

Supplement B.
DePaul Symptom Questionnaire (DSQ-2)

This document contains the following material:

1. Case definition scoring rules and associated symptoms for the following criteria:
 - a. Fukuda et al. (1994)
 - b. Canadian ME/CFS (Carruthers et al., 2003)
 - c. ME-ICC (Carruthers et al., 2011)
 - d. Institute of Medicine (IOM, 2015)
2. Syntax for the following case definitions:
 - a. Fukuda et al. (1994)
 - b. Canadian ME/CFS (Carruthers et al., 2003)
 - c. ME-ICC (Carruthers et al., 2011)
 - d. Institute of Medicine (IOM, 2015)
3. Hard copy of the DSQ-2 and the SF-36

The DePaul Symptom Questionnaire (DSQ-2) can be downloaded from the REDCap shared library. You can view the instrument here:

<https://redcap.is.depaul.edu/surveys/?s=4NJ9CKW7JD>

DSQ-2

Case Definition Criteria:

New items are highlighted in grey

Fukuda (Fukuda et al., 1994)

- Substantial Reduction in Functioning (must meet 2 of the following 3 SF-36 score cutoffs):
 - Role Physical ≤ 50
 - Social Functioning ≤ 62.5
 - Vitality ≤ 35
- 6+ months of fatigue (Question 94)
 - Fatigue *not* lifelong (*Exclude* if: Question 92 = “Yes” *and* Question 94 = “Had problem since childhood/adolescence”... *and* Question 106 = “Over 3 or more years”)
 - Fatigue *not* the result of exertion: (*Exclude* if: Sum of Question 119a and 119d ≥ 60)
- At least 1 symptom (frequency and severity ratings ≥ 1) from at least 4 symptom domains:
 - Memory / Concentration (Questions 36-39; 44-45)
 - Unrefreshing Sleep (Question 19)
 - Joint Pain (Question 26)
 - Tender / Sore Lymph Nodes (Question 65)
 - Muscle Aches (Question 25)
 - Post-Exertional Malaise (Questions 14-18; 75-77)
 - Headaches (Question 31; must also be of a new place/type, Question 93)
 - Sore Throat (Question 64)

Canadian Consensus Criteria (CCC Case Definition, Carruthers et al., 2003)

New items are highlighted in grey

- Substantial Reduction in Functioning (must meet 2 of the following 3 SF-36 score cutoffs):
 - Role Physical ≤ 50
 - Social Functioning ≤ 62.5
 - Vitality ≤ 35
- Fatigue:
 - 6+ months of fatigue (Question 94)
 - Fatigue frequency and severity ≥ 2 (Question 13)
 - Fatigue *not* lifelong (*Exclude* if: Question 92 = “Yes” *and* Question 94 = “Had problem since childhood/adolescence”... *and* Question 106 = “Over 3 or more years”)
 - Fatigue *not* the result of exertion: (*Exclude* if: Sum of Question 119a and 119d ≥ 60)
- Post-Exertional Malaise (At least 1 symptom (frequency and severity ratings ≥ 2) from questions 14-18; 75-77)
- Sleep Problems (At least 1 symptom (frequency and severity ratings ≥ 2) from questions 19-24; 84)
- Pain (At least 1 symptom (frequency and severity ratings ≥ 2) from questions 25-31; 82-83)
- Neurological / Cognitive Problems (At least 2 symptoms (frequency and severity ratings ≥ 2) from questions 32-45; 78; 85-86)
- At least 1 symptom (frequency and severity ratings ≥ 2) from 2 of the 3 following areas:
 - Autonomic (Questions 46-52; 69-71; 88-90)
 - Neuroendocrine (Questions 53-63; 73; 91)
 - Participant can also fulfill this criterion if they respond “Yes” to question 63a (avoiding alcohol due to intolerance)
 - Immune (Questions 64-68)

