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The Age of Alzheimer's

By SANDRA DAY O'CONNOR, STANLEY PRUSINER and KEN DYCHTWARD

OUR government is ignoring what is likely to become the single greatest threat to the health of Americans: Alzheimer's disease, an illness that is 100 percent incurable and 100 percent fatal. It attacks rich and poor, white-collar and blue, and women and men, without regard to party. A degenerative disease, it steadily robs its victims of memory, judgment and dignity, leaves them unable to care for themselves and destroys their brain and their identity — often depleting their caregivers and families both emotionally and financially.

Starting on Jan. 1, our 79-million-strong baby boom generation will be turning 65 at the rate of one every eight seconds. That means more than 10,000 people per day, or more than four million per year, for the next 19 years facing an increased risk of Alzheimer's. Although the symptoms of this disease and other forms of dementia seldom appear before middle age, the likelihood of their appearance doubles every five years after age 65. Among people over 85 (the fastest-growing segment of the American population), dementia afflicts one in two. It is estimated that 13.5 million Americans will be stricken with Alzheimer's by 2050 — up from five million today.

Just as President John F. Kennedy, in 1961, dedicated the United States to landing a man on the moon by the end of the decade, we must now set a goal of stopping Alzheimer's by 2020. We must deploy sufficient resources, scientific talent and problem-solving technologies to save our collective future.

As things stand today, for each penny the National Institutes of Health spends on Alzheimer's research, we spend more than \$3.50 on caring for people with the condition. This explains why the financial cost of *not* conducting adequate research is so high. The United States spends \$172 billion a year to care for people with Alzheimer's. By 2020 the cumulative price tag, in current dollars, will be \$2 trillion, and by 2050, \$20 trillion.

If we could simply postpone the onset of Alzheimer's disease by five years, a large share of nursing home beds in the United States would empty. And if we could eliminate it, as Jonas Salk wiped out polio with his vaccine, we would greatly expand the potential of all Americans

to live long, healthy and productive lives — and save trillions of dollars doing it.

Experience has taught us that we cannot avoid Alzheimer's disease by having regular medical checkups, by being involved in nourishing relationships or by going to the gym or filling in crossword puzzles. Ronald Reagan suffered the ravages of this disease for a decade despite the support of his loving family, the extraordinary stimulation of his work, his access to the best medical care and his high level of physical fitness. What's needed are new medicines that attack the causes of the disease directly.

So far, only a handful of medications have been approved by the Food and Drug Administration to treat Alzheimer's, and these can only slightly and temporarily modify symptoms like forgetfulness, disorientation and confusion. None actually slows the underlying neurodegeneration.

In the mid-1980s, when our country finally made a commitment to fight AIDS, it took roughly 10 years of sustained investment (and about \$10 billion) to create the antiretroviral therapies that made AIDS a manageable disease. These medicines also added \$1.4 trillion to the American economy. The National Institutes of Health still spend about \$3 billion a year on AIDS research, while Alzheimer's, with five times as many victims, receives a mere \$469 million.

Most of the medical researchers who study Alzheimer's agree on what they have to understand in order to create effective drugs: They must find out how the aberrant proteins associated with the disease develop in the brain. They need to model the progression of the illness so they can pinpoint drug targets. And ultimately they must learn how to get drugs to move safely from the blood into the brain.

A breakthrough is possible by 2020, leading Alzheimer's scientists agree, with a well-designed and adequately financed national strategic plan. [Congress has before it legislation](#) that would raise the annual federal investment in Alzheimer's research to \$2 billion, and require that the president designate an official whose sole job would be to develop and execute a strategy against Alzheimer's. If lawmakers could pass this legislation in their coming lame-duck session, they would take a serious first step toward meeting the 2020 goal.

Medical science has the capacity to relegate Alzheimer's to the list of former diseases like typhoid, polio and many childhood cancers. But unless we get to work now, any breakthrough will come too late to benefit the baby boomers. Whether the aging of America turns out to be a triumph or a tragedy will depend on our ability to fight this horrific disease and beat it before it beats us.

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