. Even though medical spending in the U.S. is going to swallow \$3.5 trillion of GDP, nothing can be done to fix this dysfunctional medical system. As long as diseases are not cured, lives are extended by drugs, equipment, and organ transplants, no money can fix the healthcare crisis.

Monopolistic practices attempted by interest groups have resulted in a medical infrastructure that cannot be reformed. The medical foundation must be fixed before diseases can be cured. If anything is done, it will naturally hurt those who once used the medical infrastructure to promote their interest. It is natural to see great resistance from medical publishers, peer reviewers, medical

practitioners, medical researchers, etc. Such a medical system must become the most dysfunctional system. I encountered all kinds of barriers that have been established by traditional medical publishers, funding agencies, federal and state agencies, private foundations, non-profit organizations, etc. After the health wisdom of the people is completely ruined, media avoid controversial medical subjects and people cannot think how to fix the medical system.

NIH has used common practices to promote failed modern medicine. This is plainly reflected in the funding policies. The failure of medicine is reflected in performance data, personal stories, uncontrollable medical spending, and ever growing patient name databases. Since medicine cannot cure chronic diseases, NIH cannot use performance data or expected performance potential to evaluate research proposals. Thus, NIH uses process and technicalities as evaluation criteria. NIH uses criteria like organization, universities, principal investigators, non-profit entity, research experimental basis, etc. They not only use those criteria to preclude private research but discriminate, discourage, or suppress discoveries that have been made by private research. Process-based merit diverts public attention from the failed mission to massive confusing process details. The process-based merit system becomes great obstacles to challenges to the foundation of medicine. If a person challenges any fundamental errors, the challenge must overcome several layers of huddles and successfully address hundreds of hard-to-comply details having no bearing on the merit of challenges. This is why a flawed research model has been promoted as the “crone jewel” and “gold standard”. Under this process-based merit system, medical publishers can quickly suppress articles. This is the reason no one is willing to expose flaws in the foundation of medicine. Even laymen can see that process-based merit system is unreliable: treatments are often poorer than what is promised in medical literature. The medical system has misled the world for decades because the flaws are buried deeply under massive process details. NIH is the main institution that has both a statutory obligation and power to fix the system.

D. NIH should support broadest personalized medicine

NIH policies are responsible for rooting out a vast number of potential options in the broader personalized medicine. Personalized medicine includes the version that uses lifestyle and environmental factors to correct causes of diseases. Compared with personalized medicine, the scope of modern medicine is like as a drop of water in a bucket. Health and disease are experienced by everyone in his life time. A vast number of folk remedies are discovered by patients in all civilization regions. Those remedies are rejected because clinical trials are incorrectly used as final arbiters for medical controversies. Our findings compel that folk remedies must be reinstalled as potentially superior treatments while each remedy must be evaluated on a case-by-case basis.

Medicine, due to flawed population approach, misused mathematical model, and misused statistical analysis, is unable to recognize the true benefits of folk remedies. Even negative findings are most probably wrong, given the massive number of interfering factors. Moreover, folk remedies are rejected for

lack of objective evidence by the medical establishment. Controlled trials are not suitable for studying health problems related to event timing, body positions, locations of problems, event order, body structures, process interactions, etc., often due to practical reasons. By failing to correct this mistake for nearly a century, NIH is primarily responsible for shaping up the medical culture to preclude and wipe out other remedies. NIH does not support personal research and personal discoveries. By requiring a long list of irrelevant qualifications such as staff, prior research experience, office, experimental site, past achievements, published articles, etc. as evaluation criteria, NIH is also responsible for precluding and suppressing medical discoveries by patients.

E. NIH should support remedies coming down in evolution.

Research findings in the last half century consistently show that treatments by targeting single biological pathway cannot permanently cure diseases. One main reason is that each person has a unique biological pathway network, in which one single step cannot be freely alternated without disturbing the whole network. Due to the extremely complex of such a network, humans lack present ability to understand details about the network and there is no method that could characterize the network. If a single chemical entity is used to alter one step in the network, there is no way to predict how the chemical entity affects other attributes in the network. While chemical interventions can be highly effective for short-term purpose, alternation of the network by application of drugs in long terms most probably result in side effects. Thus, a presumption is that interventions by targeting a specific pathway produces unpredictable long-term side effects.

