What causes autism spectrum disorder (ASD)? We're not sure.

How many different types of ASD exist? Good question.

How many treatments are available for ASD? Not enough.

The National Institutes of Health (NIH) is taking this lack of understanding seriously. In case anyone doubts this, the NIH put its money where its mouth is last week when the agency announced the awarding of nine research grants totaling almost $100 million, over the next five years. This is roughly ten times more than the average research grant given to a researcher.

These grants are part of the Autism Centers of Excellence (ACE) program - created a decade ago to support research projects that aim to understand autism spectrum disorder (ASD). The Centers for Disease Control and Prevention estimates that 1 in 68 children [1] has been diagnosed with ASD.

Dr. Diana Bianchi, director of the NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development, said: "These awards will allow us to understand how autism differs in girls versus boys, to develop earlier methods of screening, and to improve treatments based on specific symptoms."

The awards are for both multi-institutional grants (called network grants) and for individual centers.

The individual center grants were given to the University of California, Davis to work on improving ASD treatments based on symptoms and features, The University of California, Los Angeles for research that studies tracing ASD symptoms to their origins, Yale University to examine the development of functional brain connections, Duke University for understanding and developing potentially treatments for the ASD-ADHD combination, and Emory University to study
social interaction to identify the early signs of ASD.

The network grants were given to George Washington University for work investigating how ASD differs between boys and girls. The University of North Carolina, Chapel Hill for research that tracks brain development and behavior as ASD progresses, Drexel University to evaluate the risks and benefits of autism screening for all toddlers, and Florida State University, Tallahassee to testing parent coaching, home intervention for toddlers.

The hope is that money will bring answers, but this won't be easy. ASD is complicated; both genetics and environment playing a role in influencing multiple complex behavioral and neurobiological aspects. And, although giving a lot of money to a few groups is one way to push research forward, some might argue that innovation may come more quickly by dividing the money among many different scientists and spreading out the wealth to younger scientists whose ideas may be a bit more outside the box.

Although the NIH is taking ASD seriously and giving the research the support it needs to make advances, results and subsequent treatments will still come slowly; certainly too slowly for all of the families who want answers now.