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Funding Diabetes Research

 Studies by the American Diabetes Association show that in 2010 8.3% of the population in the United States had Type 1 Diabetes; this equates to as many as 3 million Americans with Type 1 Diabetes (JDRF: Improving Lives, Curing Type 1 Diabetes). Type 1 Diabetes is a disease that occurs when a person’s pancreas fails to produce insulin. Without insulin, the body cannot break down glucose or sugars from the foods that have been ingested. This results in hyperglycemia. Hyperglycemia, or high blood sugar, occurs when there is no insulin in the blood, not enough insulin in the blood, or the insulin in the blood is not working properly. Researchers have been able to conduct tests since the early 19th Century. However, with the current increase in Diabetes incidences, researchers are under constant pressure to find improvements for Diabetes technology, medications, and treatments. The Juvenile Diabetes Research Foundation, commonly referred to as JDRF, is the head of Diabetes Research and Education. They train endocrinologists- doctors who specialize in treatment of Diabetes- and spread them throughout the United States at physician’s offices and children’s hospitals. On average, JDRF receives $220 million dollars for funding through donations, Diabetes walk and events, and from tax payers for research and education of Diabetes. JDRF is responsible to distribute $203 million dollars for the education of newly diagnosed patients and their families, public education of Diabetes, and training of Endocrinologists. After these expenses, JDRF is left with a sum of $17 million dollars for research. The problem that exists is, in order to conduct enough positive tests when finding new medication or advanced medical supplies, they need $128 million dollars (JDRF: Improving Lives, Curing Type 1 Diabetes). With this little of funding, Diabetes research is dwindling, and improvements in medication, treatment, and supply technology have subsided. Should education for Diabetes be priority, so that Americans know how to manage it? Should Diabetes remain a manageable Disease and funding be provided for more severe, unacknowledged diseases? If more funding were available to the Diabetes Research Foundations, Diabetes would have a greater chance to become a curable disease, treatment and medication options would increase, and the dependency of medical attention to people with Diabetes would decrease.

 Although J.D.R.F and the American Diabetes Association receive money for funding Diabetes Research, it is not enough to present the positive chance of Diabetes to become a curable disease rather than just manageable. According to an interview conducted by The American Diabetes Association with the United States Treasury Department, they recognize that, “medication and treatment options are improving all the time. People with Diabetes can live full lives just like people without Diabetes.” Living life with Diabetes is not that easy, though. Type 1 Diabetes is a struggle to live with and is full of difficulties. This particular type of Diabetes is life threatening and upsetting; particularly for younger children and teenagers. Worst of all, it never goes away. Each year more than 15,000 children and teenagers, and 15,000 adults are diagnosed with Type 1 Diabetes. The rates of Diabetes incidences are estimated to increase by 3% each year, according to the Juvenile Diabetes Research Foundation. By the year 2020, the United States would be looking at an addition 6,356 people diagnosed on top of the already 30,000 plus assumed diagnosis. To the active, healthy children, teens, and young adults, this means a life of relying on medication in order to be alive. This includes a life of pricking their fingers, testing their blood sugar, counting carbohydrates, carrying around bags full of supplies and medication, and high medical bills. The unknown increase in Type 1 Diabetes cases will not stop without better medication or treatment options. Without enough money for research, people with Diabetes will have to continue to struggle to live their lives normally. Type 1 Diabetes is more serious than it has been recognized as. Among disease, Diabetes (and the problems it causes) is the third leading cause of death in the United States (Tiger 8). The National Diabetes Information Clearinghouse received 71,382 death certificate copies with Diabetes or a Diabetes complication listed as the cause of death in one year. The risk for death among people with Diabetes is three times that of a person without Diabetes, of similar age. People with Diabetes face greater medical risks and in some cases death because no cure has been found. The United States pays $58 billion dollars a year on disability, work loss pension, and premature mortalities of Diabetics. With enough money, a cure for Diabetes could be found and 70,000 people’s lives could be presumably saved from being lost due to death from Diabetes.