**Myalgic Encephalomyelitis International Consensus Criteria
(ME-ICC; Carruthers et al., 2011)**

New items are highlighted in grey

- 50% reduction in activity level (“Yes” to Question 127)
- Post Exertional Malaise (At least one symptom (frequency and severity ratings ≥ 2) from question 14-18; 75-77)
- At least 1 symptom (frequency and severity ratings ≥ 2) from 3 of the following 4 symptom domains:
 - Neurocognitive: Questions 36-45; 78-80
 - Pain: Questions 25-28; 31; 81-83
 - Sleep Disturbance: Questions 19-24; 84
 - Neurosensory, Perceptual, and Motor Disturbance: Questions 32-35; 49; 85-86
- At least 1 symptom (frequency and severity ratings ≥ 2 ; except for Question 128, which requires a response of “Yes”) from 3 of the following 5 symptom domains:
 - Flu-like: Questions 64-67; 87
 - Gastrointestinal: Questions 29-30; 47-48
 - Genitourinary: Question 46; 88-89
 - Sensitivities: Questions 63; 68
 - Participant can also fulfill this criterion if they respond “Yes” to question 63a (avoiding alcohol due to intolerance)
 - Susceptibility to Viral Infections: Questions 74; 128
- At least 1 symptom (frequency and severity ratings ≥ 2 ; except for Question 129, which requires a response of “Yes”) from 1 of the following 4 symptom domains:
 - Cardiovascular: Questions 51-52; 69-71; 90
 - Respiratory: Question 50
 - Loss of thermostatic ability: Questions 56-62; 91
 - Temperature intolerance: Questions 73; 129

IOM Clinical Case Definition (IOM, 2015)

New items are highlighted in grey

- Substantial Reduction in functioning (must meet 2 of the following 3 SF-36 score cutoffs):
 - Role Physical ≤ 50
 - Social Functioning ≤ 62.5
 - Vitality ≤ 35
- 6+ months of fatigue (Question 94)
 - Fatigue *not* lifelong (*Exclude* if: Question 92 = “Yes” *and* Question 94 = “Had problem since childhood/adolescence”... *and* Question 106 = “Over 3 or more years”)
 - Fatigue *not* the result of exertion: (*Exclude* if: Sum of Question 119a and 119d ≥ 60)
- Post-Exertional Malaise (At least 1 symptom (frequency and severity ratings ≥ 2) from questions 14-18; 75-77)
- Unrefreshing Sleep (At least 1 symptom (frequency and severity ratings ≥ 2) from questions 19-22; 24)
- At least 1 symptom (frequency and severity ratings ≥ 2) from 1 of the following 2 symptom domains:
 - Cognitive Impairment (Questions 36-40; 42; 44-45, 78)
 - Orthostatic Intolerance (Questions 49-52; 69-71, 90)

DSQ-2
SPSS Case Definition Syntax:

**Scoring Note: To determine which variables are associated with which items, note that variable names utilize the items numbers present in the questionnaire*.*

DSQ-2.
 Fukuda et al. (1994) Criteria.

Substantial Reduction in Functioning Criteria, SF-36.
 ***To score the SF-36, use scoring rules found here:
 https://www.rand.org/health/surveys_tools/mos/36-item-short-form/scoring.html.
 Variable names are equivalent to SF-36 Subscale Names.

```
COMPUTE Fukuda_RP = 0.
EXECUTE.
IF (RolePhysical <= 50) Fukuda_RP = 1.
EXECUTE.
```

```
COMPUTE Fukuda_SF = 0.
EXECUTE.
IF (SocialFunctioning <= 62.5) Fukuda_SF = 1.
EXECUTE.
```

```
COMPUTE Fukuda_V = 0.
EXECUTE.
IF (Vitality <= 35) Fukuda_V = 1.
EXECUTE.
```

```
COMPUTE Fukuda_SR=0.
EXECUTE.
IF (SUM(Fukuda_RP, Fukuda_SF, Fukuda_V) >= 2) Fukuda_SR = 1.
EXECUTE.
```

DSQ-2 Symptom Scoring.

```
*Fatigue, Not Lifelong*.
COMPUTE Fukuda_Six = 0.
EXECUTE.
IF ((dsq2_94 = 2) | (dsq2_94 = 3) | (dsq2_94 = 4) | (dsq2_94 = 5)) Fukuda_Six = 1.
EXECUTE.
```

```
COMPUTE Fukuda_Life = 0.  
EXECUTE.  
IF ((dsq2_92 = 1) & (dsq2_94 = 5) & (dsq2_106 = 7)) Fukuda_Life = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_Exert = 0.  
EXECUTE.  
IF((SUM(dsq2_119a, dsq2_119d) >= 60)) Fukuda_Exert = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_Fatigue = 0.  
EXECUTE.  
IF ((Fukuda_Six = 1) & (Fukuda_Life = 0) & (Fukuda_Exert = 0)) Fukuda_Fatigue = 1.  
EXECUTE.
```

```
*Post-Exertional Malaise*.  
COMPUTE Fukuda_14 = 0.  
EXECUTE.  
IF ((dsq2_14f >= 1) & (dsq2_14s >= 1)) Fukuda_14 = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_15 = 0.  
EXECUTE.  
IF ((dsq2_15f >= 1) & (dsq2_15s >= 1)) Fukuda_15 = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_16 = 0.  
EXECUTE.  
IF ((dsq2_16f >= 1) & (dsq2_16s >= 1)) Fukuda_16 = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_17 = 0.  
EXECUTE.  
IF ((dsq2_17f >= 1) & (dsq2_17s >= 1)) Fukuda_17 = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_18 = 0.  
EXECUTE.  
IF ((dsq2_18f >= 1) & (dsq2_18s >= 1)) Fukuda_18 = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_75 = 0.  
EXECUTE.  
IF ((dsq2_75f >= 1) & (dsq2_75s >= 1)) Fukuda_75 = 1.  
EXECUTE.
```

```
COMPUTE Fukuda_76 = 0.  
EXECUTE.  
IF ((dsq2_76f >= 1) & (dsq2_76s >= 1)) Fukuda_76 = 1.
```

