

With a Diagnostic and a Drug that can Stop Alzheimer's Disease in Development, TREVENTIS Corporation is Clearly at the Forefront of the Problem

**Healthcare
Alzheimer's Disease
(Private)**

Treventis Corporation

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**L. William McIntosh, BS, MBA
Chairman and CEO**

BIO:

Mr. McIntosh is a 30+-year veteran of the pharmaceutical, biotechnology, diagnostics and device industries. Most recently, he was Chief Operating Officer, Neuro Hitech, Inc. He began his career at Merck and Co., Inc. where for 15 years he served in 11 different positions including Director of Business Development, and Sr. Director of Marketing Antibiotics/Vaccines. He served in senior management positions at a variety of pharmaceutical and biotechnology companies including Medco Containment Services, Boehringer Mannheim Pharmaceuticals Corporation, Zynaxis, Inc., Glaxo SmithKline, and VIMRx, Inc. In addition, he was CEO for Nexell Therapeutics, Inc. and Q-

RNA, Inc. Mr. McIntosh has both a B.S. and M.B.A. from Lehigh University.

Company Profile:

TREVENTIS Corporation is headquartered in Southeastern Pennsylvania and has research operations in Halifax, Nova Scotia, Canada. The company is focused on the discovery and early stage development of disease modifying, small molecule drugs for Alzheimer's and other protein misfolding diseases such as Parkinson's and Huntington's disease. In addition to its therapeutics programs, TREVENTIS has a novel approach to the development of diagnostics for early diagnosis and monitoring treatment effects in Alzheimer's disease, MS and primary brain tumors.

**Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine**

CEOCFO: Mr. McIntosh, what is the vision at Treventis?

Mr. McIntosh: We started the company because we had worked for two other companies as employees and both of those companies were focused on Alzheimer's disease. Neither of those companies had the correct scientific understanding of where one needs to be in discovery of possible cures for the disease. Fortunately, one of our scientific founders has been working in this field for over twenty years. He is a serial entrepreneur, PhD in chemistry, and a physician with a subspecialty in neurology. He has a vision of how we will cure this disease. When we left the last company, he called us up and said he had a marvelous person working in his laboratory who had designed a

system to discover drugs to cure Alzheimer's, and that we need to form a company. So that is what we did. Our vision is to both find a cure or at least a drug that can stop the progression of Alzheimer's disease and at the same time develop a diagnostic that will tell physicians when they need to intervene before the patient becomes fully evident with Alzheimer's disease.

CEOCFO: What have you hit on that others have not realized?

Mr. McIntosh: There are a couple of background pieces to understand. First of all, our scientific founder Dr. Weaver has known about this, but it has only been published in the major journals recently. There is not just one protein that goes bad that causes Alzheimer's disease and results in plaques. There is a second protein called tau that results in tangles. It is both the plaques and the tangles in the brain that ultimately are the evidence of destruction of brain cells. They have also discovered that it is not the plaques and the tangles that cause the destruction but it is the formation of those plaques and tangles with one protein attaching to another, to another, to another. That is how plaques are formed. It turns out that it is the first aggregation of one protein to another (we call an oligomer) making a dimer or two proteins together. It is that process that causes the destruction of brain cells. Our challenge was to find drugs or compounds that would stop aggregation at the oligomer stage before the dimer happens. Further, we need to stop aggregation of two proteins, A-beta and tau, using a single drug. No one else in this field is working in this area. We are. That brings us to the diagnostic side of the company. Even though there are diagnostics out there, there

is no diagnostic that can determine an Alzheimer's patient from normal patient. That is because both normal patients and Alzheimer's patients both make plaques in their brain but the normal patients go on to live a full life whereas the Alzheimer's patients get Alzheimer's disease. The problem is a diagnostic was recently approved to diagnose the patients with plaques in their brain but it does not tell you if it is a normal patient or an Alzheimer's patient. We focus on the compound in the brain that is accelerated when you are becoming an Alzheimer's patient and that compound is called butacholinesterase. We are developing a diagnostic that will allow us to identify those patients that have high butacholinesterase levels in their brain, which will lead to Alzheimer's disease. Those are the patients that we will need to put on our drugs to stop the Alzheimer's process.

