

Investment in research saves lives and money



facts about:

} Parkinson's Disease

What is Parkinson's Disease?

Parkinson's disease is a degenerative disorder of the central nervous system that is part of a group of conditions called movement disorders. The disease causes the death of key dopamine-producing neurons in the brain, resulting in a variety of neurological problems. Early symptoms include problems with movement and balance, tremors, and difficulty walking and talking. Parkinson's is associated with additional symptoms like dementia, depression, pain, and sleep disorders in its advanced stages. The exact cause of Parkinson's disease is still unknown. There is no cure, but some medications and surgical interventions can help control its symptoms.[^]

Today:

- ❑ Men are 50% more likely to develop Parkinson's disease than women.*
- ❑ Up to one million Americans were living with Parkinson's disease in 2013, and that number is predicted to double by 2040.[^]
- ❑ Approximately 50,000 Americans are diagnosed with Parkinson's disease each year.^{*}

IMPROVING LIVES

SAVING MONEY

HOW RESEARCH IMPROVES LIVES:

- ❑ Johns Hopkins University graduate students developed a device that reduces the tremors, stiffness, and slowed movements associated with Parkinson's disease. The device, which can be worn externally like a headband, delivers electrical current to the individual, suppressing the symptoms. The graduate students utilized the same technology and approach used in deep brain stimulation- a surgical intervention that has been successful in reducing the symptoms of advanced Parkinson's disease. While still experimental, their device is non-invasive, safer, and a fraction of the cost, making it a very attractive treatment option.*
- ❑ There are several drugs currently available to Parkinson's patients that reduce many of the symptoms that are most disruptive to an individual's life, like tremors, slowed movements, and fatigue. Some treatments have even been shown to fully disrupt the symptoms of early Parkinson's disease, significantly reducing the effect of the disease on an individual's life.[^]

HOW RESEARCH SAVES MONEY:

- ❑ According to Close to a Cure, a fund within the Foundation for the Carolinas, for every \$1 spent on high quality research \$13 can be saved in direct and indirect costs due to improved treatments for individuals with Parkinson's disease.[‡]
- ❑ It has been estimated that if a new therapy were discovered that caused a 10% delay in the progression to the more severe stages of Parkinson's disease, over \$100 million could be saved annually. A 50% delay in the progression of Parkinson's disease would be associated with a 35% reduction in cost of care.⁺
- ❑ In 2010, patients with Parkinson's disease incurred approximately \$14 billion in medical expenses, \$8.1 billion more than would be expected without the disease. 48% of these extra costs were paid by government agencies, including Medicare and Medicaid. A reduction in overall medical costs will greatly decrease the financial burden on taxpayers.⁺

* JOHNS HOPKINS UNIVERSITY <WWW.JHU.EDU>

[^] MICHAEL J FOX FOUNDATION FOR PARKINSON'S RESEARCH <WWW.MICHAELJFOX.ORG>

[‡] CLOSE TO A CURE <WWW.CLOSETOACURE.ORG/PARKINSONS.HTM>

⁺ KOWAL, S.L. ET. AL. MOV DISORD 2013; 28(3): 311-318

"If you think research is expensive, try disease."

- Mary Lasker 1901-1994

The Cost:

- ❑ A study published in 2014 concluded that the total economic impact of Parkinson's disease was \$14.4 billion a year, and is predicted to increase unless interventions are developed.[‡]
- ❑ A yearly supply of medicine to treat the symptoms in an individual with Parkinson's disease averaged \$2,500 in 2010.[‡]
- ❑ A single surgical intervention to relieve some of the symptoms associated with Parkinson's disease often costs over \$100,000.[‡]
- ❑ As the disease progresses, many individuals with Parkinson's disease are placed in specialized assisted care or nursing facilities, amounts to 57% of the medical costs directly associated with the condition; a total of \$5 billion in 2010.[‡]

* NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE <WWW.NINDS.NIH.GOV>

[‡] PARKINSON'S DISEASE FOUNDATION <WWW.PDF.ORG>

⁺ KOWAL, S.L. ET. AL. MOV DISORD 2013; 28(3): 311-318

[^] MAYO CLINIC, <WWW.MAYOCLINIC.ORG>

patient advocate:



