



The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization:
Prize4Life

Organization URL:
www.prize4life.org

Project Name:
Prize4Life Biomarker Challenge

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

ALS, or Lou Gehrig's disease, is a progressive, fatal, neurodegenerative disease. In ALS, the nerve cells that control voluntary muscle movement gradually cease functioning, meaning that patients with ALS become paralyzed, though their minds remain intact. Most people with ALS die from respiratory failure, usually within 2-5 years. There are roughly 30,000 patients currently in the United States and an estimated 600,000 worldwide. There is no known cure for ALS, and only one treatment which prolongs survival for a few months at best and is often prohibitively expensive. In 2006, Prize4Life launched a multi-stage Grand Challenge via InnoCentive.com to find an accurate way to track the progression of ALS and cut the cost of ALS clinical trials in half. To launch this Challenge, Prize4Life utilized InnoCentive's Challenge platform, tools and methodologies to formulate and post the Challenge. The Challenge was made available to InnoCentive's Global Solver Community (which today is a quarter-million strong and growing). In 2007, as part of the first two stages of the Challenge, Prize4Life awarded several "thought" prizes to encourage promising concepts. Of particular note, a dermatologist with no prior ALS experience was recognized and rewarded for applying a skin-elasticity method used in the cosmetic industry. This is a prime example of the importance of diversity in solving problem (and in fact, two-thirds of the teams competing for the prize came from outside the traditional ALS field). In total, partial awards totaling \$175,000 went to six groups. In 2009, the third stage of the \$1 million Grand Challenge was posted to InnoCentive's Global Solver Community. In early 2011,

the full \$1 million amount was awarded to Dr. Seward Rutkove, a neurologist at Beth Israel Deaconess Medical Center, for his biomarker discovery.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The Challenge was posted on InnoCentive's cloud-based open innovation and crowd-sourcing platform and made available to InnoCentive's 250,000+ registered Solvers and millions of potential Solvers via InnoCentive's partnerships with organizations including Nature Publishing Group and Popular Science. In total, nearly 3,000 Solvers and over 100 solutions from dozens of countries were proposed over the course of the Prize4Life Grand Challenge.

Please list the specific humanitarian benefits the project has yielded so far.

The current cost of an ALS clinical trial is roughly \$10 million. Using this biomarker, that cost will be reduced to \$5 million or less. The reduction is due to the fact that this technology is far more sensitive to a patient's disease-related physical changes along the entire course of disease than existing technology. This means that the time required to determine the therapeutic benefit of a given drug in a clinical trial is shorter and fewer patients are needed. Faster and cheaper clinical trials mean that potential therapies will move more quickly through the development pipeline, accelerating progress towards a treatment or cure for ALS, and that industry will have a greater incentive to invest resources in ALS drug development. The ALS biomarker identified through the prize challenge is currently under consideration for incorporation into several upcoming Phase II and Phase III ALS clinical trials. In addition to identifying and accelerating this promising biomarker, the ALS Biomarker Prize competition additionally catalyzed multiple new scientific partnerships, with more than 50% of teams competing for the prize having established new collaborations in the process of competing. The ALS Biomarker Prize competition has already brought new minds to the field, with 2/3 of teams competing for the prize self-identifying as originating outside of ALS community. The ALS Biomarker Prize competition has already brought new research funding into ALS and raised the visibility of the disease in the eyes of the larger public.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

The project has provided myriad benefits to the ALS research and patient community, promising a leap forward in ALS research in terms of both time and cost. In addition, the award benefits Prize4Life, a 501(c)3 nonprofit organization dedicated to accelerating the discovery of treatments and cures for ALS. The solution to this Challenge has opened the doors to new funding opportunities and has significantly raised their profile in the research community.