AUTISM POLICY REFORM COALITION

July 29, 2016

The Autism Policy Reform Coalition (APRC) urges a paradigm shift in research and funding priorities on Autism Spectrum Disorder for the new iteration of the Autism Research Strategic Plan. Our recommendations include three central elements:

1. Refocus emphasis on environmental triggers, factors, and susceptibility rather than genetic causation hypotheses.

2. Refocus efforts from prenatal development hypotheses to regressive autism in childhood.

3. Refocus efforts from emphasis on autism as a psychiatric disorder to a spectrum of physiological disorders, including appropriate emphasis on the frequently occurring additional medical morbidities in many cases of ASD.

APRC does not suggest a lack of importance for genetic research as opposed to research, for example, on exposures to chemical and biological agents. Such exposures, after all, could be responsible for genetic mutations leading to ASD. APRC does not downplay the importance of understanding the potential for prenatal development in cases of congenital ASD.

We recognize ASD merely as a defined set of behavioral symptoms. Like fever, we recognize there may be many causes including genetic variants. On the other hand, in regressive autism, we observe severe comorbidities in addition to the benign behavioral symptoms. Subjectively, regressive autism presents as a clearly distinguishable disease.

Research should focus on guiding an aggressive campaign to eradicate regressive autism. We urge priorities that will produce rapid advancement in scientific understanding of the causes of regressive autism, implement prevention, and enable the recovery of full neurodevelopmental potential among severely affected individuals.

Objectively distinguishing this devastating disease from others associated with ASD should be a top priority. Children who regressed should be included into distinct registries for research. Then, the clinically relevant presentation and biomarkers that characterize regressive autism should be compared with known effects that follow exposure to candidate agents.

Priorities on investigating specific causal candidates should be remediation-driven. We recognize that it is nearly impossible to prove causation in absolute terms. Thus, the risks of remediation should carry almost equal weight as the probability that a proposed agent or mixture is causal. A priority should be placed on identifying susceptibilities that are more easily controlled than unavoidable environmental exposures.

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Furthermore, we urge that the Autism Research Strategic Plan include investigating groups of chemicals, plus understanding the potential for complex mixtures of chemical and biological agents to trigger regressive autism. An increasing body of literature documents, for example, that chemicals lacking any evidence of mutagenicity exhibit mutagenicity when mixed with other non-mutagenic chemicals.

The significance is self-evident given that all children are exposed to increasingly complex mixtures of environmental contaminants. Although a broad and longstanding support within the scientific community exists regarding the need to conduct research in this area, little, if any, progress has been made.

We believe causation answers can be found using observation. We urge and support the validity of retrospective studies on toxicology, complex mixtures of toxins, viruses, bacteria, molds, spirochetes in the air, water and food. Studies on children during acute regression would be most helpful.

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Additional note:

Upon querying the autism advocacy community, we identified popular research interests under this paradigm. They include but may not be limited to the following:

- Mitochondrial dysfunction and autism
- Whole genome sequencing of cell lines WI-38 and MRC-5
- Role of MTHFR gene polymorphisms a1298c and c677t in autism.
- Efficacy of treatment with MTHFR from birth to age four
- Biomarkers, inflammatory markers including maternal antibodies
- Total load theory (and its links to detoxification issues)
- Associated family history of autoimmune conditions
- Vaccines, components of vaccines, and manufacturing residuals
- Medicinals, acetaminophen, SSRIs during pregnancy, anesthetics, labor drugs
- Mother's mercury fillings, mercury in vaccines, alternatives to mercury

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- Household toxins (e.g. mycotoxins, laminate flooring, stain-resistant fabrics, flame retardants, particle board furniture)
- Prenatal ultrasounds
- Autoimmunity, including maternal autoimmunity
- Encephalopathy, concurrent neurological deficits
- Vitamin D insufficiency
- Variable ability to excrete toxins as a susceptibility factor
- Inability to excrete aluminum due to secondary hyperparathyroidism
- Enterocolitis as a comorbid condition in regressive autism
- Inorganic and organic particulates, nanoparticles, soluble components of complex mixtures, metals, organic and inorganic compounds
- Herbicides (glyphosate), pesticides
- Infectious agents including viruses, rickettsia, bacteria, algae, protozoa, parasites, and prions.