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MEMORANDUM FOR THE PRESIDENT

Now is the time for our Nation to increase substantially its investment in research that will combat disease and enhance health. As we look toward the final years of the Clinton-Gore Administration, I urge you to set in motion what could prove to be one of your most enduring and significant legacies -- a plan to significantly improve the Nation's health by doubling the research budgets of our major scientific research agencies, the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Agency for Health Care Policy and Research (AHCPR).

Today, because of your leadership, our Nation is at peace and on firm economic ground. Many of our citizens are once again living the American dream. They have good jobs. They have the income to buy a home, raise a family, and educate their children. Inflation rates are low. The budget is virtually balanced. High among the remaining concerns of our citizens are disease, disability, and untimely death. Only health research can overcome these scourges and promise longer, healthier lives for ourselves, our children, and our children's children.

At the dedication of the NIH campus in 1940, Franklin Delano Roosevelt said, "We cannot be a strong Nation unless we are a healthy Nation." In recognition of that principle, the Federal Government decided more than half a century ago to invest systematically in health research. This research has led to important innovations in high quality services.

Today, the U.S. has an unrivaled record of achievements inspired by the challenges of human illness. Many of the diseases and disabilities that our parents and grandparents faced a generation ago can now be prevented or treated:

- Age-adjusted mortality from coronary artery disease and stroke has been halved.
- Cancer death rates have begun to fall for the first time in history, and certain formerly lethal cancers like childhood leukemia and testicular cancer are now rarely fatal.
- Smallpox has been eradicated from the entire world, and polio has recently been eliminated from the Western Hemisphere.
- Surgical interventions, such as organ transplantation or cardiac pacemakers, can restore virtually normal life to many who are gravely ill.

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- An entire generation of those suffering from severe depression or schizophrenia is able to lead productive lives because of modern drugs.
- The incidence of childhood diseases preventable with vaccines is at its lowest level ever.
- AIDS patients can plan for a future they would have otherwise been denied just a few years ago, because of new combination therapies.
- Because of new clot-dissolving drugs, many stroke patients no longer live with severe disability.

The ability of patients and clinicians to make informed treatment choices has been greatly expanded as a result of outcomes and effectiveness research. These achievements, and many others, would not have occurred without our Nation's strong and sustained support of research.

While such public health accomplishments are unprecedented in human history, they pale in comparison to what is yet to come. We have entered the "golden age" of biomedical, prevention, and health services research. Today's researchers are unveiling the fundamental properties of cells and genes, the structure of proteins, and the circuitry of the world's most awesome computer, the human brain. Science is yielding stunning new insights into the mechanisms of disease and envisioning the means to treat devastating illnesses and disabilities. It promises a future in which the fear of cancer, heart disease, AIDS, mental illness, birth defects, or diabetes, among others, is enormously reduced.

To deliver on this promise, a bold new investment in health research is needed. To ensure that we all reap the full rewards of this wealth of innovation, our health research agenda must include a substantial investment in health services and prevention research. Health services research can correct the underuse of effective interventions and continued reliance upon outmoded approaches to patient care that contribute to the cost of care and the loss of life. Prevention research can help us to reduce dramatically the incidence of birth defects, injuries, certain cancers, and cardiovascular and sexually transmitted diseases.

This type of research has led to remarkable reductions in vaccine-preventable diseases and childhood lead poisoning. Additional investments in research, conducted in partnership with communities throughout the Nation, could lead to further dramatic reductions in illnesses, injuries and deaths. For example, we know that at least 50 percent of spina bifida and anencephaly could be prevented if all women capable of becoming pregnant took 400 micrograms of folic acid daily. At present only 25 percent of such women take this amount each day; research is needed to learn how to increase this proportion to virtually 100 percent. Or if all bicyclists could be convinced to wear safety helmets, we would reduce the risk of brain injury among bicyclists by 88 percent. Diabetes is another major area for potential prevention research intervention. This research could reduce significantly the development of adult-onset diabetes, as well reduce the complications of diabetes by about half.

