

# The Congressionally Directed Medical Research Programs:

Autism Research Program

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The views expressed in this presentation are those of the author and may not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.







**DIRECTED MEDICAL** 

**RESEARCH PROGRAMS** 

### Who is the CDMRP?



**MATERIEL** 

**COMMAND** 





# **CDMRP Partnerships**

**IMPROVE** 

**HEALTH** 

(CURE)

#### **Advocates**

- Demonstrate need
- Participate at all levels
- Passion and perspective





### Congress

- Add funds to budget
- Targeted guidance
- Opportunity to leverage

### Researchers

- Innovation and gaps
- Risk/Benefit
- Product-oriented





#### **DOD**

- Program management
- Regulatory and budget requirements
- Institute of Medicine model



### Hallmarks of the CDMRP

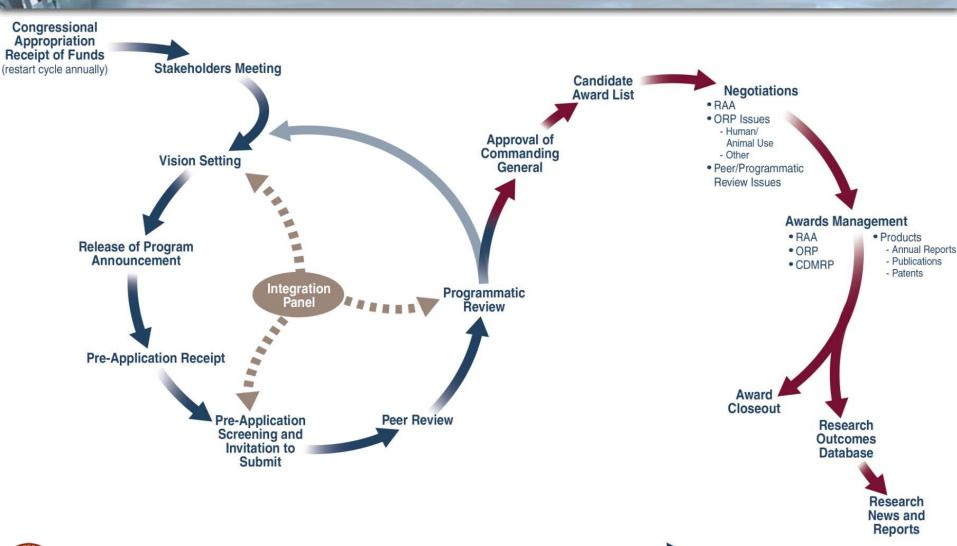
- Research funds added to DOD budget by Congress
- Vision is adapted yearly, and award mechanisms are changed as needed
- Advocates participate throughout process
- Fund highly innovative, highimpact research
- Fund nationally and internationally
- Two-tier formal review of applications – Institute of Medicine model







### **Program Execution**



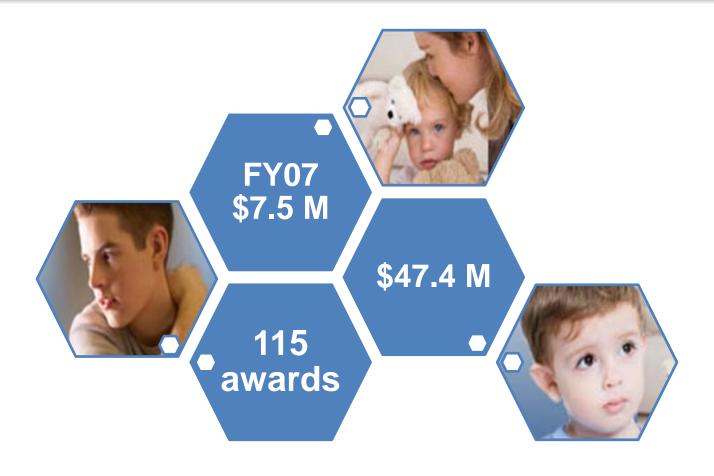


To Month 24

**DoD ARP:** 



## **History and Background**







# FY14 ARP Integration Panel Members

- Craig Powell, M.D., Ph.D, Chair University of Texas Southwestern Medical Center
- David Bellinger, Ph.D. Harvard School of Public Health, Children's Hospital Boston
- Daniel Campbell, Ph.D. University of Southern California
- Katarzyna Chawarska, Ph.D. Yale University
- Diane Chugani, Ph.D. Wayne State University; Children's Hospital of Michigan
- Julie Daniels, Ph.D.
  University of North Carolina
- John Davison III, MBA, Ph.D. Defense Health Agency