NAME: Steve DeWitte

AGE: 58

CONDITION: Young-Onset Parkinson's Disease

Diagnosed at Age 48

In 2005, Steve DeWitte was diagnosed with young-onset Parkinson's disease after he started experiencing stiffness and left hand tremors. At 48-years-old, Steve began educating himself about the challenges ahead, and laying a strategy for how he and his community could win the battle against this disease. Steve became very passionate in advocating for increased funding for Parkinson's research in hopes that a treatment or cure would be developed to halt or slow this debilitating disease for all those suffering. As he became more familiar with the research community, he became aware of the critical role the National Institutes of Health (NIH) plays in the funding of Parkinson's research around the world.

Steve soon discovered the vital role clinical trials play in testing and evaluating possible medical interventions. Additionally, he recognized the need for individuals with Parkinson's disease to participate in these clinical trials to help researchers better understand the effects of different types of interventions, and attempt to create new, more effective treatments. He was disappointed to learn that more than 85% of clinical trials for Parkinson's and other diseases are delayed, and 30% never even get off the ground, due to a lack of volunteers.

Clinical trials are a key step on the path to developing new therapies – and ultimately, a cure – for Parkinson's. Steve began to recruit fellow patients and transport them to clinical trials of their choosing. To date, his clinical trial initiative has transported more than 100 people to trials. His hope is that his work – along with the efforts of dedicated stakeholders, adequate funding for the NIH, and the expeditious review and approval by the FDA – will bring disease modifying treatments to his community soon.

facts about: } Parkinson's Disease

Hope for the Future:

■ In June of 2015, *ScienceDaily* announced four possible medical interventions that were found to slow down, halt, and even reverse the symptoms of Parkinson's disease in preclinical trials. All interventions used different approaches- repurposing existing drugs, gene therapy, stem cell and growth factor development, and the creation of a first-in-class drug. The rapid speed of discovery and promising results in preclinical trials suggests scientists could be on the brink of a huge breakthrough in the treatment of Parkinson's disease. Two examples are:[^]

- An international team of scientists have identified two commonly used anti-malarial drugs to be a potential treatment for Parkinson's disease. In preclinical trials, the medication has completely halted and even reversed the Parkinson's symptoms the animal models exhibited. This study, which consisted of testing approximately 1000 FDA-approved drugs, was searching for existing medications to repurpose. Repurposing uses drugs that have already gone through FDA safety testing, allowing treatments to reach patients more quickly.*
- Researchers have developed a novel approach to treating, and potentially curing, Parkinson's disease. Growth hormones were applied to the brain to promote the body's natural protective measures during the first human trial in 2015. This stimulation should limit cell death and correct the damaged chemical-producing mechanisms, returning them to normal activity.*

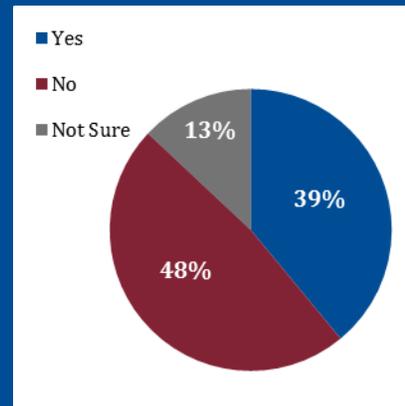
[^] SCIENCEDAILY, PARKINSON'S RESEARCH <WWW.SCIENCEDAILY.COM>

*KIM ET. AL. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, 2915. 112(28):8756.

+ GESINE, P. ET. AL. J OF CLIN INVESTIGATION 2015; 125(3): 1339-1346.

National Poll: Nearly Half Say We Aren't Making Enough Medical Progress

Do you believe we are making enough progress in medical research in the U.S.?