I have shown that current research methods are unable to accurately characterize most health problems. This problem requires re-evaluation of a large number of conclusions in medical studies. However, research model flaws are not the only flaws in medical research. I urge NIH to consider other uncertainties in substantive knowledge in basic sciences such as biochemistry and chemistry. Given the complexity of health problems, NIH should exercise wisdom to suspect that most discoveries may reflect only partial truth. First, I suspect that many important theories may be incorrect or wrong. Even sodium pump and ATP production mechanisms were not without disputes. However, when the field was controlled by influencing groups, controversies in those disputes were quickly ended by assuming what is generally accepted by the majority is true. I must point out that general acceptance has no direct bearing with scientific merit. It is even possible that none of all existing theories is right. If human life and civilization are important, NIH should reopen those debates. It is possible that changes in the substantive knowledge may require different approaches to chronic diseases.

The correctness and accuracy of a good part of medical knowledge must be challenged if it is produced by clinical trials. Most findings concerning any weak effect should be presumed to be incorrect due to one by N interference. Thus, most health problems are deceptive. Any of millions of foods, natural

products, activities, and environmental factors could be cures for diseases of matched patients but is rejected over outcomes of clinical trials. Perhaps, even methods of describing basic concepts contain great inaccuracies. One well known lesson is that scientists once used classical physics to understand quantum problems and naturally could not understand light. In life science, there might be similar problems that cannot be understood by relying on human experience. One phenomenon is white blood cells movement in the tissue. The huge cells must move around in tissues by passing through much smaller capillary pores and inter-cellular spaces. I believe it is important to innate immunity and all chronic diseases including cancer. Maybe, the phenomenon cannot be described by any known method. What is important is how different factors affect white blood cell mobility and how to use different factors to change their mobility. The second reason is our limited knowledge of the biological network. The current knowledge of biological pathways represents only a small part of the whole truth. Current knowledge lacks detailed spatial information on the network attributes in different cells, lacks rate information on all biological pathways in different cells, lack detailed information about all controlling mechanisms, and lacks detailed information on changes in network attributes in different time of day or different days of the life. What we could understand is a very primitive picture with insufficient details. Even if we have a good method to detect intermediate species, we still lack suitable methods for accurately characterizing them.

I found that chronic diseases are caused by small departures of process attributes of the biological networks from normal values. Characterization of the departures requires high accuracy. For most cancer patients, departures are caused by 0.1% of additional cancer cell gain in each day; for heart diseases, blood vessels might be damaged by depositing fats at extremely slow rates. Changes in the biological networks are so slow that the changes cannot be detected by any detection methods unless final effects are determined by examining cumulative effects. Even long-term studies do not always reveal truth. Each controlled trial always produces an outcome reflecting one versus N interfering factors under the experimental condition. Thus, outcomes of all clinical trials must be wrong in an absolute sense, and this statement is true, regardless of mathematical models used to model the effects of interfering factors, interactions between interfering factors and the effect under investigation, and interactions among interfering factors. If a factor with weak effect is studied, it is naturally falsely rejected because it is hidden among interfering factors. Medical science lacks accuracy which could be required to correct an identified fault. Reliable treatments cannot be developed by relying on incomplete, inaccurate or even wrong knowledge. The errors from controlled trails make most findings inaccurate or even meaningless, additional errors from medical knowledge make most treatment findings completely meaningless.

Small departures of attributes in the biological networks cannot be restored by using strong interventions. Strong interventions for controlling foreign agents are often successful because the interventions are not to alter the

biological networks in persons. For chronic diseases, corrections must be directed to the biological networks. One problem is that one single step or attribute in the network cannot be freely alternated without disturbing the whole network. Moreover, what is more important is to control the rates of individual biological pathways. A vast number of medical research projects are attempted to block or interfere with biological pathways, but could not even try to control rates of biological pathways. It is difficult to control the degrees of changing. An intervention may lack sufficient effect or overshoot. If a strong intervention is used on a person for a long term, it most probably shows side effects because it can alter the biological network in a long term. Therefore, strong interventions can only control symptoms for short terms.