- Ann Gibbons, J.D. Autism Speaks
- Nancy Minshew, M.D. University of Pittsburgh
- Shelley Reynolds, B.A. Unlocking Autism
- Col Cherri Shireman
   US Air Force Medical Support
   Agency
- Christopher Stodgell, Ph.D. University of Rochester
- Robert Vogt, Jr., Ph.D. Centers for Disease Control and Prevention



### **Vision and Mission**



### **Vision**

Improve the lives of individuals with autism spectrum disorder now

### **Mission**

Promote innovative research that advances the understanding of autism spectrum disorder and leads to improved outcomes



### Mechanisms toward the ARP Vision

Improve the lives of individuals with autism spectrum disorder <u>now</u>

As a research funding agency how do we do this?







### FY14 Areas of Interest Clinical Trial Award

- Behavioral and other non-pharmacological therapies
- Pharmacological treatments in autism or welldefined subgroups of autism (e.g., genetic, phenotypic, co-occurring conditions)
- Dissemination/Implementation of established, efficacious behavioral interventions
- Therapies to alleviate conditions co-occurring with ASD (e.g., sleep disturbances, gastrointestinal issues, aggression, depression, anxiety)

# FY14 Areas of Interest Idea Development Award

CDIVIRE

- Environmental risk factors
- Mechanisms of heterogeneous clinical expression or response to treatment of ASD, excluding new gene discovery
- Mechanisms underlying conditions co-occurring with ASD (e.g., sleep disturbances, gastrointestinal issues, aggression, depression, anxiety)
- Novel therapeutics using valid preclinical models
- Psychosocial factors promoting success in key transitions to independence for individuals living with ASD

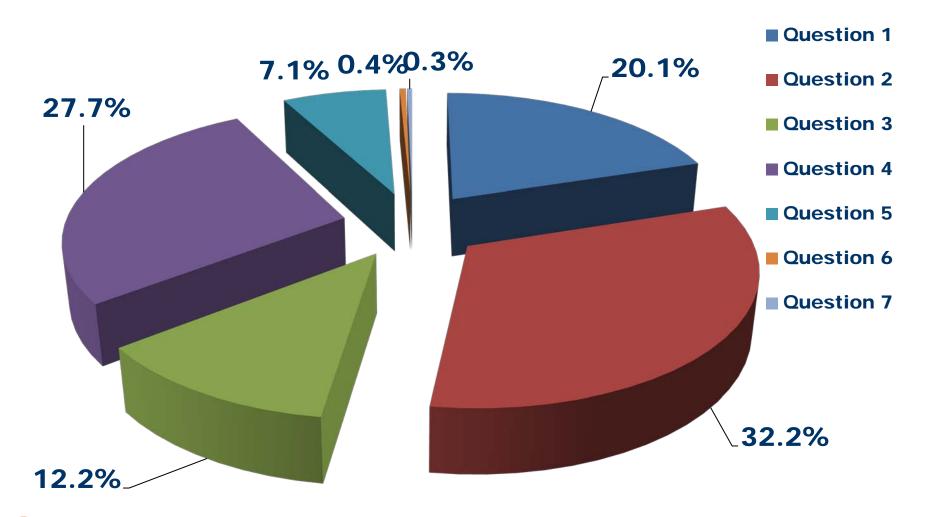
# How Does DoD ARP Fit: IACC Strategic Plan Objectives

Question 1	When should I be concerned?
<b>Question 2</b>	How can I understand what is happening?
Question 3	What caused this to happen and can it be prevented?
Question 4	Which treatments and interventions will help?
<b>Question 5</b>	Where can I turn for services?
<b>Question 6</b>	What does the future hold, particularly for adults?
<b>Question 7</b>	What other infrastructure and surveillance needs must be met?