EXECUTE.

COMPUTE Fukuda_77 = 0.

EXECUTE.

IF ((dsq2_77f >= 1) & (dsq2_77s >= 1)) Fukuda_77 = 1.

EXECUTE.

COMPUTE Fukuda_PEM = 0.

EXECUTE.

IF(SUM(Fukuda_14, Fukuda_15, Fukuda_16, Fukuda_17, Fukuda_18, Fukuda_75, Fukuda_76, Fukuda_77) >= 1) Fukuda_PEM = 1.

EXECUTE.

Unrefreshing Sleep.

COMPUTE Fukuda_Sleep = 0.

EXECUTE.

IF ((dsq2_19f >= 1) & (dsq2_19s >= 1)) Fukuda_Sleep = 1.

EXECUTE.

Muscle Aches.

COMPUTE Fukuda_Muscle = 0.

EXECUTE.

IF ((dsq2_25f >= 1) & (dsq2_25s >= 1)) Fukuda_Muscle = 1.

EXECUTE.

Joint Pain.

COMPUTE Fukuda_Joint = 0.

EXECUTE.

IF ((dsq2_26f >= 1) & (dsq2_26s >= 1)) Fukuda_Joint = 1.

EXECUTE.

Headaches.

COMPUTE Fukuda_Headache = 0.

EXECUTE.

IF ((dsq2_31f >= 1) & (dsq2_31s >= 1) & (dsq2_93 = 1)) Fukuda_Headache = 1.

EXECUTE.

Memory and Concentration.

COMPUTE Fukuda_36 = 0.

EXECUTE.

IF ((dsq2_36f >= 1) & (dsq2_36s >= 1)) Fukuda_36 = 1.

EXECUTE.

COMPUTE Fukuda_37 = 0.

EXECUTE.

IF ((dsq2_37f >= 1) & (dsq2_37s >= 1)) Fukuda_37 = 1.
EXECUTE.

COMPUTE Fukuda_38 = 0.
EXECUTE.
IF ((dsq2_38f >= 1) & (dsq2_38s >= 1)) Fukuda_38 = 1.
EXECUTE.

COMPUTE Fukuda_39 = 0.
EXECUTE.
IF ((dsq2_39f >= 1) & (dsq2_39s >= 1)) Fukuda_39 = 1.
EXECUTE.

COMPUTE Fukuda_44 = 0.
EXECUTE.
IF ((dsq2_44f >= 1) & (dsq2_44s >= 1)) Fukuda_44 = 1.
EXECUTE.

COMPUTE Fukuda_45 = 0.
EXECUTE.
IF ((dsq2_45f >= 1) & (dsq2_45s >= 1)) Fukuda_45 = 1.
EXECUTE.

COMPUTE Fukuda_Memory = 0.
EXECUTE.
IF (SUM(Fukuda_36, Fukuda_37, Fukuda_38, Fukuda_39, Fukuda_44, Fukuda_45) >= 1)
Fukuda_Memory = 1.
EXECUTE.

* Sore Throat*.
COMPUTE Fukuda_Throat = 0.
EXECUTE.
IF ((dsq2_64f >= 1) & (dsq2_64s >= 1)) Fukuda_Throat = 1.
EXECUTE.

Lymph Nodes.
COMPUTE Fukuda_Lymph = 0.
EXECUTE.
IF ((dsq2_65f >= 1) & (dsq2_65s >= 1)) Fukuda_Lymph = 1.
EXECUTE.

Fukuda Case Definition.
COMPUTE Fukuda = 0.
EXECUTE.
IF((Fukuda_SR = 1) & (Fukuda_Fatigue = 1) & (SUM(Fukuda_PEM, Fukuda_Sleep,
Fukuda_Muscle, Fukuda_Joint, Fukuda_Headache, Fukuda_Memory, Fukuda_Throat,
Fukuda_Lymph) >= 4)) Fukuda = 1.

