Responses to Recommendations from
the Chronic Fatigue Syndrome Advisory Committee
Ref: June 16-17, 2014, CFSAC Meeting

1. *CFSAC recommends that the National Institutes of Health (NIH) adapt the architecture of the National Autism Research Database to setup and provide ongoing support for a data and bio-bank sharing platform for Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) research. This platform should allow for both phenotype and biologic data.*

Background and Response from NIH:

The pool of ME/CFS researchers is small (e.g., the advocacy field identifies a group of 50 ME/CFS clinicians and scientists world-wide considered expert in this area of research). Many investigators, including current ME/CFS researchers, are currently making use of free open database platforms to deposit and share clinical evaluation and biological samples. For example, database platforms such as REDCap (http://projectredcap.org), Solve CFS BioBANK (http://solvecfs.org/solvecfs-biobank) and the Open Medicine Institute Biobank (http://openmedicineinstitute.org/research-services/biobank) are available for investigators to deposit and share data. Notably, the REDCap data capture platform is used by 1,115 institutions in 83 countries supporting 123,000 projects with over 163,000 users spanning numerous research focus areas, including ME/CFS. Thus, developing and maintaining a unique ME/CFS database is cost prohibitive in light of the small number of ME/CFS researchers; further, there are appropriate alternatives currently available.

The National Database for Autism Research (NDAR; http://ndar.nih.gov) has an extensive infrastructure and governance structure with an annual operating cost of approximately $2.5 million in information technology resources, curation, and knowledge management labor costs to maintain data from more than 75,000 research subjects diagnosed with autism spectrum disorder. Funds for NDAR are provided by the NIH Institutes that support research in the area. Funding for autism research is much larger than for ME/CFS research. For example, NIH funding for autism research and the number of new and non-competing continuation individual awards was $160 million for 446 awards in FY 2010 and $186 million for 527 awards in FY 2013. In contrast, NIH funding for myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) research was $5 million for 17 awards in FY 2010 and $6 million for 23 awards in FY 2013, as displayed at: (http://report.nih.gov/categorical_spending.aspx). In light of the smaller number of ME/CFS researchers who submit applications to the

NIH, as well as the number of ME/CFS researchers who successfully compete for an NIH award, the cost of developing and maintaining an ME/CFS database would significantly reduce funds available for funding research on ME/CFS as there are fewer NIH awards from which to recover funds that would support a dedicated database.

2. *CFSAC recommends that the NIH issue a Request for Applications (RFA) for ME/CFS by November 1st, 2014, or as soon as feasible, to address the gaps in ME/CFS knowledge and research. The RFA should consider current known gaps in knowledge for the following areas:*

- *Provocation designs where symptoms are triggered through standardized challenges involving exercise, cognitive tasks, and mental stressors. These designs appear to be more likely to identify symptom to biology relationships in comparison to assessments done in resting states.*
- *Ambulatory monitoring of symptoms, activities, behaviors, and physiological states that identify associations between biological and behavioral measures, e.g., daily fatigue ratings and cytokine fluctuations.*
- *Network analysis of dysregulation of multiple bodily systems, such as the neuroendocrine system, the central nervous system, the autonomic nervous system and the immune system.*
- *Natural history studies aimed at identifying the genetic triggers and causal factors of ME/CFS.*
- *Treatment trials that address both clinical and biologic outcomes.*

  This RFA may also be informed by the gaps identified in the 2011 NIH State of the Knowledge Workshop, the Pathways to Prevention Program for ME/CFS research panel report or any relevant source, including but not limited to, the IACFS meeting summary.

  This RFA should encourage investigators to use the NIH data and biobank sharing platform (subject of an accompanying recommendation to this recommendation), if such a platform is established at the time of release or becomes available during the time awards are made on this RFA.

NIH response:
Unfortunately there remains a lack of definitive evidence regarding the etiology, diagnosis, and treatment for ME/CFS. As such, issuing a Request for Applications (RFA) would not be an effective strategy as RFAs generally encourage a narrowly defined research area that addresses more specific gaps in scientific knowledge. RFAs are designed to build upon recommendations that have been identified through cutting-

edge research findings in the extant literature, that address unmet NIH Institute mission-specific objectives, or that incorporate findings from workshops and conferences on specific topics. The NIH addresses the situation by providing funding opportunities to researchers through targeted ME/CFS funding opportunity announcements (FOAs) (e.g., http://grants.nih.gov/grants/guide/pa-files/PAR-12-032.html; http://grants.nih.gov/grants/guide/pa-files/PAR-12-033.html) and other funding opportunities where ME/CFS investigation is specifically requested to stimulate research in this area (e.g., http://grants.nih.gov/grants/guide/pa-files/PAR-13-358.html).

Given the current limited researcher pool, a complementary approach might be to stimulate and enhance the base of ME/CFS investigators who can successfully compete for an NIH award. One strategy to do this might be through funding opportunities targeted to promote ME/CFS-relevant training of scientists and clinician through mentored career development awards (http://grants.nih.gov/training/careerdevelopmentawards.htm) and student and postdoctoral training through institutional and individual training awards (http://grants.nih.gov/training/nrsa.htm). Such opportunities would demonstrate commitment to training the future generation of ME/CFS researchers who would compete for research awards. This action serves to increase the number of scientists trained in this research area - fulfilling an immediate unmet need for the ME/CFS field, and is aligned with a previous informal recommendation of the CFSAC ME/CFS Researcher and Clinician-Scientist Recruitment Work Group (Work group established on May 23, 2013 by the Chair, CFSAC and recommendation presented at the March 11, 2014, CFSAC meeting by the Chair of the Workgroup http://www.hhs.gov/advcomcfs/recommendations/03112014.html).