DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

The NIH: Investing in a Healthier Future

Witness appearing before the

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Good morning, Chairman Blunt, Ranking Member Murray, and distinguished Members of the Subcommittee. I am Francis S. Collins, M.D., Ph.D., and I am the Director of the National Institutes of Health (NIH). It is an honor to appear before you today to discuss how NIH is investing in a healthier future for all Americans.

NIH has been advancing our understanding of health and disease for more than a century. Scientific and technological breakthroughs generated by NIH-supported research are behind many of the improvements our country has enjoyed in public health. For example, our Nation has gained about one year of longevity every six years since 1990.[1] A child born today can look forward to an average lifespan of about 78 years – nearly three decades longer than a baby born in 1900. Deaths from heart attack and stroke have been reduced by more than 70 percent in the past 60 years. Thanks to NIH-developed anti-viral therapies, HIV-infected people in their 20s today can expect to live into their 70s. This compares to a life expectancy measured in months when the disease first appeared in the 1980s. Cancer death rates have been dropping about one percent annually for the past 15 years. These are extraordinary strides – but we aim to go much further.

On behalf of NIH, our employees, grantees, and patient community, I want to thank the Members of this Subcommittee for your continued support, and for holding this hearing today.

This investment could not come at a better time. We are in the midst of a remarkable stream of scientific advances spurred by dramatic advances in biotechnology. Today, I want to share with you a few of the many promising opportunities before us that will lead to a healthier future for all. I can assure you that the future of scientific research has never been brighter.

[1] http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf.

to treat, cure, and prevent neurological and psychiatric conditions such as Alzheimer's disease, autism, schizophrenia, depression, epilepsy, and addiction.

Five years ago, a project like this would have been considered impossible. But with your support, it is now underway. The first two rounds of grant awards have been made – and they are tremendously exciting. In the year since the inaugural round of awards, totaling $46 million, was issued, several exciting new tools and techniques have been developed for studying brain

carry risks and toxicities. Now, after years of intense basic and translational research, we have two exciting new possibilities: targeted therapeutics and cancer immunotherapy. I want to particularly focus on the latter.

Researchers have long been puzzled by the uncanny ability of cancer cells to evade the immune response. What stops the body from waging its own "war on cancer?" As it turns out, our bodies have important built-in checkpoints to prevent our immune systems from running amok and killing healthy cells. Certain white blood cells called T-cells—the armed soldiers of the immune system—are designed to go after foreign invaders, but they also need a stop s

With this in mind, we are excited to take a lead in the two key components of the President's Precision Medicine Initiative that will be managed by NIH. First is a near-term goal that will focus on cancer, building on advances in genomics and immunology that make it increasingly possible for specific therapies to be designed for the individual, based on the precise molecular characteristics of their tumor. Second is a longer-term aim to generate knowledge applicable to the whole range of health and disease. Both components are within reach, due in large part to recent scientific breakthroughs. Let me tell you just a little bit more about the longer term project.

In order to achieve the President's ambitious plan, NIH will build a large national research cohort of one million or more Americans that will provide the platform for expanding yeaes to cre.Thele ccr knowledge of precision medicine approaches and benefit the is1ing

access to the cohort's data so that the world's brightest scientific and clinical minds can contribute insights.

In order to help inform the vision for building the national research cohort of one million or more volunteers, I formed a Precision Medicine Initiative Working Group, as part of my Advisory Committee, to develop a specific design plan for creating and managing such a research cohort. To help carry out its charge, the Working Group engaged with stakeholders and members of the public through workshops and requests for information, focusing on issues related to the design and oversight of the cohort. Public engagement, as well as internal

potential can be realized to give everyone the best chance at good health. There's no better time than now to embark on this ambitious new enterprise to revolutionize medicine and generate the scientific evidence necessary to move this individualized approach into everyday clinical practice.

Today, I have outlined for you just a few of the very many promising scientific opportunities on the horizon. With your support, the future of medicine can be very bright. This concludes my testimony, and my colleagues and I look forward to answering your questions.