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Alzheimer's Is Not A Silent Disease If You Are Listening

by **Lucie Ellis-Taitt**

Experts discuss the future of brain health, changing the stereotypical view of an Alzheimer's patient and how technology and science have evolved the treatment possibilities for dementia patients in 2020 – even if 'clinical practice is taking a long time to catch up.'

During a recent discussion on better and earlier treatment for Alzheimer's disease, Craig Ritchie, chief investigator of the European Prevention of Alzheimer's Dementia (EPAD) Project, highlighted the issue of Alzheimer's being considered a disease that only affects the elderly.

In a Demy-Colton 'virtual salon' session on 8 July Ritchie said, "This whole concept of Alzheimer's being a disease in older people is really being challenged right now. Dementia is definitely a late-stage phenomenon of this disease, but the genesis of Alzheimer's – and many neurodegenerative diseases – is at least in mid-life."

Ritchie, who has been a senior investigator on more than 30 drug trials of both disease-modifying and symptomatic agents for Alzheimer's disease is arguing the case for more intervention for patients before they have severe symptoms. This despite there being few options for pharmacological treatment in the very early stages of the disease.

"To wait for the drug is daft," he said in the panel discussion titled *Alzheimer's: Like a Tsunami, by the time you see it, it is too late*. Ritchie elaborated that there was a difference between intervention and pharmacology intervention, and that doctors should be doing more with the tests and capabilities available today for patients with early signs of Alzheimer's disease, rather than watching and waiting. "We talk about there being a long silent period of this disease before dementia develops, but it's only silent because we are not listening properly," Ritchie said.

Leading the discussion, Phyllis Barkman Ferrell, global head of external engagement for Alzheimer's disease and neurodegeneration at Eli Lilly & Co, said that many doctors use time as

a method of diagnosis for patients with suspected Alzheimer's disease. She added that doctors often followed this route because the pharmacological treatments available today only target more severe symptoms.

Howard Fillit, founding executive director and chief scientific officer of Alzheimer's Drug Discovery Foundation, noted that in terms as medical management, there was as much for Alzheimer's disease patients as for other diseases – "except for that little white pill. And that little white pill is on the horizon." (*See Exhibit 1.*)

Exhibit 1.

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Alzheimer's Disease In 2020

The panelists discussed the challenges that remain for treating Alzheimer's today, despite the tools available for physicians and the increasing scientific understanding of the disease. Barkman Ferrell said the disease "is creating a health and financial crisis for patients and families, and for nations around the world." In the US alone, the direct costs per year of treating and caring for patients with Alzheimer's is estimated at \$300bn. On top of that, there is approximately \$250bn extra in unpaid care, where health systems rely on family members to meet patients' needs.

Barkman Ferrell also noted that in the US, one in five people had been a care giver in the last 12 months, an estimated increase of over 8 million people since 2015. Looking at how to tackle Alzheimer's disease in the real world, she said that while the science needs to progress as quickly as possible, "our health care system needs to progress as rapidly as possible, so that people who can benefit from next generation therapeutics" are able to do so.

Fail And Then Fail Better

Fillit has over 40 years' experience in the research of Alzheimer's and the care of patients with dementia. He was involved in one of the first Alzheimer's clinical trials in New York City in the 1980s. Discussing the track record of the biopharmaceutical industry in seeking treatments for the disease he recognized the long list of clinical trial setbacks. Across the R&D sector "we had failure, after failure, after failure, and with every failure we learnt something," he said.

"Developing a drug to cure Alzheimer's disease is incredibly hard," Fillit said, adding that the majority of people in the biopharma industry spend their career working on a drug that will never come to market. Still, he said he had never been more excited about progress in Alzheimer's research and drug development. "I really think that we are on the cusp of great progress ... because we have learnt how to do clinical trials better, more rigorously, more efficiently and more effectively," he said.

According to Biomedtracker, there are around 130 drugs in clinical development (Phase I to pre-registration) for the treatment of Alzheimer's disease.

Fillit noted that for the first time less than half of the drug candidates in development were focused on beta-amyloid and tau protein approaches. Many of the clinical studies active in 2020 are "directed against novel targets related to aging, which is the primary risk factor for Alzheimer's disease," he noted. The Alzheimer's Drug Discovery Foundation itself is supporting 25 trials, including one of the most advanced studies for a neuro-protection drug candidate.

Barkman Ferrell also highlighted the number of approaches being tested in clinical studies today. She said, "I am really hopeful about emerging science" in this field. "It is not amyloid versus tau, or versus neuro-inflammation; we need to stop fighting with each other about mechanisms of action." She added that Alzheimer's, as an incredibly complex disease, would need all of these options. "There won't just be one pill that cures this disease. There isn't just one pill that cures any of the major diseases in our world," Barkman Ferrell said.

Fillit added, "We are going into a world of precision medicines, with combination therapy for Alzheimer's disease." With this, he said there were business opportunities in "pulling together all the facets of the illness and having a comprehensive approach like we have in cancer, that is more clinically effective."

Despite these scientific advances though, Ritchie again highlighted the need to focus on the treatment of patients in doctor's offices today. "The science over the last 10 years is unequivocal, but clinical practice is taking a long time to catch up," he said. The focus today is on bridging "that gap with what we have in Alzheimer's knowledge and what we can do in clinical practice." As well as being chief investigator of the EPAD project, Ritchie is chair of the Scottish Dementia Research Consortium, professor of the psychiatry of aging and director of the centre for dementia prevention at the University of Edinburgh and director of Brain Health Scotland.

Earlier Diagnosis And A New Culture

Fillit noted that there were many more tools available to diagnose and assess Alzheimer's patients. However, there are still barriers to using these technologies for patients presenting with mild symptoms at a younger age. A full workup for a potential Alzheimer's patient is a heavy burden on physician workflows. Fillit said he often heard the response, 'Why should I bother making a diagnosis of Alzheimer's disease when there is nothing that can be done?'

But he said, there should not be "therapeutic nihilism" because "the drugs on the market do work and those correctly diagnosed early can go into clinical trials."

Mylea Charvat, CEO and founder of Savonix, noted during the discussion that the kind of testing for patients in the research setting was more advance than in doctors' offices. Current testing

was discovering the disease too late, she said, whereby “if you fail the test you already have dementia.”

Charvat said newer tools were able to track multiple risk factors. “We need to do in Alzheimer’s what we do in heart disease,” she said. “We don’t wait until you have a heart attack and then give you a pill, we track your blood pressure, your cholesterol, your sedentary lifestyle...” Savonix has developed a mobile neurocognitive assessment and brain health platform. Its digital mobile technology was created by a team data neuropsychologists, engineers and scientists.

As well as being able to use newer tools for diagnosing Alzheimer’s earlier, Ritchie is passionate about data collection and analysis. He said it was critical that when doctors do the tests, they could also store the data so that patient profiles can be created to help predict the course of disease in future patients.

Ritchie said there was a huge opportunity for the use of artificial intelligence and machine learning tools to gather data and make it useable in clinical practice. Ideally, those diagnostic algorithms would “not just be used in New York or London” but all over the world where they are needed.

Alongside scientific advances and technological breakthroughs, Ritchie said there was more to be done in educating doctors and patients about brain health more broadly. “The dream I have is to change the conversation and change the culture to get rid of the D word – dementia.” He added, that to “help people realize that what they do in mid-life will help their brain health in later life, then we have to get that culture change,” he said.

Demy-Colton, a leader in connecting life science and digital health executives, launched the [Demy-Colton Virtual Salon Series](#) in 2020 to bring insights from key opinion leaders in the life sciences online.