EXECUTE.

VALUE LABELS

Fukuda

0 'Does Not Meet Fukuda Criteria'

1 'Meets Fukuda Criteria'.

EXECUTE.

DSQ-2.

Canadian Clinical ME/CFS Criteria (CCC; Carruthers et al., 2003).

Substantial Reduction in Functioning Criteria, SF-36.

***To score the SF-36, use scoring rules found here:

https://www.rand.org/health/surveys_tools/mos/36-item-short-form/scoring.html.

Variable names are equivalent to SF-36 Subscale Names.

COMPUTE CCC_RP = 0.

EXECUTE.

IF (RolePhysical <= 50) CCC_RP = 1.

EXECUTE.

COMPUTE CCC_SF = 0.

EXECUTE.

IF (SocialFunctioning <= 62.5) CCC_SF = 1.

EXECUTE.

COMPUTE CCC_V = 0.

EXECUTE.

IF (Vitality <= 35) CCC_V = 1.

EXECUTE.

COMPUTE CCC_SR=0.

EXECUTE.

IF (SUM(CCC_RP, CCC_SF, CCC_V) >= 2) CCC_SR = 1.

EXECUTE.

DSQ-2 Symptom Scoring.

Fatigue, Not Lifelong.

COMPUTE CCC_Six = 0.

EXECUTE.

IF ((dsq2_94 = 2) | (dsq2_94 = 3) | (dsq2_94 = 4) | (dsq2_94 = 5)) CCC_Six = 1.

EXECUTE.

COMPUTE CCC_13 = 0.

EXECUTE.

IF ((dsq2_13f >= 2) & (dsq2_13s >= 2)) CCC_13 = 1.

EXECUTE.

COMPUTE CCC_Life = 0.

EXECUTE.

IF ((dsq2_92 = 1) & (dsq2_94 = 5) & (dsq2_106 = 7)) CCC_Life = 1.

EXECUTE.

```
COMPUTE CCC_Exert = 0.  
EXECUTE.  
IF((SUM(dsq2_119a, dsq2_119d) >= 60)) CCC_Exert = 1.  
EXECUTE.
```

```
COMPUTE CCC_Fatigue = 0.  
EXECUTE.  
IF ((CCC_Six = 1) & (CCC_13 = 1) & (CCC_Life = 0) & (CCC_Exert = 0)) CCC_Fatigue = 1.  
EXECUTE.
```

```
*Post-Exertional Malaise*.  
COMPUTE CCC_14 = 0.  
EXECUTE.  
IF ((dsq2_14f >= 2) & (dsq2_14s >= 2)) CCC_14 = 1.  
EXECUTE.
```

```
COMPUTE CCC_15 = 0.  
EXECUTE.  
IF ((dsq2_15f >= 2) & (dsq2_15s >= 2)) CCC_15 = 1.  
EXECUTE.
```

```
COMPUTE CCC_16 = 0.  
EXECUTE.  
IF ((dsq2_16f >= 2) & (dsq2_16s >= 2)) CCC_16 = 1.  
EXECUTE.
```

```
COMPUTE CCC_17 = 0.  
EXECUTE.  
IF ((dsq2_17f >= 2) & (dsq2_17s >= 2)) CCC_17 = 1.  
EXECUTE.
```

```
COMPUTE CCC_18 = 0.  
EXECUTE.  
IF ((dsq2_18f >= 2) & (dsq2_18s >= 2)) CCC_18 = 1.  
EXECUTE.
```

```
COMPUTE CCC_75 = 0.  
EXECUTE.  
IF ((dsq2_75f >= 2) & (dsq2_75s >= 2)) CCC_75 = 1.  
EXECUTE.
```

```
COMPUTE CCC_76 = 0.  
EXECUTE.  
IF ((dsq2_76f >= 2) & (dsq2_76s >= 2)) CCC_76 = 1.  
EXECUTE.
```

```
COMPUTE CCC_77 = 0.
```

```
EXECUTE.  
IF ((dsq2_77f >= 2) & (dsq2_77s >= 2)) CCC_77 = 1.  
EXECUTE.
```

```
COMPUTE CCC_PEM = 0.  
EXECUTE.  
IF(SUM(CCC_14, CCC_15, CCC_16, CCC_17, CCC_18, CCC_75, CCC_76, CCC_77) >= 1)  
CCC_PEM = 1.  
EXECUTE.
```

```
*Sleep*.  
COMPUTE CCC_19 = 0.  
EXECUTE.  
IF ((dsq2_19f >= 2) & (dsq2_19s >= 2)) CCC_19 = 1.  
EXECUTE.
```

```
COMPUTE CCC_20 = 0.  
EXECUTE.  
IF ((dsq2_20f >= 2) & (dsq2_20s >= 2)) CCC_20 = 1.  
EXECUTE.
```

```
COMPUTE CCC_21 = 0.  
EXECUTE.  
IF ((dsq2_21f >= 2) & (dsq2_21s >= 2)) CCC_21 = 1.  
EXECUTE.
```

```
COMPUTE CCC_22 = 0.  
EXECUTE.  
IF ((dsq2_22f >= 2) & (dsq2_22s >= 2)) CCC_22 = 1.  
EXECUTE.
```

```
COMPUTE CCC_23 = 0.  
EXECUTE.  
IF ((dsq2_23f >= 2) & (dsq2_23s >= 2)) CCC_23 = 1.  
EXECUTE.
```

```
COMPUTE CCC_24 = 0.  
EXECUTE.  
IF ((dsq2_24f >= 2) & (dsq2_24s >= 2)) CCC_24 = 1.  
EXECUTE.
```

```
COMPUTE CCC_84 = 0.  
EXECUTE.  
IF ((dsq2_84f >= 2) & (dsq2_84s >= 2)) CCC_84 = 1.  
EXECUTE.
```

```
COMPUTE CCC_Sleep = 0.  
EXECUTE.
```

```
IF(SUM(CCC_19, CCC_20, CCC_21, CCC_22, CCC_23, CCC_24, CCC_84) >= 1) CCC_Sleep  
= 1.  
EXECUTE.
```

