

**Summary of Working Group 3 – Conference Call #1
September 12, 2016; 12:00pm EDT**

Welcome and Introductions

Working Group Members in Attendance:

Cindy Lawler – Co-Chair
David Amaral – Co-Chair
Alison Singer
Elise Robinson
Raphael Bernier
Elaine Hsiao
Joan Scott
Ruth Etzel
Evan Eichler
Alycia Halladay
Dani Fallin

Working Group Members Absent:

Irva Hertz-Picciotto
Daniel Geschwind
Stephan Sanders
Craig Newschaffer

Summary of 2013 Portfolio Analysis – Group Discussion (Pages 1-4, Data Analysis Slides)

1. Comments/observations on the overall portfolio?

- The genetic-related goals seem underfunded in the 2013 portfolio of projects, but since then, the launch of projects like SPARK and MSSNG have changed the field dramatically. The current landscape and these more recent changes should be considered and reflected in the new Strategic Plan, even though they are not part of the 2013 analysis.
- Studies of environmental risks were nascent when the previous objectives were written. Since then, more recent studies on the environmental aspects of autism risk have been initiated, and those would touch on several of the Question 3 objectives. Projects often relate to more than one objective, even though they are only counted once for the portfolio analysis.
- Although more recent projects should be considered, it should be noted that many of those studies are just starting. The IACC is primarily considering project goals and allocated funding, not making judgements about the status of project outcomes. Nevertheless, the working group should be careful not to assume that all newly started projects will achieve all of their stated goals or cover all of the related scientific areas. This can be an issue when there is only one large project covering a topic. In most cases, it is preferable to have multiple projects around each objective.

Analysis of Question 3 Objectives (Multiyear Funding Table and 2013 Project List)

1. Has there been an adequate number of projects for each objective?

- It was noted that when looking at subcategory categorization of the 2013 portfolio, environment and epigenetics projects receive a lower proportion of funding for roughly the same number of projects. This indicates that genetics projects received more funding per project. However, if they are done well, projects looking at environment and epigenetics are not intrinsically less costly to conduct.
- Members of the working group sought clarity on the methods used to carry out subcategory categorization of the 2013 portfolio. Specifically, they were surprised by the number of projects and amount of funding falling under the gene-environment category, especially in light of the number of studies on gene-environment interactions they were familiar with in the literature. However, the gene-environment subcategory includes all projects that include investigation of both genetic and environmental risk factors (not limited to chemical exposures), and is not limited to studies looking specifically at the interactions between genetic and environmental factors.

2. For each objective, do the funded projects cover the scope of the objective? Any noted areas of progress or gaps?

- Working group members mentioned the following areas that should be the focus of future study:
 - Improving overall data on exposure (not necessarily specific to autism). Studies of the “exposome” need to be applied to autism
 - Epigenetics, environmental factors, and also the effects of genetic background can contribute to our understanding of neurodevelopmental conditions broadly, and are not necessarily autism-specific
 - Effects of the environment should not be restricted only to the identification of risk factors. Objectives should encourage collaborative thinking about risk factors along with the effects on underlying biology (Question 2)
 - Under-represented environmental factors, including nutritional factors in the prenatal period, endocrine disrupting chemicals, and social stressors
 - Postnatal influences
 - Animal models relevant to neurodevelopment and gestational developmental stages
 - Gene-environment interactions

3. Was the recommended budget for each objective reached? If less was spent, but the number/scope of projects was appropriate, should the objective be considered completed but accomplished with less than the expected budget? In cases where more was spent than the recommended budget, was it because many more projects were funded in that area or because projects were more costly than originally projected? Are there any concerns with regard to funding associated with objectives?

- Looking at funding across the board, projects dedicated fully to environmental risk factors seem underfunded. Going forward, the focus should move from the environmental factors themselves to a focus on integrating environment and genetic risk factors into converging pathways. The genetic focus should also move toward a greater emphasis on understanding networks and pathways of genes.

4. Does the working group observe any areas of this question or specific projects that appear to be duplicative? Does the working group have suggestions about how duplication of effort can be avoided in this area?

- There are redundancies between MSSNG and other sequencing projects. There needs to be better coordination between large sequencing projects, and the organizations funding and facilitating these projects should be transparent about which samples they are sequencing in order to avoid duplication. This could be accomplished by sharing the sample manifests.

5. Are there areas of emerging research that do not appear to be represented strongly in the portfolio that should be considered for mention in the new Strategic Plan?

- Data access should be an area of focus (perhaps this topics can be reflected in the chapter on Question 7 as well). It is important that data be open and accessible to the maximum number of investigators. Currently, not everyone gets equal access to data, and some have to pay to gain access. International data sharing should be prioritized as well.
- Resources should be provided to coordinate genetic data projects. It may be more appropriate for inclusion in the chapter on Question 7, but it would be beneficial to provide funding to bring people together to start addressing data access problems and make access more affordable.

Wrap up and preview of next call

- The next call will include a discussion of input received through the Request for Public Comment.
- The next call will also include a discussion of research updates since the development of the last Strategic Plan.