Chronic diseases are caused by changes in the biological network. Exercise, healthy diet, clean environment, and happy emotional state are remedies coming down in evolution, and can restore the biological networks to the states that support health. Those measures are safest because they are part of lifestyle measures. Thousands of studies have shown that they have great benefits on chronic diseases including all types of cancer on all kinds of patients (with few exceptions). Exercises can temporarily disturb biological networks which will go back to baseline states upon stop of doing exercise. If a person does regular exercises, departures of attributes in his biological network are slowly corrected by time effects. Similarly, many findings in nutritional studies demonstrate that diets can promote health, presumably, by influencing biological networks. Similar findings have been found for emotional and environmental factors. Personal biological networks promoted by regular exercises, healthy diet, happy emotional state, and clean environment do not support cell proliferation, inflammation, infections, or other disease processes. They are predictable cures for all chronic diseases. The weakness of lifestyle remedies is that they deliver curative benefits slowly.

The notion of incurable diseases is firmly refuted by overwhelming evidence including our findings of the research model flaws, distinctive personal biological networks, findings in studies involving disease risks, dietary, emotional, and environmental roles, and the findings in studies comparing holistic and reductionist models. In addition, it is common knowledge that cancer can heal naturally, and heart diseases heal by using good lifestyle programs. Rejecting the notion of incurable disease is vitally important because it becomes a death spell for patients. Most cancer patients (including misdiagnosed healthy persons) die in big part from severe emotional distress. Massive evidence proves that correction to chronic diseases and cancer can be made by using measures that are compatible with evolution. Most effective, predictable, and cheapest solutions to chronic diseases and cancer are lifestyle prescriptions tailored to a specific person. A lifestyle prescription may cover emotional, environmental, dietary and lifestyle components with the focus to correct most offensive attributes in the biological networks. Failure of medicine were noted in 1875, and drug based research programs did not yield predictable cures for chronic diseases in the past half century. If NIH starts promoting personalized holistic

preventive and treatment model, mankind can solve most chronic diseases in most reliable way. If NIH can lead private investments to medical research in personalized medicine, the world could solve most diseases in 5 years.

F. NIH should support personal and patients' discoveries by using non-obvious standard in lieu of general acceptance standard.

Medical literature contains obsolete theories, poor models, and profitable practicing methods. The presence of massive poor research articles can be attributed to medical publication model, peer review system, general acceptance standard, objective evidence standard, etc. Determining the merit of medical discoveries at time of publication is a wrong practice. If the U.S. Patent Office had used this approach, the patent office would have prevented most inventions (except those by big companies) from appearing in the world. Good treatments for chronic diseases may be as non-obvious as any non-medical invention. Great treatments must be non-obvious because they must work above massive interfering factors in the complex life being. Life itself is the most complex being. Even information written in brain neurons could be relevant. A good cure cannot be one that two peer reviewers could instantly determine at a first glance. By using massive technicalities to evaluate "research quality", it provides maximum incentives to promote enterprise research that are remote from reality. This practice has resulted in rapid disappearance of folk remedies that are often found by the odds of striking lightning.

NIH should abandon its funding policies on using objective evidence standard. Its long policies on discrediting personal observational evidence have played a big role in failure to find cures. This standard has prevented medical researchers from studying massive healing miracles. There are hundreds of well documented cancer self-healing cases, and there might be millions of undocumented cases in cancer self healing. The best solution to the cancer pandemic may be folk remedies or simply changes of personal lifestyles. I predict that, by focusing on drugs, surgery and radiation alone, medicine will never find the best, most cost effective and safest remedies for this pandemic. Our findings essentially predict that holistic mind-body personalized medicine is much more powerful than the population based reductionist treatment model. "Incurable diseases" is a result of using wrong treatment model; the notion that "only FDA-approved drugs are safe and effective" should be rejected as a mistake in the research model, and "lack of objective evidence" should be rejected as biased policies intended to preclude competing medicine.

Influenced by discriminatory funding policies, medical discoveries are judged by general acceptance standard. However, the medical industry is controlled by interest groups, and business necessity for achieving maximum revenues is the driving force to keep obsolete theories and poor practices. Each time when a ground-breaking medical discovery is made, medical research will stop right there. No body will spend time to bring the new findings to clinical practice and to identify necessary changes to existing medical practices. After the discovery of surgery's role on promoting cancer spreading, few would have

incentives to conduct follow up research. Any further research might hurt vested interests. For this reason, medical knowledge pool contains mostly disjointed discoveries that have little utilities. Findings in a vast number of lifestyle research articles can never be moved into clinics.

