Summary of the 2008 through 2012 *Portfolio Analysis* Question 3 data as aligned to the *IACC Strategic Plan*

Please note that the 2011 and 2012 data are still draft data and subject to change.

Please read the following notes prior to reviewing the table:

- *Current project and funding status for each question or objective is indicated within the table by colored highlighting of the objective. Any objective highlighted green has greater than or equal to the recommended funding; any objective highlighted yellow has some degree of funding or active projects, but less than the recommended amount; while any objective highlighted red has no funding or active projects.*

- *Highlighting of each total gives an indication of the progress toward meeting the IACC recommended budget for each objective. Green highlighting indicates that funding fully meets the recommend budget or that the objective has been otherwise completed. Yellow highlighting denotes that funding for a particular objective partially meets the IACC recommended budget, while red highlighting indicates that there has been no funding towards the particular objective.*

- *Please note that while the green, yellow and red indicators suggest a funding status for each year and that looking across all years may give some indication of a trend, that some agencies and organizations provide all the funding for multiyear grants in a single year, resulting in the appearance of "less funding" in other years, but that projects fulfilling the objectives may still have been ongoing in the years where the funding appears to be less. Thus, it is important to note the numbers of projects in looking across the chart, and to keep in mind that in a series, where, for example, most of the indicators are green, that the objective is likely to be largely "complete" according to the funding-based measure. This, however, does not provide information on whether or not the objectives were completed in terms of intended project results and outcomes. Please also note that in some cases, projects may have been funded, but were accomplished with smaller budgets than anticipated, so a "yellow" designation may not necessarily be indicative of ongoing need for more effort.*

QUESTION 3: WHAT CAUSED THIS TO HAPPEN AND CAN IT BE PREVENTED?

IACC Strategic Plan Objectives	Funding					
	Year 2008	2009	2010	2011	2012	Total
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 who share an identified genetic variant and stratify subjects according to behavioral, cognitive, and clinical features.	**3.2** $4,065,392 14 projects	**3.S.A** $13,926,663 11 projects	**3.S.A** $16,688,932 14 projects	**3.S.A** $2,207,214 7 projects	**3.S.A** $1,699,432 6 projects	**$38,587,633**
	IACC Recommended Budget: $43,700,000 over 4 years					
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.	**3.3** $713,227 4 projects	**3.S.B** $0 0 projects	**3.S.B** $0 0 projects	**3.S.B** $0 0 projects	**3.S.B** $100,000 1 project	**$813,227**
	IACC Recommended Budget: $3,500,000 over 3 years					
Initiate efforts to expand existing large case-control and other studies to enhance capabilities for targeted gene-environment research by 2011.	**3.4** $4,703,867 4 projects	**3.S.C** $8,033,454 9 projects	**3.S.C** $4,824,779 8 projects	**3.S.C** $5,714,408 10 projects	**3.S.C** $3,626,803 9 projects	**$26,903,311**
	IACC Recommended Budget: $27,800,000 over 5 years					
Enhance existing case-control studies to enroll racially and ethnically diverse populations affected by ASD by 2011.	**3.5** $84,628 2 projects	**3.S.D** $103,827 3 projects	**3.S.D** $0 0 projects	**3.S.D** $0 0 projects	**3.S.D** $0 0 projects	**$188,455**
	IACC Recommended Budget: 3,300,000 over 5 years					
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.	N/A	**3.S.E** $1,739,200 13 projects	**3.S.E** $1,162,679 10 projects	**3.S.E** $419,215 5 projects	**3.S.E** $287,218 5 projects	**$3,608,312**
	IACC Recommended Budget: $8,000,000 over 2 years					
Initiate studies on at least 10 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.	**3.1** $7,600,673 19 projects	**3.S.F** $2,952,960 14 projects	**3.S.F** $166,362 5 projects	**3.S.F** $0 3 projects	**3.S.F** $75,000 1 project	**$10,794,995**
	IACC Recommended Budget: $56,000,000 over 2 years (revised in 2010)					
Convene a workshop that explores the usefulness of bioinformatic approaches to identify environmental risks for ASD by 2011.	N/A	N/A	**3.S.G** $0 0 projects	**3.S.G** $46,991 1 project	**3.S.G*** $0 0 projects	**$46,991**
	IACC Recommended Budget: $35,000 over 1 year **This objective was completed in 2011*					
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: • 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.	N/A	N/A	**3.S.H** $1,527,866 13 projects	**3.S.H** $4,657,095 16 projects	**3.S.H** $4,096,317 13 projects	**$10,281,278**
	IACC Recommended Budget: $12,000,000 over 5 years					

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Support at least two studies that examine potential differences in the microbiome of individuals with ASD versus comparison groups by 2012.	N/A	N/A	**3.S.I** $53,960 3 projects	**3.S.I** $439,971 4 projects	**3.S.I** $255,332 6 projects	**$749,263**
			IACC Recommended Budget: $1,000,000 over 2 years			
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.	N/A	N/A	**3.S.J** $5,072,389 15 projects	**3.S.J** $5,341,237 19 projects	**3.S.J** $6,122,724 22 projects	**$16,536,350**
			IACC Recommended Budget: $20,000,000 over 5 years			
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.	N/A	N/A	**3.S.K** $733,922 5 projects	**3.S.K** $463,841 3 projects	**3.S.K** $90,000 3 projects	**$1,287,763**
			IACC Recommended Budget: $1,535,000 over 3 years			
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.	**3.7** $2,742,999 1 project	**3.L.A** $3,740,812 2 projects	**3.L.A** $2,971,093 2 projects	**3.L.A** $2,864,377 1 project	**3.L.A** $2,875,202 2 projects	**$15,194,483**
			IACC Recommended Budget: $11,100,000 over 5 years			
Identify genetic risk factors in at least 50% of people with ASD by 2014.	**3.8** $37,043,410 83 projects	**3.L.B** $49,905,587 79 projects	**3.L.B** $34,432,884 60 projects	**3.L.B** $25,383,346 59 projects	**3.L.B** $23,041,231 74 projects	**$169,806,458**
			IACC Recommended Budget: $33,900,000 over 6 years			
Determine the effect of at least five environmental factors on the risk for subtypes of ASD in the prenatal and early postnatal period of development by 2015.	**3.6** $1,803,628 13 projects	**3.L.C** $1,992,228 10 projects	**3.L.C** $820,320 10 projects	**3.L.C** $379,913 5 projects	**3.L.C** $353,000 5 projects	**$5,349,089**
			IACC Recommended Budget: $25,100,000 over 7 years			
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.	**3.9** $17,297,788 29 projects	**3.L.D** $9,135,505 12 projects	**3.L.D** $11,464,011 10 projects	**3.L.D** $11,567,250 10 projects	**3.L.D** $13,549,160 12 projects	**$63,013,714**
			IACC Recommended Budget: $44,400,000 over 5 years			
Not specific to any objective	**3.Other** $6,791,008 52 projects	**3.Other** $8,512,980 39 projects	**3.Other** $1,312,450 7 projects	**3.Other** $724,770 5 projects	**3.Other** $315,607 3 projects	**$17,656,815**
Total funding for Question 3	**$82,846,620** 221 projects	**$100,043,216** 192 projects	**$81,231,647** 162 projects	**$60,209,628** 148 projects	**$56,487,025** 162 projects	**$380,818,136**