Pain.

```
COMPUTE CCC_25 = 0.  
EXECUTE.  
IF ((dsq2_25f >= 2) & (dsq2_25s >= 2)) CCC_25 = 1.  
EXECUTE.
```

```
COMPUTE CCC_26 = 0.  
EXECUTE.  
IF ((dsq2_26f >= 2) & (dsq2_26s >= 2)) CCC_26 = 1.  
EXECUTE.
```

```
COMPUTE CCC_27 = 0.  
EXECUTE.  
IF ((dsq2_27f >= 2) & (dsq2_27s >= 2)) CCC_27 = 1.  
EXECUTE.
```

```
COMPUTE CCC_28 = 0.  
EXECUTE.  
IF ((dsq2_28f >= 2) & (dsq2_28s >= 2)) CCC_28 = 1.  
EXECUTE.
```

```
COMPUTE CCC_29 = 0.  
EXECUTE.  
IF ((dsq2_29f >= 2) & (dsq2_29s >= 2)) CCC_29 = 1.  
EXECUTE.
```

```
COMPUTE CCC_30 = 0.  
EXECUTE.  
IF ((dsq2_30f >= 2) & (dsq2_30s >= 2)) CCC_30 = 1.  
EXECUTE.
```

```
COMPUTE CCC_31 = 0.  
EXECUTE.  
IF ((dsq2_31f >= 2) & (dsq2_31s >= 2) & (dsq2_93 = 1)) CCC_31 = 1.  
EXECUTE.
```

```
COMPUTE CCC_82 = 0.  
EXECUTE.  
IF ((dsq2_82f >= 2) & (dsq2_82s >= 2)) CCC_82 = 1.  
EXECUTE.
```

```
COMPUTE CCC_83 = 0.  
EXECUTE.  
IF ((dsq2_83f >= 2) & (dsq2_83s >= 2)) CCC_83 = 1.  
EXECUTE.
```

```
COMPUTE CCC_Pain = 0.  
EXECUTE.  
IF(SUM(CCC_25, CCC_26, CCC_27, CCC_28, CCC_29, CCC_30, CCC_31, CCC_82,  
CCC_83) >= 1) CCC_Pain = 1.  
EXECUTE.
```

```
*Neurocognitive*.  
COMPUTE CCC_32 = 0.  
EXECUTE.  
IF ((dsq2_32f >= 2) & (dsq2_32s >= 2)) CCC_32 = 1.  
EXECUTE.
```

```
COMPUTE CCC_33 = 0.  
EXECUTE.  
IF ((dsq2_33f >= 2) & (dsq2_33s >= 2)) CCC_33 = 1.  
EXECUTE.
```

```
COMPUTE CCC_34 = 0.  
EXECUTE.  
IF ((dsq2_34f >= 2) & (dsq2_34s >= 2)) CCC_34 = 1.  
EXECUTE.
```

```
COMPUTE CCC_35 = 0.  
EXECUTE.  
IF ((dsq2_35f >= 2) & (dsq2_35s >= 2)) CCC_35 = 1.  
EXECUTE.
```

```
COMPUTE CCC_36 = 0.  
EXECUTE.  
IF ((dsq2_36f >= 2) & (dsq2_36s >= 2)) CCC_36 = 1.  
EXECUTE.
```

```
COMPUTE CCC_37 = 0.  
EXECUTE.  
IF ((dsq2_37f >= 2) & (dsq2_37s >= 2)) CCC_37 = 1.  
EXECUTE.
```

```
COMPUTE CCC_38 = 0.  
EXECUTE.  
IF ((dsq2_38f >= 2) & (dsq2_38s >= 2)) CCC_38 = 1.  
EXECUTE.
```

```
COMPUTE CCC_39 = 0.  
EXECUTE.  
IF ((dsq2_39f >= 2) & (dsq2_39s >= 2)) CCC_39 = 1.  
EXECUTE.
```

```

COMPUTE CCC_40 = 0.
EXECUTE.
IF ((dsq2_40f >= 2) & (dsq2_40s >= 2)) CCC_40 = 1.
EXECUTE.