Fueled by NIH discriminatory policies, some interest groups discredit and belittle folk remedies, family-owned remedies, and personal discoveries. Traditional medical journals disseminate factually wrong messages for decades. The medical industry has created factually wrong cultural misunderstanding that swaps the merits between holistic personalized medicine and reductionist modern medicine. Misled by “scientific validity”, national governments in most nations officially reject or discredit folk remedies for lack scientific evidence and thus resulted in rapid loss of folk remedies and personal discoveries. NIH policies played a determinant role in the worldwide failure to protect the most valuable treasures which are discovered at costs of massive deaths and personal miseries. As a result of bad influences of modern medicine, folk remedies, family-owned remedies, secret herbal formulations, etc. are rapidly disappearing from the world. Some are not what future humans can re-discover even at any amount of research funds.

NIH must agree that a vast number of early remedies were discovered by patients. Patients are in much better positions to discover remedies. There is no basis to believe that a doctor without any personal disease experience somehow can better understand a disease than a patient who has struggled with the disease for decades. This is particularly so in light of my finding that best cures lie in methods of influencing personal biological networks and there is no need to know the details of the networks. We heard a saying that a person inflicted by a disease for a long time becomes a good doctor. There is an inherent reason to trust personal discoveries. Clinical trials focusing one or a few factors among hundreds to thousands of interfering factors always produce false negative results due to misuse of statistical population [5, 6]. A positive finding reflects relatively high beneficial frequency or larger effects among persons in the human population, but cannot be applied to any specific person. Patients have the same kinds of difficulties to identify causal factors, but they have strong incentives to try things and observe their effects on a daily basis. Clinical trial investigators have no personal stake and often have no real opportunities to differentiate the effects between treatments and other interfering factors. Constrained by the randomization requirement to avoid “biases”, they must avoid personal observations, and ignore anything observed by accident. The patients, on the other hand, are struggling for cures, often by paying great attention to finer details. They might try all possibilities they can imagine and might occasionally find remedies. They repeat the remedies and confirm them. Some folk remedies are highly effective and safe if they are used in right patients under similar conditions. Folk remedies were found in all civilization regions in thousands of years.

Not only patients are in far better positions to discover personalized remedies, the frequencies for patients to make discoveries can easily beat the institution's chances by millions of times. In dealing with the COVID-19 pandemic, perhaps more than half of the world population (e.g., about 4 billion) is doing their personal experiments of various sorts on a daily basis. They try various things to mitigate viral concentration, avoid viral exposure, improve their health or immune system, relieve their symptoms or reduce death risk, or recover virus-caused damages, etc. It is possible that tens to thousands of personal "trials" might result in findings of beneficial remedies, but people have no incentive to tell and disclose their findings. Personal medical inventions will be discovered and pass down to next generation. Under this medical landscape, all personal discoveries are born with the label of illegal and fraudulent junk remedies. Essentially, the discriminatory funding policies have prevented massive personal discoveries. NIH has an undeniable obligation to correct this past wrong, and develop a systematic method for discovering, acquiring, preserving and disseminating such remedies for public welfare.

When the foundation of medicine is flawed, conclusions in most controlled trails involving weak factors are incorrect. If the medical system continues its past practices, it will extract maximum miseries from patients, let more people die or to be disabled, and brew bigger civilization risks. The biggest risks are found in cancer, heart diseases, mental diseases, human infertility, infection diseases, etc. Cancer is becoming a worst pandemic; and the chances of getting cancer in a person's lifetime increases from 0.04 to 0.4, and finally to near a unity for people living over than 80. The COVID-19 is only a new problem among other health problems. Cancer and infertility hit mankind with unstoppable momentum. All problems can be traced to the misuse of clinical trials which have produced massive misleading conclusions for decades. The government must intervene when the medical system has become a dysfunctional system. NIH does not have power to make substantive decisions, but it should create an unbiased forum that is not controlled by interest groups, and provide necessary funds for vital activities to address health issues vital to civilization continuation. Such a forum will offer a best chance to address health issues that can brew civilization catastrophes.