CEOCFO: Where are you in the development process?

Mr. McIntosh: We now have between three or four hundred compounds that we have tested at various levels in both non-live models or *in*

vitro and in live animal models or *in vivo* models. The live models of mice are genetically programmed to get Alzheimer's disease. We have demonstrated that at least two of our compounds work to stop the Alzheimer's process in mice. Recently, we have been evolving the compound, so that they are very good drugs. There are many things that we need to have these drugs do. They have to be safe. They have to go into the brain. Doing that is a very difficult problem because the brain protects itself from anything going in, it is called a blood-brain barrier. We have to have a drug that has a long half-life so it stays in the brain for a long period of time. That way, people can take a pill once or twice a day. And, finally, we have to have a drug that is orally available rather than an injection. We are at the point where we believe we have best compound and we are going to be testing that compound again in the

animal models. Assuming they work like the other compounds, we believe we have a compound that is going to be effective in Alzheimer's and, at the same time, will be a good drug. Then we can move on to human studies.

CFOCF: Is the medical community aware of what you are doing?

Mr. McIntosh: We have quite recently come on the radar screen. Over the last six months, we have had some discussions with Johnson & Johnson and Abbott Laboratories among others. People are starting to see that we are probably at the forefront of what needs to be done for Alzheimer's disease. There is an organization in England called The Wellcome Trust. The owners put money from the former Burroughs Wellcome Pharmaceutical Company into a trust. The organization asks people who have come up with novel approaches to very important dis-

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eases to submit applications. We are in the process of doing that. Their grants can total as much as four to five million pounds. Our story is beginning to get out, people are very interested in our approach because they are beginning to understand you have to deal with multiple proteins, not just one.

CEOCFO: Does Treventis have enough funding to move forward?

Mr. McIntosh: Frankly, the answer is no. The funding available for early-stage companies like ours is virtually nonexistent. It is actually a national tragedy. We are working on many fronts to get additional funding. We have some venture capital people that are interested, we have the Wellcome Trust Grant. There are a couple of specialized grants from the National Institutes of Health which we are applying for. We do see a way to the end goal, that is, finding a drug

that will work and then partner it with a large pharmaceutical company who will do the clinical trials. It is very difficult; we have raised a little under \$1.5 million dollars. The fact that we have made that money go so far it is a miracle. It is a very difficult environment to raise money for early stage biotechnology. Most people I talk to want to invest in IT, computer software, companies like Facebook, LinkedIn. They are interested in these because it is a short-term play. The biotechnology industry around the world let alone in this country and particularly the early-stage companies like us are hugely underfunded, it is really a shame. There is a ton of wonderful discoveries that are being made every day.

CEOCFO: Why should investors pay attention to Treventis?

Mr. McIntosh: First of all, the overwhelming evidence from the scientific

community suggests that we and probably we alone have the right approach to Alzheimer's disease. Everyone else, including the large pharma and the biotech companies, are working on

one protein or another but not both. Many of those same companies are working at the wrong stage of the disease, you have to do it early in the process. The second thing that distinguishes us is we have developed a diagnostic that can identify early stage disease and differentiate Alzheimer's patients from normals. Our drugs can stop the disease process. I do not think there is anyone out there that has both a diagnostic and the drug that can stop Alzheimer's. We are clearly at the forefront of the problem. If one were to pick one company that is literally up to date on what the current thinking is and driving toward the development of an effective drug, it is Teventis Corporation. We are not looking for a lot of capital to achieve our goals. If we had a million dollars, I think we could do the work that has to be done and we could partner this very profitably to a major pharmaceutical company.