Request for modification of existing content for the International Edition of SNOMED CT

Request for addition of SCTID: 118940003 Disorder of nervous system (disorder) as Parent to existing Concept SCTID: 52702003 Chronic fatigue syndrome (disorder)

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Reason for change: For the January 2018 release, Concept SCTID: 281867008 Multisystem disorder (disorder) has been inactivated. This change affects 90 Concepts, including 52702003 Chronic fatigue syndrome (disorder), that were Children under 281867008. This leaves 52702003 Chronic fatigue syndrome (disorder) and its Synonym terms under Parents:

Clinical finding (finding)
> Disease (disorder)

Removal of the Multisystem disorder (disorder) parent presents an opportunity to consider assigning a more specific parent for 52702003 Chronic fatigue syndrome (disorder).

Justification:

1 Consistency with the classification of the concept and its associated terms in ICD-10, ICD-10-CA, ICD-10-AM and ICD-10-GM, and continuity of ICD-10 for data reporting and analysis: Global implementation of ICD-11 by Member States will be a piecemeal and protracted process: ICD Revision and CDC predict it will likely take early implementers at least 3 to 5 years to evaluate the new edition and prepare for transition. Low resource countries and Member States licensed to develop clinical modifications are anticipated to take longer to adopt, particularly the United States. During the transition period, data will continue to be collected and aggregated using ICD-10. Postviral fatigue syndrome and its inclusion, Benign myalgic encephalomyelitis, have been classified in ICD-10 Chapter VI: Diseases of the nervous system at G93.3 since 1992; Chronic fatigue syndrome is indexed to G93.3. SNOMED CT already maps 52702003 Chronic fatigue syndrome (disorder) and its Synonym terms to ICD-10 G93.3. Placing 52702003 under parent 118940003 Disorder of nervous system (disorder) consolidates this relationship.

2 The 2015 Report of the U.S. Institute of Medicine (recently renamed "The National Academy of Medicine") contains one of the most comprehensive literature reviews to date of the biomedical evidence for the disease [1]. The Report concluded that the evidence demonstrates a "serious, chronic, complex, and systemic disease" with dysfunction in neurological, immunological, autonomic and energy metabolism systems: Although Chronic fatigue syndrome and Myalgic encephalomyelitis are currently diseases of incompletely understood aetiologytogenesis, active research will inform and guide future decisions around parentage or whether to assign multiple parents. For now, current scientific evidence of neurological dysfunction supports placement of Chronic fatigue syndrome and Myalgic encephalomyelitis under the 118940003 Disorder of nervous system (disorder) consolidates this relationship.

Should additional evidence be required:

3 Scientific evidence for neurological dysfunction: The document *Evidence Supporting a Classification of ME and CFS in the Neurological Chapter* collates and summarises many of the neurological and neurocognitive studies in this disease going back to the early 1990s [1]. In addition to a list of relevant neurological studies, this document includes a 2011 review that summarised evidence of reduction in grey matter volume, reduction in blood flow in the brain, increases in brain lactate levels, changes on MRI and EEG, evidence of autonomic dysfunction, neuroendocrine dysfunction, the presence of abnormal proteins in the spinal fluid, and neurocognitive changes that include deficits in attention, memory and reaction time [2]. The document also includes a 2016 presentation by Professor Anthony Komaroff, Harvard Medical School, which discusses more recent studies that demonstrated brain inflammation that varies with disease severity and also studies showing impaired functional connectivity in the brain [3]. Komaroff concluded with the hypothesis that "low grade brain inflammation causes the symptoms of ME/CFS and this involves a connection between the brain, the immune system and possibly in some people the gut."

Highlights of recent research: In October 2016, the *International Association for CFS/ME* held its biannual conference which highlighted numerous scientific findings. As documented by Professor Anthony Komaroff, Harvard Medical School, presentations included studies on brain and nervous system, immunology, the microbiome, epigenetics, energy metabolism and metabolomics. Komaroff summarized that there was robust evidence of an underlying biological process involving a) the brain and autonomic nervous system, b) the immune system, c) energy metabolism, and oxidative and nitrosative stress [4].

1 *Evidence Supporting a Classification of ME and CFS in the Neurological Chapter*, March 2017  