G. NIH cannot continue using the same funding policies tailored to flawed research and treatment models.

NIH as a political institution lacks wisdom in shaping up national medical infrastructure. This is clearly reflected in its long funding histories. Mind-body roles were well known in virtually all ancient medical systems. As an institution, NIH should give great deference to the oldest medical arts. In 1875, mind-body roles were described by Cole [7]. NIH took clinical trials as the best method for studying every health problem, and establishes objective evidence with an effect of rejecting all other medicines that cannot be studied by the flawed research method. When National Cancer Act was enacted in 1971, NIH started focusing on narrow biomedical research. Its cancer research programs fail while some

claimed benefits from its cancer research programs can be refuted by noting the flaws in clinical trials and use of chain controls. The repeated failure should have alerted NIH to investigate its approach and funding strategies. After 1980, findings from thousands of studies show critical roles of personal, environmental, emotional and dietary factors in chronic diseases. Studies in the last forty years generate hundreds of indicators that NIH funding strategies must be in part blamed for the failure. By continuing focusing on narrow research scope, NIH not only fails to find cures, but actually prevents the world from finding cures and cause the world to systematically lose most valuable treasures in medicine.

Influenced by its long funding practices, NIH has played a most important role in shaping up the medical system which systematically precludes, discriminates against, dispels, and suppresses all alternative treatment options. NIH achieves this end by carving its funded research programs for drug-based research, and promoting the types of research which involves comparing treatment A with a control and using so-called objective evidence. Beneath the appearance of objectivity is meaningless junk science. Its programs not only promote failure within its own narrow options, but also prevent other medicines from being accepted. By recognizing “scientific validity” only for its favored treatment options and promoting flawed and clearly wrong evidence standard, the NIH policies have the effect of classifying everything else as junk medicine and invite worldwide condemnation.

Any fair-minded person is on notice of massive healing miracles; and the biases of NIH funding policies are not innocent errors, but products of occupational discrimination to further the interest of interest groups. Even with the massive self-healing miracles reported over the internet, NIH still did nothing to explore cures coming down in evolution, but conveniently reject them for “lack of well controlled trials” or “lack of objective evidence”. NIH is also responsible for creating the notion of incurable diseases to justify the failure of its research programs. The worst impact of NIH policies is brewing global health crises that rapidly speed up the end of civilization. By using clinical trials and similar flawed research methods, mankind is never able to determine any effect as long as the effect is interfered by many other interfering factors. By promoting clinical trial misuse, NIH creates a false assurance that most of single compound is safe. Misled by the false assurance in the name of scientific validity, people are misled to believe that it is safe to ingest avoidable chemicals, hormones, antibiotics, artificial colorants, food additives, industrial chemicals, harmful materials, poisoning gases, unnecessary or avoidable drugs, as part of modern lifestyle. By disturbing personal biological networks, cancer, infection, infertility, mental disorders, etc. strike humans like common cold with increasing risks of death. To correct the past mistakes, NIH should deeply look into those risks that can have catastrophic impacts on civilization. NIH must appraise the unstoppable momentum of those trends and tried to find anything that could luckily stop and reverse those trends.

As an institutional arm of Congress, NIH cannot make decisions solely by betting on scientific validity because science was built on a questionable foundation. Even a single source of error from the use of binary scale makes researching findings meaningless. Many scientific discoveries are rejected hundreds of years later. There is no proof that scientific methods must be able to solve every problem in the world. For example, some mental problems can be solved by offering what the patient subjectively believes to be the best, but not what science proves to be the best. In making health care policies, NIH needs to exercise political wisdom, and must consider the long medical histories and try to foresee the long-term consequences. The lesson from using flawed controlled trials to throw out all ancient medical theories and practices is by far the biggest mistake in the entire human history. The costs to human lives and damages to civilization are beyond description.

Due to failure to recognize the inherent limitations of clinical trials, misuse of mathematical model, and reliance on existing knowledge, the U.S. Public Health Act has incorporated excessive details of medical research methods and practices. It is thus difficult to correct the errors without legislative reform. However, the Act provides several provisions to address unforeseen important health issues. Director of NIH is authorized by 42 U.S.C § 282(b)(12) to reserve funds to “provide for research on matters that have not received significant funding relative to other matters, to respond to new issues and scientific emergencies, and to act on research opportunities of high priority”. When medical discovery allegedly affects the validity and chances of success of many on-going research programs, many of which are in response to COVID-19 pandemic, NIH has an obligation to investigate the findings rather than waiting for peer reviewed publication. Congress foresaw uncertain health emergencies and authorizes the Secretary of Department of Health and Human Services power to address emergencies medical research. The secretary is authorized by 42 U.S.C § 289g to support emergency medicine research programs administrated by federal agencies including NIH and CDC. The Secretary may act through the Director of NIH to modify existing contracts and grants under 42 U.S.C § 289c.