Several converging trends argue strongly that the time for investing boldly is now. The aging of the baby-boom generation will increase the prevalence of chronic diseases, such as osteoporosis, Parkinson's and Alzheimer's diseases; preventing or delaying the onset of such diseases will deliver enormous social and economic benefits. The growing health needs of minority and socioeconomically disadvantaged populations demand specific attention to guarantee that all Americans reap the benefits of new health knowledge. Changes in our health care system are challenging traditional means of delivering care and conducting research. Government, industry, academia, and health care providers will need to develop new ways to assess the health of the public, to provide the highest quality care, to measure health outcomes, and to ensure that the most effective interventions -- old and new -- are being used in everyday practice. In addition, much of our Nation's research infrastructure is obsolete. Investment in new buildings, refurbished facilities, innovative instrumentation, information technology systems, and, most critically, training of scientists, are all vital to preserving our world leadership in health research.

Most importantly, our scientists are poised to change the practice of medicine in the most fundamental ways, in part because of extraordinary new research methods. Important strides in imaging technologies make it possible to visualize living cells and whole organs, as well as the architecture of individual molecules. The Human Genome Project is speeding the discovery of disease genes as it lays open the blueprint of human beings. Computer-based information systems are enabling scientists to analyze rapidly the vast amounts of data being collected with these new methods.

With these and other tools in hand, we can realistically anticipate sweeping changes in our approaches to curing disease and protecting the public health. For example, physicians will be able to select accurately the best course of treatment for cancers of the prostate, breast, ovary and other tissues because of new knowledge about genes and the molecular fingerprint of individual tumors. Laboratory and clinical research will change the management of diabetes; with improved methods for accurate blood glucose measurement and new methods of metabolic control, the debilitating nerve, eye, and kidney complications of this disease will be prevented.

One day, because of genetic research, we will be able to identify individuals at increased risk for diseases like hypertension and stroke, glaucoma, osteoporosis, Alzheimer's disease, or severe depression, and design appropriate interventions. We will have effective vaccines for pandemic diseases such as AIDS, tuberculosis, and malaria. The discovery of the obesity gene and its hormone product, leptin, will be parlayed into novel and safe strategies for appetite and weight control. We will be able to rejuvenate the failing heart by grafting healthy muscle cells to cardiac tissue damaged by a heart attack. New knowledge about the biological basis of craving and addiction will result in medications targeted specifically to receptors in the brain which play a role in substance abuse.

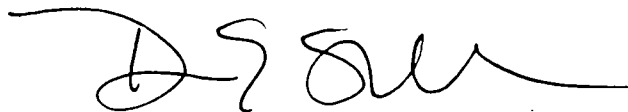
Finally, research to move discoveries into the clinic, to determine what works best in daily practice, and to improve the quality of patient care will lead to direct and immediate public benefits, as well as contribute to the solvency of the Medicare program. Health services research

has shown that 30 percent of patients receive medical procedures that are not appropriate when measured against rigorous clinical standards. By combining research on what works best in daily practice and effectively transferring that knowledge to practitioners with effective strategies for measuring and improving quality, we can reduce inappropriate variation, accelerate the pace at which the benefits of science improve clinical care, and identify clinical treatments which can reduce costs and improve quality.

To achieve these exciting goals, I strongly urge you in your State of the Union address and fiscal year 1999 budget submission to propose these health research investments:

- Double NIH funding in 10 years, with a 50 percent increase in five years. We need a 1999 increase that is significantly larger than the 7.1 percent increase appropriated by the Congress for 1998; I have proposed a 10 percent increase in 1999.
- Address most of the great research university and academic medical center laboratory construction needs in a bold five-year program which combines matching grants and loan guarantees. This would be funded within the NIH total.
- Create a bold new CDC prevention research program to ensure the maximum public benefit from the findings of health research, phasing up to \$1 billion in 2008.
- Reinvent the Agency for Health Care Policy and Research to dramatically commit to the new health services research we need to vigorously exploit new scientific knowledge to improve the quality of health care plans while restraining health care costs, phasing up to \$0.8 billion in 2008.
- The best way to accomplish this dramatic increase in health research, without endangering other priorities, is a dedicated funding source such as an assessment on insurance premiums, or another suitable revenue source such as new tobacco legislation.

Mr. President, you lead the country at an auspicious moment in our history -- a moment when scientific opportunity is matched by economic and political feasibility. There is already broad bipartisan support for a doubling of our Nation's investment in health research in response to the extraordinary scientific promises I have outlined. You must seize this moment. By doing so, you, like President Roosevelt a half century ago, will establish a lasting legacy of health for future generations at home and abroad.



Donna E. Shalala