In the present era of evidence-based medicine, skepticism towards a generation of evidence though intriguing is a prerequisite during clinical practice. In 2015, Richard Horton, Editor-in-Chief of The Lancet, stated, “The case against science is straightforward: much of the scientific literature, perhaps half, may simply be untrue, afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness.”

The present article seeks to explore possible reasons that account for the corporatization of medical science, as well as the occult ways in which the pharmaceutical industry controls every aspect of daily clinical practice and academic research.

**Status Quo**

Let us all for a moment imagine that tomorrow morning somebody reports a permanent cure for diabetes mellitus. What would follow is somewhat unimaginable. The insulin market, which is worth >$30 billion in the United States of America alone, would crumble into dust overnight. Antidiabetic medications, sugar-free products, chains of laboratories, and clinics that thrive on comprehensive diabetes management would all go “Lehman Brother’s way” in less than a fortnight. Millions of dieticians and diabetologists in the world would have nowhere to go, and the massive pharmaceutical industry (that has managed to survive almost all economic crises) melt-down would be enough to collapse the world economy into a hole, from where it would find itself difficult to recuperate.

Is it worth the loss? Are we even really looking for a disease-free world? Or have we peacefully settled for a world where we neither want to cure nor prevent disease? Do we just want to maintain it as it is or status-quo? A wide range of chronic diseases, some as simple as hay fever and complex ones like cancer are being maintained “status quo” to meet the economic demands of the pharmaceutical industry.

The recent champions in the race of status quo are the exorbitantly priced biological products that are being used extensively in every corner of rheumatology, making it one of the most lucrative branches of clinical medicine for young graduates to pursue upon. In a way, they are for physicians what drug-eluting stents were for interventional cardiologists and prostheses are for orthopedic surgeons.

The misdemeanor has also set its foot into other aspects of clinical practice, like revising the diagnostic criteria too frequently just to fit in as many people under the banner of a chronic disease. More than half of the Indian adult population turned hypertensive overnight in 2017 when the American Heart Association revised their diagnostic criteria to classify a blood pressure of >120/80 mm Hg as elevated. The same is true for the diagnosis of diabetes mellitus, wherein the upper limit of fasting blood sugar was consistently brought down to increasingly categorize more and more individuals as diabetics. The conflict with the acceptable level of glycated hemoglobin (Hba1c) was highlighted when the Annals of internal medicine in 2018 quoted that “an Hba1c level between 7 and 8% was more acceptable and perhaps beneficial as opposed to that of <6.5% that had been used for decades.”

The fact that hypoglycemia is more life-threatening than hyperglycemia is also well-known from the days of the United Kingdom prospective diabetes study trial.

**Academic Research**


If we live in a polio-free world today, we owe it all to Jonas Salk. This is the level of selflessness that had made medicine the noblest profession of them all, but unfortunately, with the invasion of commercialization, graduates of modern medicine are being explicitly taught to maintain a “status quo.”

Corporatization of medical research is a gradual process that was started due to purported benefits like financial support for universities, improved faculty access to research and development, enhanced technological innovation, and scientific progress. However, the metamorphosis of pharmaceuticals from just being an ally of clinical medicine into a giant monster that reigns over the medical code of ethics has brought in a set of unfortunate perils like conflicts of interest, research bias, and ghostwriting.

Research topics by students as well as scholars are being selected based on corporate demand; all research is being directed and repeatedly redirected towards the maintenance of a “status quo” but progressively profitable margins.

The concept of vaccination was discovered by Edward Jenner in 1791. Subsequently, the malarial parasite was discovered in 1880 by Alphonse Laveran. It is not just simply unfortunate that there is no effective vaccine for malaria yet, even though it infects >200 million people annually in the developing world. Is it not surprising and regrettable that tuberculosis, which claims >1,000,000 lives every year in India, has only one effective vaccine for over a century! However, on the other hand, we are almost on the verge of a vaccine for obesity which can be prevented simply by lifestyle modifications. Yes, that nobody wants to research diseases that affect the underprivileged of the third
world is a hard truth. Where, then, do we fit in the philanthropy of Warren Buffet or Bill Gates?

