

Musings

## Musings on genome medicine: the Obama effect

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Published: 9 March 2009

*Genome Medicine* 2009, 1:30 (doi:10.1186/gm30)

The electronic version of this article is the complete one and can be found online at <http://genomemedicine.com/content/1/3/30>

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### Abstract

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The inauguration of the Obama administration is likely to enhance the role of genome medicine in clinical care and national economics.

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Now that the Obama administration has begun to reshape and restore the government, the editors of *Genome Medicine* have asked our opinions on the future of biomedical research in the United States. As we have previously noted, we do not see one another as seers or soothsayers nor are we particularly trained to understand what might be called biopolitical economics. With those caveats we offer the following.

Barack Obama is blowing a breath (indeed a fresh breeze) of clean air through the political and emotional tendrils of the United States. A battered US electorate and the rest of the world have survived (albeit barely) the George W Bush administration, and, though all of us are bloodied, we remain unbowed. Now we can gaze upon our new and vastly exciting president who seems to combine high intelligence with political skills. He will need every skill in the book to face the challenges before him, the nation and the world.

For those of us in science, and particularly genome medicine, the future remains shakily optimistic. Obama obviously supports science, but the nation's economy (and indeed the world's economy) is in tatters. Despite the obvious hazards, we feel confident that Obama will approach the economy, general science and our own focused area of medicine with analytical and creative forcefulness. He has already demonstrated his interest and commitment by the appointments that he has made thus far. The top science advisors are absolutely first rate, and we could not ask for better biomedicine advisors than Harold Varmus and Eric Lander. So the tea leaves seem to be settling favorably. Indeed, the new

funding for the National Institutes of Health (NIH) within the new economic stimulus legislation is a harbinger of far better support for biomedical science by this administration.

But the challenges that we face are enormous. The NIH, the major support mechanism for biomedical science in the United States, is encumbered by systemic problems that have gone unresolved for decades. The clumsiness and waste inherent in the NIH budgeting system become intolerable when the economy is disrupted and the so-called discretionary budget of the federal government is severely jeopardized. Money that could advance genome-based medical research is now being shoveled into the insatiable maws of huge and totally irresponsible banks that hide the money, refuse to lend it, give their incompetent officers bonuses and decorate their offices. Even a perfectly run NIH or any other useful federal agency would starve in a setting in which such vast amounts of tax-payer money are diverted into emergency funding of the economy.

The banking system notwithstanding, those of us who are devoted to genome medicine and its future must honestly deal with our own problems and help this president to help our field. Our first actions must be self-critical because we are part of the problem. After all, the NIH is really us. We serve on the study sections and advisory councils that make the funding decisions. If NIH is failing the next generation of investigators (and fundable priority scores are presently very difficult to achieve) we have to be certain that every penny of NIH expenditure truly supports the future of biomedical science.

There are at least five major intrinsic problems that inhibit NIH productivity. These include highly dispersed leadership, non-competitive compensation for top scientists and leaders, demands from pressure groups and their congressional representatives for support of research in one disease at the expense of others, a high priced but essential intramural program (the scientific effort on the NIH campus) that has lost some of the luster of its halcyon days and, above all, an annual budgeting process that vastly inhibits rational long-term planning. NIH staggers along with these systemic inhibitors when times are good and administrations are friendly. In the face of economic disaster and/or an administration that cares little for the agency, NIH begins to crumble. During the past eight years, the NIH has been protected by a Bush administration error. Given their record in other departments, it is likely that the Bush crowd intended to appoint an incompetent director of the institute, but they made a rare mistake. They chose Elias Zerhouni, a careful, responsible and totally decent man who helped the institutes to survive. In fact professional NIH administrators have labored honorably under very difficult circumstances and deserve credit for doing so at a time during which both intra- and extramural morale have been very poor. Obama's first act must be to find an excellent director and give that person the authority to run the ship. We hope that the new director will focus on individual initiatives and put somewhat less emphasis on hugely expensive consortium grants that usually have a low outcome for the money. We believe that Obama will make an excellent selection. But the intrinsic weaknesses that have dogged the NIH for so long must also be addressed now if these all-important institutes are to flourish in the face of grave funding shortages and the inflation that will surely follow our current fiscal profligacy. Somehow, NIH must be allowed to pursue long-term budget planning instead of the usual annual 'use it or lose it' approach that inevitably leads to a surfeit of applications in good years and terrible fundable priority scores in poor ones.

As members of a grateful and devoted scientific community and as individuals committed to the future of genome medicine, we stand ready to help the Obama administration in any way we can. We know that their intentions are honorable and intelligent, and we strongly suspect that they realize that economic investment in NIH-funded biomedical research will gain a better return on the dollar than bailout schemes for failing companies that did not develop new technologies fast enough to compete in the global market. Biomedical research has proved to be an effective economic engine in several states in this country, so why not invest in this area as a priority in rebuilding our economy? To act on those decisions, the Obama administration will need the support and cooperation of the entire scientific establishment.