```

```

COMPUTE CCC_41 = 0.
EXECUTE.
IF ((dsq2_41f >= 2) & (dsq2_41s >= 2)) CCC_41 = 1.
EXECUTE.

```

```

COMPUTE CCC_42 = 0.
EXECUTE.
IF ((dsq2_42f >= 2) & (dsq2_42s >= 2)) CCC_42 = 1.
EXECUTE.

```

```

COMPUTE CCC_43 = 0.
EXECUTE.
IF ((dsq2_43f >= 2) & (dsq2_43s >= 2)) CCC_43 = 1.
EXECUTE.

```

```

COMPUTE CCC_44 = 0.
EXECUTE.
IF ((dsq2_44f >= 2) & (dsq2_44s >= 2)) CCC_44 = 1.
EXECUTE.

```

```

COMPUTE CCC_45 = 0.
EXECUTE.
IF ((dsq2_45f >= 2) & (dsq2_45s >= 2)) CCC_45 = 1.
EXECUTE.

```

```

COMPUTE CCC_78 = 0.
EXECUTE.
IF ((dsq2_78f >= 2) & (dsq2_78s >= 2)) CCC_78 = 1.
EXECUTE.

```

```

COMPUTE CCC_85 = 0.
EXECUTE.
IF ((dsq2_85f >= 2) & (dsq2_85s >= 2)) CCC_85 = 1.
EXECUTE.

```

```

COMPUTE CCC_86 = 0.
EXECUTE.
IF ((dsq2_86f >= 2) & (dsq2_86s >= 2)) CCC_86 = 1.
EXECUTE.

```

```

COMPUTE CCC_Neurocog = 0.
EXECUTE.
IF(SUM(CCC_32, CCC_33, CCC_34, CCC_35, CCC_36, CCC_37, CCC_38, CCC_39,
CCC_40, CCC_41, CCC_42, CCC_43, CCC_44, CCC_45, CCC_78, CCC_85, CCC_86) >= 2)
CCC_Neurocog = 1.

```


EXECUTE.

Autonomic.

COMPUTE CCC_46 = 0.

EXECUTE.

IF ((dsq2_46f >= 2) & (dsq2_46s >= 2)) CCC_46 = 1.

EXECUTE.

COMPUTE CCC_47 = 0.

EXECUTE.

IF ((dsq2_47f >= 2) & (dsq2_47s >= 2)) CCC_47 = 1.

EXECUTE.

COMPUTE CCC_48 = 0.

EXECUTE.

IF ((dsq2_48f >= 2) & (dsq2_48s >= 2)) CCC_48 = 1.

EXECUTE.

COMPUTE CCC_49 = 0.

EXECUTE.

IF ((dsq2_49f >= 2) & (dsq2_49s >= 2)) CCC_49 = 1.

EXECUTE.

COMPUTE CCC_50 = 0.

EXECUTE.

IF ((dsq2_50f >= 2) & (dsq2_50s >= 2)) CCC_50 = 1.

EXECUTE.

COMPUTE CCC_51 = 0.

EXECUTE.

IF ((dsq2_51f >= 2) & (dsq2_51s >= 2)) CCC_51 = 1.

EXECUTE.

COMPUTE CCC_52 = 0.

EXECUTE.

IF ((dsq2_52f >= 2) & (dsq2_52s >= 2)) CCC_52 = 1.

EXECUTE.

COMPUTE CCC_69 = 0.

EXECUTE.

IF ((dsq2_69f >= 2) & (dsq2_69s >= 2)) CCC_69 = 1.

EXECUTE.

COMPUTE CCC_70 = 0.

EXECUTE.

IF ((dsq2_70f >= 2) & (dsq2_70s >= 2)) CCC_70 = 1.

