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 KRQRU WR DSSHDU EHIRUH \RX WRGD\ WR SUHVHQ 2016 budget request for the NIH, and provide an overview of our central role in enhancing the QDWLRQ¶V health through scientific discovery.

$V WKH premier biomedical research agency, 1,+¶V PLVVLRQ LV WR VHHN I knowledge about the nature and behavior of living systems, and to apply that knowledge to enhance human health, lengthen life, and reduce illness and disability. I can report to you today that NIH leadership, employees, and grantees continue to believe passionately in that mission.

As a federal research agency, we are also acutely aware that in order to achieve our mission we must serve as effective and efficient stewards of the resources we have been given by the American public. One way in which we are accomplishing this is by focusing intensively on prioritization of NIH resources. This involves developing and applying advanced methods of portfolio analysis, identifying the most compelling scientific opportunities within each Institute and Center, fostering creative trans-NIH collaborations, and enhancing use of the Common Fund. We are also implementing novel external partnerships like the NIH-DARPA-FDA project on a human biochip for testing drug toxicity, and the Accelerating Medicines PaAccelen/ ons,

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ZMapp antibodies on the surface of the Ebola virus.[1] The images revealed that two of the three antibodies work by neutralizing the virus, by preventing it from attaching to and fusing into the host cell, while the third antibody acts as a beacon, alerting the host immune system that the virus has invaded and must be destroyed. Not only has this elegant experiment in basic structural biology provided the scientific rationale for ZMapp as an effective Ebola treatment ±something we are actively testing in clinical trials ±it also provides key information for the development of additional therapies for this rapidly mutating virus. Moreover, it illustrates the power of this three-dimensional imaging technique to identify targets for future drugs and vaccines.

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Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative ² and we are grateful to this subcommittee for its FY2014 and FY 2015 support, and hope to ramp this up further in FY 2016. This bold, multi-agency effort to revolutionize our understanding of the human brain will enable the development and use of innovative technologies to produce a clearer, more dynamic picture of how individual cells and neural circuits interact in both time and space. By measuring activity at the scale of neural networks in living organisms, we can begin to decode sensory experience and, potentially, even memory, emotion, and thought. Ultimately, the technologies developed under the BRAIN Initiative may help reveal the underlying pathioen(l t(l t(l t(l t(l t(l t(6e)4(s)-10(c15.9ti)-3(vit(tire)4(l)-2 a)4(-3(o r)-6(TET(ler) 1

rapidly evolving influenza virus, a new vaccine must be produced each year. Despite our best efforts, some guesswork is involved, and th H Y D F F L Q H L V Q ¶W DOZD\V ZHOO PDWFKHG as we know all too well during this particularly difficult flu season. In an average year, the flu claims up to 49,000 American lives and costs the U.S. economy about $87 billion. But it does not have to be that way. NIH-funded researchers continue to move forward on a universal flu vaccine ² designed to produce broad protection against virtually all strains of the flu for extended periods of time and, thus, potentially reduce the need for annual flu shots and the risk of a global pandemic. I am happy to report that universal flu vaccine candidates have now moved into early stage clinical trials.

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clinical research. But, none of this would be possible without a diverse and talented biomedical workforce.