

SPECIAL REPORT

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Early research suggests that Alzheimer's risk can be mitigated through diet, exercise and social stimulation. But definitive studies remain elusive. BY SARA HARRISON

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A new understanding of Alzheimer's is leading to a variety of new treatment approaches. BY ESTHER LANDHUIS GRAPHICS BY NOW MEDICAL STUDIOS AND JEN CHRISTIANSEN

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Drugs that hit an Alzheimer's target are gaining traction. Some neurologists remain dubious. BY LIZ SEEGERT

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New biomarkers promise easier and earlier detection of Alzheimer's, but the results aren't always clear. BY CASSANDRA WILLYARD

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As dementia cases rise, memory-care facilities are shuttering. A national collaboration wants to help solve the looming long-term-care challenge. BY TARA HAELE

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The evidence is clear that racial discrimination, physical health and the environment contribute to Alzheimer's and other dementias. Now researchers are looking for ways to intervene. BY JYOTI MADHUSOODANAN

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# Hope Swells in Alzheimer's Research

**A DIAGNOSIS** of Alzheimer's disease is typically followed by years of uncertainty, grief and a painful decline into oblivion. But although there is so much researchers still don't understand about the disease and what drives it, scientists are making progress faster than ever before and providing patients and their families with options for both diagnosis and treatment.

Over the past few decades researchers have begun to realize that Alzheimer's is more than the tangles of tau proteins and clusters of amyloid plaque that are the defining biological signs of the disease. Today, as **Esther Landhuis** describes, with the help of detailed graphics, there are more than 100 ongoing trials aimed at slowing or even stopping disease progression, and they target a variety of underlying mechanisms. The first therapies that specifically home in on and break up amyloid plaques have already been approved by the U.S. Food and Drug Administration. In clinical trials, they slowed decline for some people with early Alzheimer's, but, as **Liz Seegert** reports, the drugs also come with substantial risk and are not a one-size-fits-all solution.

Changes to daily habits, such as increased exercise and social interaction, better nutrition, and supplements, are another option to consider. **Sara Harrison** notes that although the results from studies are mixed, researchers hope that focusing on someone's day-to-day health can delay onset of the worst symptoms of dementia. Such improvements aren't available to everyone, however. Black Americans are twice as likely as white Americans to be diagnosed with Alzheimer's or other dementias. **Jyoti Madhusoodanan** analyzes the substantial evidence that this higher rate is a direct result of systemic racism, environmental pollution, and other experiences related to discrimination.

The earlier someone is diagnosed with Alzheimer's, the sooner they can begin interventions and start to plan for the future. Blood tests can finally make this early detection easier. They're not infallible, however. **Cassandra Willyard** explains that the currently available blood tests are less a screening tool and more part of a confirmatory approach, best for people already experiencing dementia symptoms.

The global incidence of Alzheimer's is increasing at a rapid rate. In the U.S., more people than ever are being diagnosed even as the number of care options dwindles. **Tara Haelle** explores the reasons for that and profiles one program aiming to help states coordinate and improve care for dementia patients and their caregivers.

Alzheimer's is a devastating diagnosis. But for the first time since the condition's initial description in 1906, scientists and clinicians are providing both dementia patients and their family members with glimmers of hope.

—LAUREN GRAVITZ, CONTRIBUTING EDITOR

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