

## **IACC Strategic Plan Objectives - Question #3**

### **Q3. What caused this to happen and can it be prevented?**

<b>Funding initiatives for 2008, 2009 and 2010</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total Funding</b>
	<b>3.2</b>	<b>3.S.A.</b>	<b>3.S.A.</b>	
Coordinate and implement the inclusion of approximately 20,000 subjects for genome-wide association studies, as well as a sample of 1,200 for sequencing studies to examine more than 50 candidate genes by 2011. Studies should investigate factors contributing to phenotypic variation across individuals that share an identified genetic variant and stratify subjects according to behavioral, cognitive, and clinical features.	\$4,065,392	\$13,926,663	\$16,688,932	\$34,680,987
<b>IACC Recommended Budget: \$43,700,000 over 4 years.</b>				
	<b>3.3</b>	<b>3.S.B.</b>	<b>3.S.B.</b>	
Within the highest priority categories of exposures for ASD, identify and standardize at least three measures for identifying markers of environmental exposure in biospecimens by 2011.	\$713,227	\$0	\$0	\$713,227
<b>IACC Recommended Budget: \$3,500,000 over 3 years.</b>				
	<b>3.4</b>	<b>3.S.C</b>	<b>3.S.C</b>	
Initiate efforts to expand existing large case-control and other studies to enhance capabilities for targeted gene – environment research by 2011	\$4,703,867	\$8,033,454	\$4,824,779	\$17,562,100
<b>IACC Recommended Budget: \$27,800,000 over 5 years.</b>				
	<b>3.5</b>	<b>3.S.D.</b>	<b>3.S.D</b>	
Enhance existing case-control studies to enroll racially and ethnically diverse populations affected by ASD by 2011.	\$84,628	\$103,827	\$0	\$188,455
<b>IACC Recommended Budget: \$3,300,000 over 5 years.</b>				
	<b>NA</b>	<b>3.S.E.</b>	<b>3.S.E</b>	
Support at least two studies to determine if there are subpopulations that are more susceptible to environmental exposures (e.g., immune challenges related to infections, vaccinations, or underlying autoimmune problems) by 2012.	-	\$1,739,200	\$1,162,679	\$2,901,879
<b>IACC Recommended Budget: \$8,000,000 over 2 years.</b>				

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<b>Funding initiatives for 2008, 2009 and 2010</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total Funding</b>
	<b>3.1</b>	<b>3.S.F.</b>	<b>3.S.F</b>	
Initiate studies on at least 10 (5) environmental factors identified in the recommendations from the 2007 IOM report "Autism and the Environment: Challenges and Opportunities for Research" as potential causes of ASD by 2012.	\$7,600,673	\$2,952,960	\$166,362	\$10,719,995
	<i>IACC Recommended Budget: \$56,000,000 over 2 years.</i>			
	<b>NA</b>	<b>NA</b>	<b>3.S.G</b>	
Convene a workshop that explores the usefulness of bioinformatic approaches to identify environmental risks for ASD by 2011.	-	-	\$0	\$0
	<i>IACC Recommended Budget: \$35,000 over 1 year.</i>			
	<b>NA</b>	<b>NA</b>	<b>3.S.H</b>	
Support at least three studies of special populations or use existing databases to inform our understanding of environmental risk factors for ASD in pregnancy and the early postnatal period by 2012. Such studies could include:	-	-	\$1,527,866	\$1,527,866
Comparisons of populations differing in geography, gender, ethnic background, exposure history (e.g., prematurity, maternal infection, nutritional deficiencies, toxins), and migration patterns; and				
Comparisons of phenotype (e.g., cytokine profiles), in children with and without a history of autistic regression, adverse events following immunization (such as fever and seizures), and mitochondrial impairment. These studies may also include comparisons of phenotype between children with regressive ASD and their siblings.				
Emphasis on environmental factors that influence prenatal and early postnatal development is particularly of high priority. Epidemiological studies should pay special attention to include racially and ethnically diverse populations.				
	<i>IACC Recommended Budget: \$12,000,000 over 5 years.</i>			

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<b>Funding initiatives for 2008, 2009 and 2010</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total Funding</b>
	NA	NA	3.S.I	
Support at least two studies that examine potential differences in the microbiome of individuals with ASD versus comparison groups by 2012.	-	-	\$53,960	\$53,960
	<i>IACC Recommended Budget: \$1,000,000 over 2 years.</i>			
	NA	NA	3.S.J	
Support at least three studies that focus on the role of epigenetics in the etiology of ASD, including studies that include assays to measure DNA methylations and histone modifications and those exploring how exposures may act on maternal or paternal genomes via epigenetic mechanisms to alter gene expression, by 2012.	-	-	\$5,072,389	\$5,072,389
	<i>IACC Recommended Budget: \$20,000,000 over 5 years.</i>			
	NA	NA	3.S.K	
Support two studies and a workshop that facilitate the development of vertebrate and invertebrate model systems for the exploration of environmental risks and their interaction with gender and genetic susceptibilities for ASD by 2012.	-	-	\$733,922	\$733,922
	<i>IACC Recommended Budget: \$1,535,000 over 3 years.</i>			
	3.7	3.L.A.	3.L.A	
Conduct a multi-site study of the subsequent pregnancies of 1,000 women with a child with ASD to assess the impact of environmental factors in a period most relevant to the progression of ASD by 2014.	\$2,742,999	\$3,740,812	\$2,971,093	\$9,454,904
	<i>IACC Recommended Budget: \$11,100,000 over 5 years.</i>			
	3.8	3.L.B.	3.L.B	
Identify genetic risk factors in at least 50% of people with ASD by 2014.	\$37,043,410	\$49,905,587	\$34,432,884	\$121,381,881
	<i>IACC Recommended Budget: \$33,900,000 over 6 years.</i>			

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<b>Funding initiatives for 2008, 2009 and 2010</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total Funding</b>
	<b>3.6</b>	<b>3.L.C.</b>	<b>3.L.C</b>	
Determine the effect of at least five environmental factors on the risk for subtypes of ASD in the pre- and early postnatal period of development by 2015.	\$1,803,628	\$1,992,228	\$820,320	\$4,616,176
	<i>IACC Recommended Budget: \$25,100,000 over 7 years.</i>			
	<b>3.9</b>	<b>3.L.D.</b>	<b>3.L.D</b>	
Support ancillary studies within one or more large-scale, population-based surveillance and epidemiological studies, including U.S. populations, to collect data on environmental factors during preconception, and during prenatal and early postnatal development, as well as genetic data, that could be pooled (as needed), to analyze targets for potential gene/environment interactions by 2015.	\$17,297,788	\$9,135,505	\$11,464,011	\$37,897,304
	<i>IACC Recommended Budget: \$44,400,000 over 5 years.</i>			
Other Not specific to any objective	\$6,791,000	\$8,512,980	\$1,312,450	\$16,616,430
<b>Total Funding for Question 3</b>	<b>\$80,028,784</b>	<b>\$100,043,216</b>	<b>\$81,231,647</b>	<b>\$261,303,647</b>

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