Medical students and research scholars are being motivated to adjust their curiosities to match the interests of available sponsors and strengthen their chances of obtaining a grant. Corporate partnerships enhance research secrecy through nondisclosure and intellectual property agreements, thereby gaining control over academic data with the help of ‘academic capitalists’ within the university.6

CONFICT OF INTEREST
A national daily newspaper recently published an advertisement of a pharmaceutical giant being endorsed by an Indian Bollywood actor.7 Medical science has reached a dreadful state wherein medicines are not just being prescribed; they are being endorsed like commodities.

To quote Hippocrates, the father of medicine, “The greatest medicine of all is teaching people how not to need it.” But unfortunately, we have come very far on a fallacious path from where there seems no return unless strict necessary actions are taken right at the level of entry to medical schools. Monetary benefits, promotions based on research publications, obtaining grants, and admissions into reputed universities, are some of the reasons why clinicians and research scholars succumb to the pressures of corporate demand and resort to practices like ghostwriting and biased research (Flowchart 1).

According to Campbell, most physicians (94%) reported some type of relationship with the pharmaceutical industry, and most of these relationships involved receiving food in the workplace (83%) or receiving drug samples (78%). Canadian companies alone spend $4.8 billion every year on doctors.10 No such survey has been conducted in India to date, but I’m sure the problem may be as serious, if not more. We may be on the cusp of complete corporatization of the healthcare industry, including medical education.

In 2012, a group of 100 researchers tried to replicate the results of the most widely cited cancer research papers; shockingly, only six were validated.9 Ghost articles are written especially after dangerous side effects are reported with newer drugs. How can one forget a common drug like metoclopramide introduced in the early 1980s or proton pump inhibitors in 2001.11 Premarin and zyprexa are recent drug examples which could be quoted here. Lexin Wang stated that no >15% of newer drugs offer any significant advantage over the ones that already exist, but still, newer drugs that are costlier than the previous ones enter the market every day with a lot of data supporting their supremacy over the existing ones of the same class.12

The deceit does not end at just prescribing drugs but has also intruded into other modalities of treatment like interventions and unnecessary surgical procedures. In March 2018, the Journal of American Heart Association published a study inferring that the in-patient 30-day mortality in patients of acute coronary syndrome who were treated medically without any intervention was significantly lower, especially when interventional cardiologists were away for cardiology conferences.13 The leading author even stated that many medical interventions deliver no mortality benefit, and the fact that mortality actually falls for heart attack patients during these conference dates raises important questions about how care might differ during these periods. It is data like this which makes us wonder if we are just chasing a mirage in pursuit of a fictitious perfection under the label of “evidence-based medicine” and also the hidden agendas behind the generation of such evidence.

NEED FOR A QUANTUM LEAP
There has been a phenomenal pharmaceutical revolution during the past 2 centuries; however, the need of the hour is a breakthrough at a personal level. A breakthrough to curb malpractices like ghostwriting, research bias, academic capitalism, and receiving monetary benefits from pharmaceuticals.

We, as clinicians, have to independently take an oath and join our hands together to protect the dignity of clinical medicine rather leaving our services at the disposal of pharmaceutical companies. Due to technological advances, information is available at the fingertips of every patient, which further creates dubiousness in the minds of patients towards the medical profession. The goal of academic research should be to advance public knowledge and not to produce marketable products. Knowledge sharing should be encouraged amongst the researchers, and research secrecy has to be condemned.

An unsympathetic “status quo” of clinical medicine due to such nugatory benefits would not mean just the extermination of clinical medicine but humanity as a whole.

We cry about the increasing litigations in the field of medicine, but there would be nowhere for us to hide if we do not take corrective action today and move scientific activity back from pharmaceuticals to medical schools.

REFERENCES