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## OPINION

OTHER VOICES

### *How to Avoid a 9-11 in Medicine* Joseph Chemplavil, M. D.

We have made great progress and achievements in the field of science, especially in medicine in the 20th century. In the 21<sup>st</sup> century we are faced with the greatest challenge in the history to protect and preserve what we have achieved so far.

There is glut of data and information overload now. Individuals are unable or unwilling to procure, process and distill them into knowledge and wisdom. As the Sept.11 Commission concluded in its final report, U.S. government agencies had vast amount of knowledge but were not able to process and use it to prevent the historic Sept.11, 2001, tragedy.

Practice of modern medicine has evolved into an immensely complicated profession now, especially for the average physician practicing in the “real world” office setting, caring for the vast majority of the people in the country. This has to do with the scientific, financial, social, administrative, regulatory, moral and ethical problems that they are faced with.

Medical practice has subtly shifted from care and comfort measures to “miracle” pharmaceuticals, procedures, and devices that dramatically help patients. This also has led to complex issues of their judicious use and potential for harm.

With the newly emerging knowledge in pharmacogenomics and proteomics, the whole concept of disease susceptibility and also response to different classes of drugs in diseases has to change. This probably would explain the varying or at times even the contradictory or confusing outcome results in many recent clinical studies regarding COX-2 medications (i.e. Vioxx, Celebrex and others in their class), NSAIDs (non-steroidal anti-inflammatory drugs), estrogen and Vitamin E, to name a few. There might have been inherent bias and flaw in the selection and randomization of patients in these studies without knowing the variability of their gene polymorphism and not yet identified risk factors. These might have at least partially contributed to the unexplainably different outcomes in those studies.

Pharmaceutical corporations and regulatory agencies need to revamp and redesign their tools and to have the will and the wisdom to keep up with the fast-paced changes in medicine, technology, economy, politics, ethics, morality and the globalization of humanity. It is imperative the research establishments, both private and public, and pharmaceutical companies aggressively contribute their resources in research to the field of pharmacogenomics and proteomics, in developing future drugs. There needs to be confirmation and consistency in research outcomes among the biology, epidemiology and clinical trials to be applied in clinical practice.

There is too much information from medical research being published and promoted which contradicts one another once applied outside of the study population. Therefore, one should be cautious to avoid practicing evidence-*biased* instead of evidence-guided or evidence-based medicine.

It is true that there are many inherent problems, specifically for research in clinical medicine, that are not at all solvable compared to basic science or any other science for that matter. To use the analogy of the automobile, medical science has to be more ingenious, rather than merely innovative, and design a brand new model for medicine that can navigate through the present information and technology super-highway. It might be time for a change in our thinking itself.

Medicine has to change to use common sense and cognitive function along with the cutting-edge technology. Physicians have to be judicious to avoid indiscriminate use of 'duplicate' tests, investigations, procedures and therapies just because they are available and approved. They should provide customized and cost effective care. The constant stream of new technologies and knowledge should not obscure or contaminate the fundamental issue of the patient's best interest.

We should get rid of our present attitude of reacting, if not overreacting, and start acting on our health care issues, to prevent a crisis or catastrophe.

We have the best medicine in the world, just like we have the best politicians, CIA and FBI, money can buy; but we miserably failed in using them to prevent the Sept.11 attack. Our leaders should challenge the status quo both by insisting that the current system cannot remain as it is and by offering clear ideas about better alternatives, in medicine.

We should not be the victims of our own success, in medicine.

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