EXECUTE.

COMPUTE CCC_71 = 0.

EXECUTE.
IF ((dsq2_71f >= 2) & (dsq2_71s >= 2)) CCC_71 = 1.
EXECUTE.

COMPUTE CCC_88 = 0.
EXECUTE.
IF ((dsq2_88f >= 2) & (dsq2_88s >= 2)) CCC_88 = 1.
EXECUTE.

COMPUTE CCC_89 = 0.
EXECUTE.
IF ((dsq2_89f >= 2) & (dsq2_89s >= 2)) CCC_89 = 1.
EXECUTE.

COMPUTE CCC_90 = 0.
EXECUTE.
IF ((dsq2_90f >= 2) & (dsq2_90s >= 2)) CCC_90 = 1.
EXECUTE.

COMPUTE CCC_Auto = 0.
EXECUTE.
IF(SUM(CCC_46, CCC_47, CCC_48, CCC_49, CCC_50, CCC_51, CCC_52, CCC_69,
CCC_70, CCC_71, CCC_88, CCC_89, CCC_90) >= 1) CCC_Auto = 1.
EXECUTE.

Neuroendocrine.
COMPUTE CCC_53 = 0.
EXECUTE.
IF ((dsq2_53f >= 2) & (dsq2_53s >= 2)) CCC_53 = 1.
EXECUTE.

COMPUTE CCC_54 = 0.
EXECUTE.
IF ((dsq2_54f >= 2) & (dsq2_54s >= 2)) CCC_54 = 1.
EXECUTE.

COMPUTE CCC_55 = 0.
EXECUTE.
IF ((dsq2_55f >= 2) & (dsq2_55s >= 2)) CCC_55 = 1.
EXECUTE.

COMPUTE CCC_56 = 0.
EXECUTE.
IF ((dsq2_56f >= 2) & (dsq2_56s >= 2)) CCC_56 = 1.
EXECUTE.

COMPUTE CCC_57 = 0.
EXECUTE.
IF ((dsq2_57f >= 2) & (dsq2_57s >= 2)) CCC_57 = 1.

EXECUTE.

COMPUTE CCC_58 = 0.

EXECUTE.

IF ((dsq2_58f >= 2) & (dsq2_58s >= 2)) CCC_58 = 1.

EXECUTE.

COMPUTE CCC_59 = 0.

EXECUTE.

IF ((dsq2_59f >= 2) & (dsq2_59s >= 2)) CCC_59 = 1.

EXECUTE.

COMPUTE CCC_60 = 0.

EXECUTE.

IF ((dsq2_60f >= 2) & (dsq2_60s >= 2)) CCC_60 = 1.

EXECUTE.

COMPUTE CCC_61 = 0.

EXECUTE.

IF ((dsq2_61f >= 2) & (dsq2_61s >= 2)) CCC_61 = 1.

EXECUTE.

COMPUTE CCC_62 = 0.

EXECUTE.

IF ((dsq2_62f >= 2) & (dsq2_62s >= 2)) CCC_62 = 1.

EXECUTE.

COMPUTE CCC_63 = 0.

EXECUTE.

IF (((dsq2_63f >= 2) & (dsq2_63s >= 2)) | (dsq2_63a = 1)) CCC_63 = 1.

EXECUTE.

COMPUTE CCC_73 = 0.

EXECUTE.

IF ((dsq2_73f >= 2) & (dsq2_73s >= 2)) CCC_73 = 1.

EXECUTE.

COMPUTE CCC_91 = 0.

EXECUTE.

IF ((dsq2_91f >= 2) & (dsq2_91s >= 2)) CCC_91 = 1.

EXECUTE.

COMPUTE CCC_Neuroendo = 0.

EXECUTE.

IF(SUM(CCC_53, CCC_54, CCC_55, CCC_56, CCC_57, CCC_58, CCC_59, CCC_60, CCC_61, CCC_62, CCC_63, CCC_73, CCC_91) >= 1) CCC_Neuroendo = 1.

EXECUTE.

Immune.

```

COMPUTE CCC_64 = 0.
EXECUTE.
IF ((dsq2_64f >= 2) & (dsq2_64s >= 2)) CCC_64 = 1.
EXECUTE.

```

```

COMPUTE CCC_65 = 0.
EXECUTE.
IF ((dsq2_65f >= 2) & (dsq2_65s >= 2)) CCC_65 = 1.
EXECUTE.

```

```

COMPUTE CCC_66 = 0.
EXECUTE.
IF ((dsq2_66f >= 2) & (dsq2_66s >= 2)) CCC_66 = 1.
EXECUTE.