### FY07-FY12 ARP Portfolio

### Percentage of Funds Invested per IACC Question





### **Advancing Access Through Technology**



Wayne Fisher, Ph.D.
University of Nebraska Medical Center

Technology-Enhanced Early Intensive Behavior Intervention Services for Children with ASD in Military Families

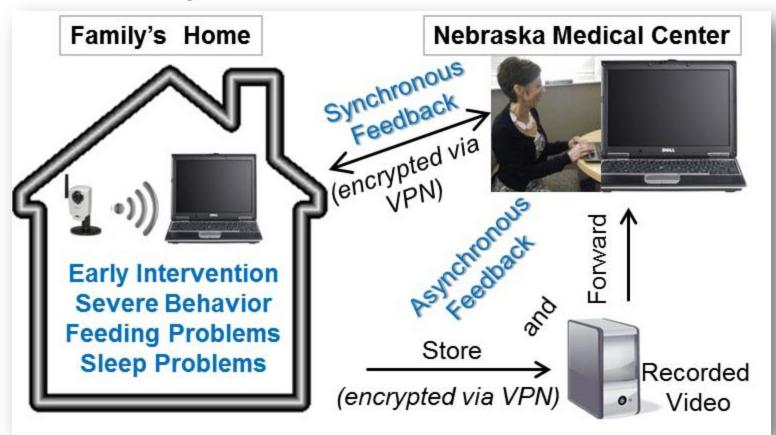


**Brooke Ingersoll, Ph.D. Michigan State University** 

Development of Internet Based Parent
Training Intervention for Children with ASD

Technology-Enhanced Early Intensive Behavior Intervention Services for Children with ASD in Military Families

### Dr Wayne Fisher University of Nebraska Medical Center







### **Advancing Independence**

- Daniel Cox, Ph.D. and Ronald Reeve, Ph.D. University of Virginia
- Daniel Cox, Ph.D. and Timothy Brown, Ph.D. University of Virgina and University of Iowa Evaluating and Enhancing Driving Skills of Individuals with ASD





### CDIVIRE

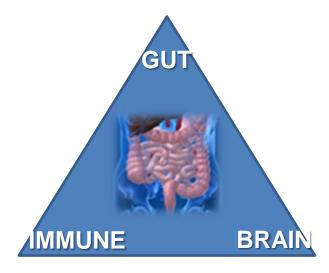
### **Understanding the Immune System and ASD**

> Armin Alaedini, Ph.D. Columbia University

Systematic Characterization of the Immune Response to Gluten and Casein in ASD











### Idea Development Awards - Nourishing the Future

Improving Healthcare Transition Planning and Health-Related Independence for

Youth with ASD and Their Families - Nancy Cheak-Zamora, University of Missouri, Columbia

Precursor to the Development of Anxiety Disorders in Young Children with

**Autism Spectrum Disorder -** Geraldine Dawson, Helen Egger, Duke University and Grace Baranek, University of North Carolina, Chapel Hill

Proteomic Mapping of the *Immune Response* to Gluten in Children with Autism - Armin Alaedini, Columbia University

Brain Mechanisms of Affective Language Comprehension in Autism Spectrum

**Disorder -** Donald Bolder, University of Maryland, College Park

Disruption of *Trophic Inhibitory Signaling* in Autism Spectrum Disorder - Anis Contractor, Northwestern University

Genetic and Diagnostic Biomarker Development in ASD Toddlers Using Resting

State Functional MRI - Peter Fox, University of Texas, Health Science Center at San Antonio, Eric

Courchesne, University of California, San Diego, and

**David Glahn, Yale University** 

Maternal Brain-Reactive Antibodies and Autism Spectrum Disorder- Betty Diamond,

**Feinstein Institute for Medical Research** 





### **Pilot Awards - Exploration of Novel Ideas**

Autism and Obesity: Co-Occurring Conditions or Drug Side Effects?

Zohreh Talebizadeh, Children's Mercy Hospitals and Clinics

Mobile Device-Prompted Workplace Culture Analysis, Self-Efficacy, and Anxiety Reduction in the Transition to Independent Employment for Individuals with ASD

**David Hagner, University of New Hampshire** 

Circadian Rhythms in Children with ASD and Their Infant Siblings

Marc Taylor, Naval Medical Research Center

Imaging Depression in Adults with ASD

Kenneth Gaddow, State University of New York, Stony Brook

Implicit Learning Abilities Predict Treatment Response in ASD

Catherine Lord, Cornell University, Weill Medical College

Placental Identification and Immune Quantification of Acute and/or Chronic Inflammation in Children Diagnosed with ASD in University and Community

**Hospitals** 

Carolyn Salafia, Research Foundation for Mental Hygiene, Inc., Staten Island



### **Autism Research Program**





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# http://cdmrp.army.mil