Conclusion

NIH funding policies were shaped up in its long history before NIH had full knowledge of disease causal factors and severe limits of favored research and treatment models. However, NIH failed to note the massive indicators in medical discoveries and personal miracles, and failed to bring the need for overhauling medical research and treatment models to the attention of Congress decades ago. Due to the adverse effects of NIH-funded research programs in medicine and unwise, ineffective, and misused standards which have an effect of

precluding and suppressing competing medicines, medicine repeats failure to finding cures for chronic diseases.

NIH should do its part to overhaul the current peer review system because the system stifles creating thinking and killing ground-breaking medical discoveries. Its continuous endorsement of this fundamentally flawed system is a main reason for failing its first mission. To address the negative effects of the general acceptance standard, NIH should consider adopting non-obvious standard as a separate or alternative criterion for evaluating medical discoveries. NIH policies to wipe out folk remedies and discriminate against alternative medical researchers fail its second mission. NIH historical discriminatory practices against personalized medicine, folk remedies, personal discoveries, etc. are contrary to its third mission on expanding the knowledge base in medical and associated sciences. NIH has made great efforts in fulfilling its fourth mission by wrong means: The efforts of combating selection bias and conflict of interests are misused to address experimental uncertainty common in medicine and are responsible for creating excessively administrative burdens in medical research with little real benefits.

NIH funding policies will invite repeated failure, but NIH did not try to understand why its massive funded programs fail. Due to the distinctiveness of personal biological networks and the constraints of upstream, coupled and downstream biological pathways, research attempts to fix faults by using one or two single factors cannot yield predictable cures other than symptom relievers. NIH cannot accomplish its mission by funding research programs that are intended to correct symptoms. Massive study findings in tens of different angles are irrefutable evidence that diseases can be cured by altering lifestyle factors to influence human biological networks rather than by directly altering the networks. If NIH had promoted this superior holistic mind-body treatment model a century ago, we might be in a world without incurable diseases. To end the incurable era, NIH funding scope must be expanded to reach broader personalized medicine, folk remedies, and patients discoveries and accept personal disease experience and personal observations as best evidence. NIH should fund research efforts to explore millions of self-healing cases in cancer, heart diseases, COVID-19 infection, etc. NIH should officially refute the notion of incurable diseases and fund education programs for re-shaping a cultural brief that chronic diseases can be corrected by altering lifestyles.

NIH has not properly discharged its statutory duty to use federal research funds for statutory mission. Per its own mission, NIH supports research “in directing programs for the collection, dissemination, and exchange of information in medicine and health, including the development and support of medical libraries and the training of medical librarians and other health information specialists.” This mission must be read together with NIH primary mission and implied statutory duty. By misusing its funding power over decades, NIH has contributed to the enterprise effort of creating a discriminatory research culture that excludes anything other than revenue-generating

treatments, excludes any non-reviewed articles from National Library of Medicine, and discourage the use of unpublished articles in medical literature. After such a discriminatory research culture has been firmly established, the medical system can automatically prevent, preclude, and suppress medical discoveries challenging the foundation of medicine. NIH is not be an innocent bystander by ignoring my findings. Its failure to act has a direct effect of failing its mission and waste of a big portion of the \$41.68 billion federal research funds.

Finding cures for chronic diseases is a common interest of mankind. The adverse impact of past NIH funding practices is plainly reflected in its failure in chronic diseases. What NIH fails to do today may be reasons for people to suffer maximum pain tomorrow. In this worst discriminatory environment, my work is brought to the world by open source movement. If my work were done before the internet age, the chance for me to present my findings would have been zero. Readers of this article should see how this dysfunctional medical system might have prevented and suppressed medical discoveries, hurt tens of millions of lives, and negatively affect health of billions people. NIH cannot continuous wasting massive federal research funds on research with little chances of success.

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CONFLICT OF INTERESTS

None

ADDITIONAL INFORMATION

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