 It takes months for enough positive research tests to be completed before new medication or treatment options can be released. But, months are better than years when it comes to treatment and medication options. Over the years, fifty-six different mixes of insulin have been secreted from the pancreas of deceased cattle and pork (Kennedy). However, research funding has only allowed enough money for three positive ways of receiving medication to be found: needles, insulin pens, or an insulin pump. Although there are many insulin mixes, statistics from the U.S National Library of Medicine show that about one in every four diabetics is resistant to more than half of the mixes. This means that a diabetic may have the undesired opportunity to go through more than twenty-eight trial and error medication tests. When dealing with insulin resistance, insulin enters the body, but does not begin to break down the sugars. This means the body is not responding to the medication and will result in hyperglycemia (high blood sugar). According to the Juvenile Diabetes Research Foundation, when a person reaches certain high blood sugar levels, this disease can cause their whole body to malfunction: dangerously high blood pressure, loss of awareness, drowsiness, and blurred vision. If the blood sugar is not immediately controlled, a person can go into a Diabetic Coma. At this point, it will take the Diabetic weeks to recover. Some doctors will highly recommend that insulin resistant diabetics should seek transplant opportunities. In an interview with Dr. Helaine Resnick, a well-known and reputable endocrinologist, and the American Diabetes Association, he shared that, “even with cases like this, receiving eligibility for a transplant is highly unlikely… Pancreas transplants are limited to diabetic patients who have hypoglycemia unawareness (the diabetics body fails to “warn” them of an extreme drop in their blood sugar) or patients in whom the management of diabetes is so difficult that it interferes with day-to-day living (Diabetes Basics).” Dr. Helaine Resnick continued to share his knowledge about pancreas transplants in the *This Issue of Diabetes Care* Magazine by stating, “Transplants are limited due to the low survival rate for those receiving the transplant.” An interview was taken with the head doctors from OSF Saint Francis Medical Center, the University of Minnesota Medical Center, and Erie County Medical Center (three of the top transplant centers in the United States) .The *Los Angeles Times* reporter spoke with the head doctors about the survival rate of pancreas transplant patients of theirs. All three Medical Centers responded that they were, “lower than expected” (Transplant Center Survival Statistics). But, why are the survival rates low? The American Diabetes Association shared their response to the low survival rates in a separate article in the *This Issue of Diabetes Care* magazine, “There is just simply not enough money. Funding is low, and research is lower. How are we expected to improve transplants when we have no research funding?” If the research continues to come to a halt, the hope for medication and treatment improvements will disappear altogether.

 In 2009, the National Ambulatory Care Service showed a record of 30.5 million ambulance transports of Diabetic Related Emergencies in an article entitled “Diabetes Research Statistics.” The article shows that these transports were to physician offices and emergency rooms. Patients stayed an average of five days in the emergency rooms. For the hospitals, this meant multiple beds being taken up, and a high dependency of medical attention to the Diabetic patients from many medical personnel. A study referred to as *The Economic Cost of Diabetes in the U.S for 2012*, conducted by the American Diabetes Association shows that $245 billion dollars was spent on the care of Diabetic patients in hospitals alone. According to the National Ambulatory Care Service, records show that they see four times as many Diabetic Emergency cases versus non-diabetic related emergencies. The cost of Diabetes is hefty not only for the person with Diabetes, but as well as hospitals, physician’s offices, and insurance companies. Persons with Diabetes must have constant medical attention due to the fact that diabetes can affect more than just one part of the human body. The National Diabetes Clearinghouse states that, “Diabetics are at a higher rise for medical complication due to diabetes. It is the leading cause to blindness, kidney damage, and lower-limb amputations.” Because of all these complications, Diabetics may spend more time in the hospital and their doctor’s office rather than at home with a well-controlled and easily managed disease.

 As the economy continues to fall, not only are diabetes researchers affected, but other disease researchers as well. Myasthenia Gravis is a neuromuscular disease causing weakness in the musculature system (Myasthenia Gravis Foundation of America). Myasthenia Gravis symptoms usually begin to show in the patient’s mouth. They will have a hard time chewing foods, swallowing liquids, and talking. The Myasthenia Gravis Foundation of America is the only research group for this disease. An article on their website shows that in a test for Myasthenia Gravis, fourteen of the twenty tested showed positive traits of the disease. The twenty people tested were taken from a population of 100,000. The article also shows that there are 36,000-60,000 cases in the United States. Research funding received for this disease is more than two- thirds less than what Diabetes receives. Although Diabetes is more severe, this disease is just as harmful, but recognized as “less important” by the National Library of Medicine. The Myasthenia Gravis Foundation of American’s research shows that this disease has never appeared in children, and rarely affects anyone under the age of fifty. Type One Diabetes has begun to affect not only people who are obese and unhealthy, but as well as healthy, active, and athletic children and adults. Myasthenia Gravis only affects one part of the human body- the musculature system. Diabetes affects the entire human body and can cause a patient’s body to loose functioning organs. The funding that the researchers have received has enabled them to understand why this disease occurs, who it occurs in, and how to treat it. Diabetes researchers have not been able to do that. Although Myasthenia Gravis goes without high acknowledgment and funding, researchers are farther advanced than Diabetes researchers. Type One Diabetes researchers do not fully understand why more and more healthy and active Americans are so rapidly presenting positive signs and symptoms of Type One Diabetes. With more funding for this disease, diabetes researchers could find the answer and a way to bring the rapid increase to a halt.

