

COMMITTEE ON
**SCIENCE, SPACE, AND
TECHNOLOGY**
CHAIRMAN LAMAR SMITH



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**Statement of Research and Technology Subcommittee Chairman Larry Bucshon (R-Ind.)
Hearing on Policies to Spur Innovative Medical Breakthroughs from Laboratories to Patients**

Chairman Bucshon: I would like to welcome everyone to today's Research and Technology Subcommittee hearing on policies to spur the transfer of innovative medical breakthroughs from laboratories to patients.

As a cardio-thoracic surgeon and medical professional, I know firsthand there are many complexities surrounding the human body; and understanding human disease is one of the most challenging problems facing the scientific and medical communities. Complex human diseases will likely require an interdisciplinary and multifaceted approach with the right scientific questions being asked and debated with clear goals and endpoints being articulated. The creative drive of American science is the individual investigator, and I have faith they will continue to tackle, understand and contribute original approaches to these problems.

Medical diseases such as cancer, Alzheimer's, Parkinson's, autism, epilepsy, dementia, stroke, and traumatic brain injury have an enormous economic and personal impact for affected Americans. For example, Alzheimer's disease- a severe form of dementia and the sixth leading cause of death in the US- affects both the 5.1 million Americans that have the disease and their friends and family who must watch their loved one suffer from its symptoms. The average annual cost of care for people with dementia over 70 in the US was roughly between \$157 and \$210 billion dollars in 2010.

I want to stress my support for medical science research, in particular understanding diseases from an interdisciplinary perspective. As our witnesses will testify today, medical science has benefited enormously from fields as diverse as applied mathematics, computer science, physics, engineering, molecular biology, and chemistry. More importantly, basic science research results from NSF funded research will be the future experimental tools for hypothesis-based data-driven research for brain science researchers.

I also see this as an important opportunity for continuing interdisciplinary work between the various federal science agencies, including the NSF, NIST, and NIH and I hope to see more collaboration and productive research opportunities.

At the same time, I am interested in how private-sector research can complement on-going federal R&D investment, and what public policies may spur more innovation and investment for medical breakthroughs. Companies must carefully balance short-term and long-term interests of the company and their shareholders.

Private sector research efforts use the results of basic science research in the physical, mathematical and engineering sciences. For example, advances in computing have led to the development of software with

the goal of helping medical scientists make sense of cancer genomes. Watson, an advanced computer that was developed by IBM, is being enlisted not only to identify mutations from a patient's tumor biopsy in order to help understand how these mutations cause cancer but also to produce a list of drugs that could potentially treat the cancer. All this can potentially be done in a few minutes.

Our witnesses today reflect the wide spectrum of research in the biomedical sciences, and each has been a recognized in their respective fields. I'd like to thank the witnesses for being here today and taking time to offer their perspectives on this important topic. I hope you will continue to work with us to maximize federal funding of biomedical research. I'd also like to thank Ranking Member Lipinski and everyone else participating in today's hearing.

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