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## Of Alzheimer's, the scientific method & educated guesses

My name is Caroline Rodgers. Some of you may recall that in January, I presented my hypothesis that Alzheimer's disease is caused by dental X-rays shortening the lifespan of the brain cells that keep sustain neurons, fatally stranding them (1). The article it was based on was reviewed by scientists specializing in Alzheimer's, neurology or radiology during manuscript development and in the course of peer review before it was published in Medical Hypothesis last July (2).

But that's not what I am here to talk about.

I am here to talk about the scientific method versus expediting answers. Thomas Edison was a great one for applying scientific method. He exemplified how persistence can conquer multiple failures when he had his lab test 10,000 different filament substances before finding tungsten. That was a great feat, but he was only looking for a way to light up the world that was already aglow with candles.

Alzheimer's is different. Darkness is descending on the minds of the elderly and the notso-elderly with savage rapidity. Every day we fail to discover what is causing Alzheimer's and how to treat it, countless more individuals are doomed to losing their minds and ultimately, their lives in a manner that does not go gently into the night. We don't have the time to test 10,000 possibilities – we need ask new questions and to make educated guesses that will vault us into new territory.

Clinical trials are the "gold standard" of evidence-based medicine. But when a treatment does not pass a clinical trial, it is not gold, it is lead. Recently one scientist involved with clinical trials of Alzheimer's drugs said that some 100 treatments were in the works, most of which targeted brain plaques. Since more than one clinical trial of a plaques-clearing treatment has been halted for doing more harm than good, it is time to consider that clearing plaques is not the answer and no alchemy can turn it into gold.

Meanwhile, we can't afford the time and money to be as systematic as Edison – we need educated guesses that, like leaps of faith, close the gap quickly. The answer is

probably a simple one; the very speed with which Alzheimer's has become a killer argues against a complex etiology, since the more factors required for an outcome, the more difficult it is to meet all of the conditions necessary to cause it. Plus, simple answers are easily overlooked, which is why it took nearly 300 years for scientists to discover that rickets was caused by a lack of sunshine.

Are dental X-rays causing Alzheimer's? I can't answer that question because my hypothesis has yet to be tested. But I'm told it would take only about \$20,000 to launch a pilot study that could bring us closer to the truth. We need to investigate this and other out-of-the-box ideas. While the Research Subcommittee's draft recommendations call for timelines, strict metrics and cooperation among what it terms "industry players," we need to go beyond these business models and find ways to attract and fund fresh avenues of Alzheimer's research. While scientific method is important, if it is not used to explore creative educated guesses it may be a long time before we strike gold.

Thank you.

- (1) http://aspe.hhs.gov/daltcp/napa/Comments/cmtach33.pdf
- http://aspe.hhs.gov/daltcp/napa/Comments/cmtach34.pdf
- (2) http://www.medical-hypotheses.com/article/S0306-9877(11)00118-6/abstract