



# Autism Research Program

## VISION

Improve the lives of individuals with autism spectrum disorders now

## MISSION

Promote innovative research that advances the understanding of autism spectrum disorders and leads to improved outcomes for Service Members, their families, and the American public

## PROGRAM HISTORY

It is estimated that 1 in 59 children are diagnosed with Autism Spectrum Disorder (ASD), with over 3.5 million (M) Americans living with this developmental disorder. The Department of Defense Autism Research Program (ARP) was established in 2007 to improve the lives of individuals with ASD by funding innovative, highly impactful research. Since its inception, the ARP has received \$81.9M in Congressional appropriations. The appropriation for

the ARP for fiscal year 2018 (FY18) is \$7.5M. Through the program's Areas of Interest, the ARP focuses on ways to improve diagnosis, treatment, and study of the psychosocial factors that affect key lifetime transitions to independence and a better quality of life for those with ASD and their families. To date, the ARP has funded 152 research awards, resulting in over 230 peer-reviewed publications and 20 patent applications.

## IMPACTFUL IMPROVEMENTS TO QUALITY OF LIFE IN ASD SUPPORTED BY ARP

Advances made by the ARP positively impact both Service members and the general public. Approximately 20,000 military beneficiaries are diagnosed with ASD. Military families faced with the challenges of this developmental disorder will benefit from investments made by the ARP. The following are ARP-funded projects that have the potential to improve the quality of life for those living with ASD.

## BEHAVIORAL AND PHARMACOLOGICAL INTERVENTIONS

- Propranolol treatment of core symptoms of ASD
- Psychosocial intervention (MAXout) to increase social-communicative functioning in children with ASD
- Technology-based Applied Behavior Analysis for military dependents with ASD
- Internet-based parent training for caregivers of children with ASD
- Omega-3 fatty acid intervention on global severity and behavior

## TRANSITION TO ADULTHOOD

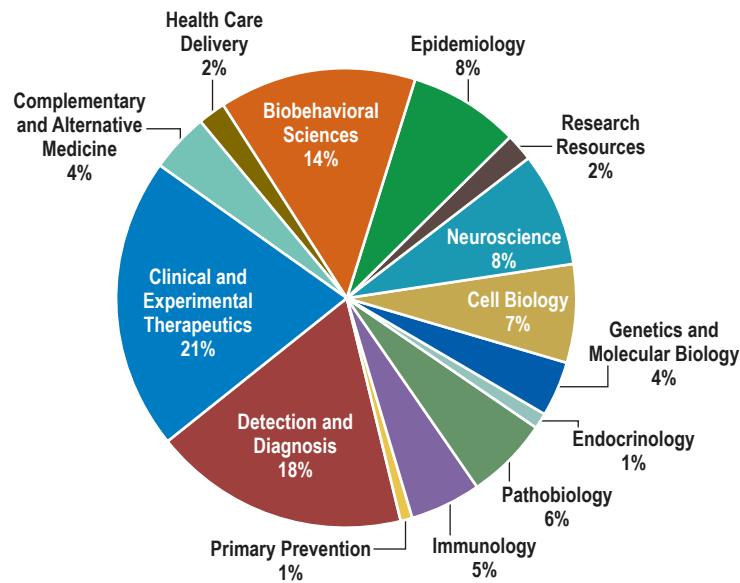
- Daily living skills intervention in high-functioning adolescents with ASD
- Virtual reality training to improve job placement and performance
- Employment-related social skill training in transition-age youth to improve social skills and self-efficacy
- Employer-based internship program for transition-age military dependents with ASD

## TREATMENTS FOR CO-OCCURRING CONDITIONS

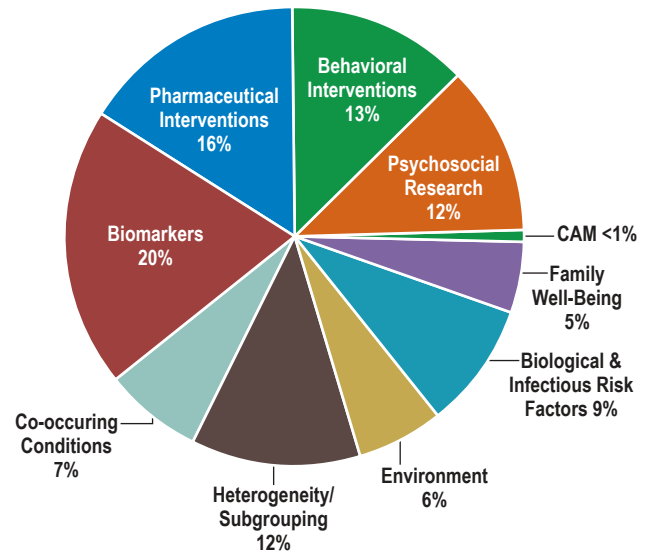
- Multidisciplinary intervention for encopresis in children with ASD
- Microbiota Transfer Therapy for gastrointestinal problems in adults with ASD
- Identification of early risk factors for anxiety disorders in preschool-age children with ASD
- Imaging technology for depression in adults with ASD
- Behavioral training for insomnia to improve sleep habits in children with ASD

## RESEARCH PORTFOLIO

The ARP funds a balanced research portfolio composed of studies focused on the Areas of Interest defined by the scientific and consumer communities based on their importance to scientific research and their potential to improve the lives of those affected by ASD. Recent progress by ARP-funded investigators shows promise in the areas of clinical and experimental therapeutics, early detection and diagnosis of ASD so that interventions may be initiated at earlier life stages, and understanding the needs of individuals with ASD through behavioral sciences.



FY07-FY17 Research Areas (by Dollars)



FY07-FY17 Areas of Interest (by Dollars)

## ARP CLINICAL TRIAL AWARDS

Since 2009, the ARP has funded 20 clinical trials with the goal of supporting research that will have a major impact on the treatment or management of ASD. One of these awards supported a clinical trial that evaluated the efficacy of cognitive enhancement therapy (CET) on cognitive and behavioral deficits in adults with ASD. Drs. Nancy Minshew and Shaun Eack from the University of Pittsburgh determined that CET is highly efficacious in enhancing neurocognitive function, specifically attention and processing speed. These neurocognitive improvements demonstrated a positive and substantial effect on employability in adults with ASD. Participants who received CET were more likely to be employed at the end of treatment when compared to a different behavioral intervention focused on psycho-education and stress management.

This is the first empirically validated treatment to address some of the core deficits in adult autism, and it will lay the initial groundwork for upcoming efforts in third-party reimbursement and broad dissemination of the results. Approval to utilize CET as a standardized therapy requires confirmation of these results in a second, larger clinical trial in adults with ASD. This trial is funded by the National Institute of Mental Health, is currently in progress, and is due for completion in 2020.

