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New Alzheimer's Association Report Models Future Cost Trajectories for AD Care With and Without Effective Treatment

Susan Jeffrey

May 24, 2010 — A new report from the Alzheimer's Association suggests that in the absence of any new effective treatments for Alzheimer's disease (AD), the cumulative costs of AD care will exceed \$20 trillion in today's dollars by 2050.

The document is based on a model developed by the Lewin Group for the Alzheimer's Association and aims to calculate costs associated with AD in 3 different scenarios: one in which no viable treatment is found in the meantime, one in which a hypothetical treatment is found to delay onset by 5 years, and a third that examines the potential effect of a new treatment to slow the progression of disease.

The report, called "Changing the Trajectory of Alzheimer's Disease: A National Imperative," was released May 19.

Grim Picture

The Lewin Group model uses a national count of those with AD and then, using incidence rates, estimates rates of progression from mild to moderate and then severe disease.

Without any viable treatment found before 2050, the current trajectory paints a grim picture: The model estimates that the number of Americans aged 65 years and older who have AD will rise from 5.1 million today to 13.5 million by 2050. Total costs to all payers associated with their care will soar from \$173 billion this year to more than \$1 trillion by the middle of the century.

Medicare costs will increase more than 600%, the model estimates, from \$88 billion today to \$627 billion in 2050. Medicaid costs will climb during the same period by 400%, from \$34 billion to \$178 billion. "One factor driving the exploding costs by 2050 is that nearly half (48%) of the projected 13.5 million people with Alzheimer's will be in the severe stage of the disease — when more expensive, intensive around-the-clock care is often necessary," a statement from the Alzheimer's Association notes.

"Today, there are no treatments that can prevent, delay, slow or stop the progression of [AD]," said Harry Johns, president and chief executive officer of the Alzheimer's Association, in the same release. "While the ultimate goal is a treatment that can completely prevent or cure [AD], we can now see that even modest improvements can have a huge impact."

Hypothetical Treatment Delaying Onset

In the case that a treatment is developed that might delay the onset of AD by 5 years — roughly the effect that drugs that fight hypercholesterolemia have on preventing heart disease, the statement notes — and begins to show its effect by 2015, the number of those older than 65 years with AD would decrease from 5.6 million to 4 million by 2020, according to the model.

Assuming the treatment was discovered in 2015, then:

- The number of people aged 65 years and older with AD would be reduced by 5.8 million in 2050, as 43% of the 13.5 million Americans who would have been expected to have AD in that year would be free of it.
- In 2050, the number of people in the severe stage would also be much smaller: 3.5 million instead of the expected 6.5 million.
- Annual Medicare savings compared with current trends would be \$33 billion in 2020 and climb to \$283 billion by midcentury, whereas annual Medicaid savings would increase from \$9 billion in 2020 to \$79 billion in 2050.

Hypothetical Treatment Delaying Progression

Finally, the model is used for a third scenario, one in which a treatment is found that slows disease progression to the degree that has been accomplished, for example, with HIV/AIDS and several cancers: There would be by 2050 far fewer patients in the severe stage of the disease, when costs are greatest. Again assuming the discovery occurred in 2015:

- In 2020, the number of people aged 65 years and older with severe AD would drop from 2.4 million to 1.1 million. In 2050, the number of people in the severe stage would decline from an expected 6.5 million to 1.2 million.

- Annual Medicare savings compared with current trends would be \$20 billion in 2020, jumping to \$118 billion in 2050, and Medicaid savings would be \$14 billion in 2020 and \$62 billion in 2050.

Ultimately solving this crisis will mean addressing the chronic underinvestment in research, the statement concludes. "This forecast of a rapidly aging population and dramatic rise in the number of AD cases in the coming years should catapult the government into action," it notes.

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"Given the magnitude and the impact of this disease, the government's response to this burgeoning crisis has been stunningly neglectful," Mr. Johns is quoted as saying in the Alzheimer's Association statement. "[AD] is an unfolding natural disaster. The federal government has sent a token response and has no plan. Immediate and substantial research investments are required to avoid an even more disastrous future for American families and already overwhelmed state and federal budgets. For the human effects and the country's fiscal future, we must change the trajectory of the Alzheimer crisis."

Unfortunately, recent events in AD research do not bode well. Two potential treatments that made it into phase 3 trials — latrepirdine (*Dimebon*; Pfizer) and tarenflurbil (*Flurizan*; Myriad Genetics), both of which were very promising in phase 2 trials — were found ultimately to be ineffective.

A recent expert panel convened by the National Institutes of Health reviewed evidence on a variety of pharmaceutical agents or dietary supplements and found little evidence to support any of these treatments in the prevention of cognitive decline or AD.

The few strategies that appear promising — antihypertensive drugs, omega-3 fatty acids, physical activity, and cognitive engagement — are being studied in clinical trials but have yet to yield proof of efficacy, Martha L. Daviglius, MD, PhD, conference panel chair and professor of preventive medicine and medicine at Northwestern University, Chicago, Illinois, said during a National Institutes of Health telebriefing in April, reported at that time by *Medscape Neurology*.

The Alzheimer's Association report can be viewed on the association's Web site

<http://www.alz.org/alzheimers_disease_trajectory.asp> .

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