 Although diseases are highly common complications of the body, injuries are just as common and equally serious. One of the most serious injuries that can occur is a concussion. A concussion is a type of traumatic brain injury that is caused by a blow to the head or body, a fall, or another injury that shakes the brain inside the skull (Brain and Nervous System Health Center). Concussions can happen anywhere at any time, but most commonly happen in athletes. In the United States, the annual incidence of sports-related concussions is estimated at 300,000. The likelihood of an athlete in a contact sport experiencing a concussion may be as high as 19% per season (Neurological Surgery). In most cases, after plenty of fluids and rest, a person with a concussion will return back to normal, and swelling or bruising- if any- will be healed. On occasion of a severe concussion, surgery may be required and can lead to long-lasting problems with movement, learning, or speaking (Brain and Nervous System Health Center). Studies by researchers and scientists on athletes’ brains postmortem (after death) have shown many positive signs of CTE, or Chronic Traumatic Encephalopathy. This is a degenerative disease found in individuals with a history of repeated mild head injuries. Many times this disease leads to the athlete committing suicide due to a severe state of depression (Concussions in Sports). Although long known to have occurred in boxers, it was not discovered in football players until 2005 due to low funding for research (Concussions in Sports).

Junior Seau, linebacker of the San Diego Chargers, took his life on May 2, 2012, two years after retiring. His wife and family had dealt with many signs and symptoms of CTE such as dementia, memory loss, and depression, but had no knowledge of this disease and how it was caused. In an interview with ESPN, Gina Seau (Junior’s wife) told them, “I think it's important for everyone to know that Junior did indeed suffer from CTE. It's important that we take steps to help these players. We certainly don't want to see anything like this happen again to any of our athletes” (Mark Fainaru-Wada)*).* Later on in the interview, a reporter asked Gina what she thinks about the increased awareness for concussions in high school and college sports. She replied,”I think it’s great. The only thing that disturbs me is that tragedies like suicide due to this disease had to happen in order for awareness to be heightened and something to be done about it’’ (Mark Fainaru-Wada). Gina Seau was right- it is wrong for a tragedy to have to occur in order for someone to do something about the problem. So, why isn’t more being done for diabetes? In the United States, Diabetes has been diagnosed ten times more than CTE, and yet there is no heightened awareness and no increase in funding to find a cure. The death rates of Diabetics is increasing and people just sit and watch it happen. A dollar here and a dollar there can make a big difference for Diabetes. So, why wait for it to become any more tragic than it already is?

Having to live your life with Diabetes, is not something anyone, let alone children, run around asking for. They do, although, wish for more advanced treatment and medication options, to decrease their amount of needed medical attention, or to have conquered the fight against Diabetes. People with Diabetes try to imagine what life would be like if a cure were found. They think of how great it would be to enjoy consuming whatever they wished without having to worry about their blood sugar spiking. With the current increases of Type One Diabetes, further generations are more susceptible to a life with Diabetes. Because education for Diabetes management has been priority, the cure for Type One Diabetes has yet to be found. Funding Diabetes research would increase the chances of a cure being found. Although other disease’s research opportunities can compare to that of Type One Diabetes, funding for this disease is harder to come by due to the high expense research tests demand. Without a cure or better treatment and medication options, Type One Diabetes could become the biggest epidemic in the world. Why continue to let something worsen before anything more is done? Why allow millions of Americans to suffer to live without any sense of normalcy? Funding Diabetes research could allow Americans with Diabetes to conquer the fight against this disease and save future generations from a life with Diabetes.

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