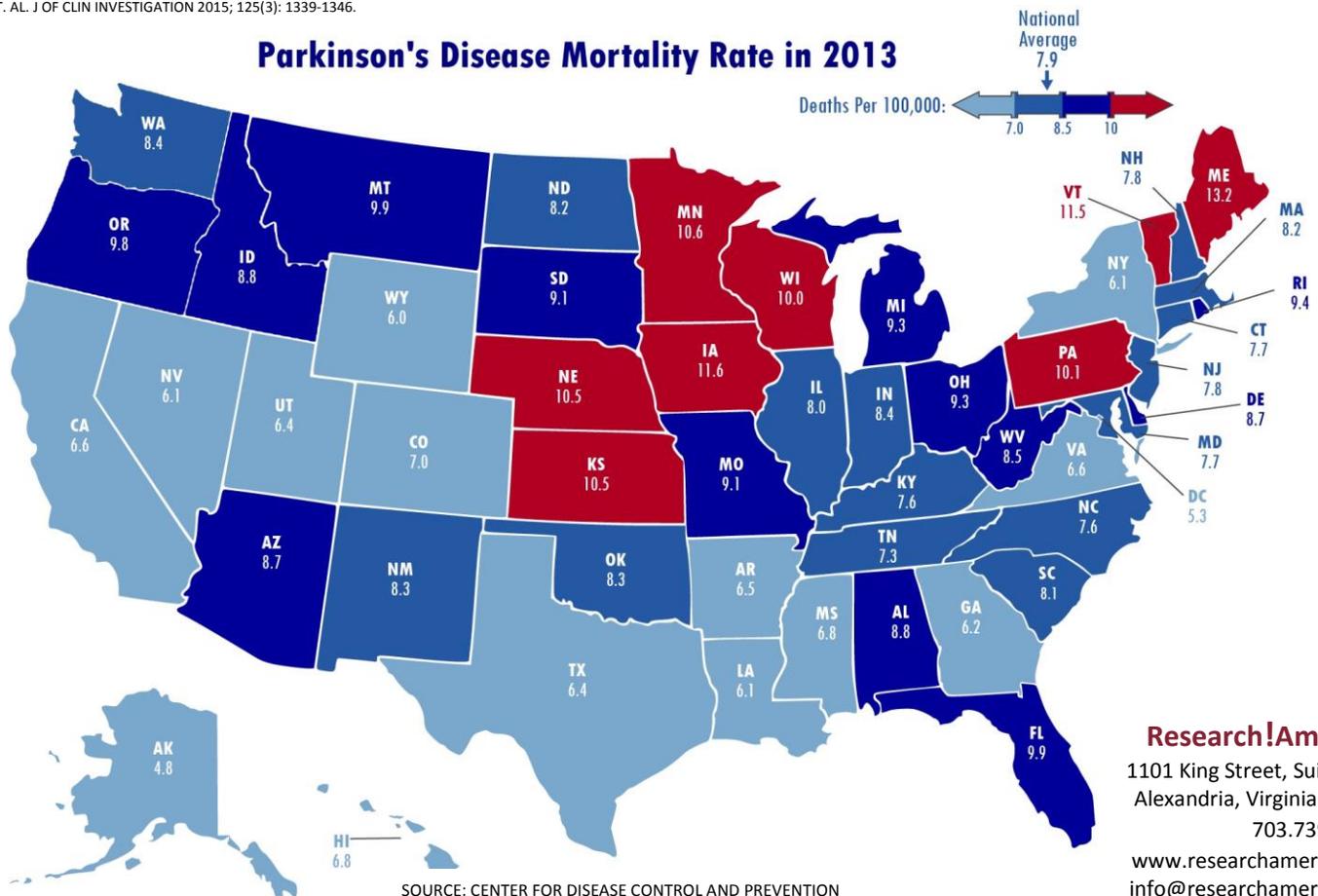


SOURCE: RESEARCH!AMERICA POLL CONDUCTED IN PARTNERSHIP WITH ZOGBY ANALYTICS IN MAY 2013

The Bottom Line:

Very little is known about Parkinson's disease, limiting doctors' abilities to successfully treat this debilitating and progressive condition. The population of Americans with Parkinson's disease is expected to double in the next 15 years if interventions are not developed that halt or delay the breakdown of neurons. This can only be accomplished with sustained and robust funding for medical research.

Parkinson's Disease Mortality Rate in 2013



Research!America

1101 King Street, Suite 520
Alexandria, Virginia 22314
703.739.2577
www.researchamerica.org
info@researchamerica.org

The Albert and Mary Lasker Foundation is a founding partner in this series of fact sheets. www.laskerfoundation.org