```

```

COMPUTE CCC_67 = 0.
EXECUTE.
IF ((dsq2_67f >= 2) & (dsq2_67s >= 2)) CCC_67 = 1.
EXECUTE.

```

```

COMPUTE CCC_68 = 0.
EXECUTE.
IF ((dsq2_68f >= 2) & (dsq2_68s >= 2)) CCC_68 = 1.
EXECUTE.

```

```

COMPUTE CCC_Immune = 0.
EXECUTE.
IF(SUM(CCC_64, CCC_65, CCC_66, CCC_67, CCC_68) >= 1) CCC_Immune = 1.
EXECUTE.

```

Canadian ME/CFS Case Definition.

```

COMPUTE CCC_ANI2 = 0.
EXECUTE.
IF(SUM(CCC_Auto, CCC_Neuroendo, CCC_Immune) >= 2) CCC_ANI2 = 1.
EXECUTE.

```

```

COMPUTE CCC = 0.
EXECUTE.
IF(SUM(CCC_SR, CCC_Fatigue, CCC_PEM, CCC_Sleep, CCC_Pain, CCC_Neurocog,
CCC_ANI2) = 7) CCC = 1.
EXECUTE.

```

VALUE LABELS

CCC

0 'Does Not Meet Canadian MECFS Criteria'

1 'Meets Canadian MECFS Criteria'.

EXECUTE.

DSQ-2.

International Consensus Criteria for ME (ME-ICC; Carruthers et al., 2011).

****50 Percent Reduction in Activity**.**

COMPUTE MEICC_SR = 0.

EXECUTE.

IF(dsq2_127 = 1) MEICC_SR = 1.

EXECUTE.

****PENE**.**

COMPUTE MEICC_14 = 0.

EXECUTE.

IF ((dsq2_14f >= 2) & (dsq2_14s >= 2)) MEICC_14 = 1.

EXECUTE.

COMPUTE MEICC_15 = 0.

EXECUTE.

IF ((dsq2_15f >= 2) & (dsq2_15s >= 2)) MEICC_15 = 1.

EXECUTE.

COMPUTE MEICC_16 = 0.

EXECUTE.

IF ((dsq2_16f >= 2) & (dsq2_16s >= 2)) MEICC_16 = 1.

EXECUTE.

COMPUTE MEICC_17 = 0.

EXECUTE.

IF ((dsq2_17f >= 2) & (dsq2_17s >= 2)) MEICC_17 = 1.

EXECUTE.

COMPUTE MEICC_18 = 0.

EXECUTE.

IF ((dsq2_18f >= 2) & (dsq2_18s >= 2)) MEICC_18 = 1.

EXECUTE.

COMPUTE MEICC_75 = 0.

EXECUTE.

IF ((dsq2_75f >= 2) & (dsq2_75s >= 2)) MEICC_75 = 1.

EXECUTE.

COMPUTE MEICC_76 = 0.

EXECUTE.

IF ((dsq2_76f >= 2) & (dsq2_76s >= 2)) MEICC_76 = 1.

EXECUTE.

COMPUTE MEICC_77 = 0.
EXECUTE.
IF ((dsq2_77f >= 2) & (dsq2_77s >= 2)) MEICC_77 = 1.
EXECUTE.

COMPUTE MEICC_PENE = 0.
EXECUTE.
IF(SUM(MEICC_14, MEICC_15, MEICC_16, MEICC_17, MEICC_18, MEICC_75,
MEICC_76, MEICC_77) >= 1) MEICC_PENE = 1.
EXECUTE.

****Neurological Impairments**.**

***Neurocognitive*.**

COMPUTE MEICC_36 = 0.
EXECUTE.
IF ((dsq2_36f >= 2) & (dsq2_36s >= 2)) MEICC_36 = 1.
EXECUTE.

COMPUTE MEICC_37 = 0.
EXECUTE.
IF ((dsq2_37f >= 2) & (dsq2_37s >= 2)) MEICC_37 = 1.
EXECUTE.

COMPUTE MEICC_38 = 0.
EXECUTE.
IF ((dsq2_38f >= 2) & (dsq2_38s >= 2)) MEICC_38 = 1.
EXECUTE.

COMPUTE MEICC_39 = 0.
EXECUTE.
IF ((dsq2_39f >= 2) & (dsq2_39s >= 2)) MEICC_39 = 1.
EXECUTE.

COMPUTE MEICC_40 = 0.
EXECUTE.
IF ((dsq2_40f >= 2) & (dsq2_40s >= 2)) MEICC_40 = 1.
EXECUTE.

COMPUTE MEICC_41 = 0.
EXECUTE.
IF ((dsq2_41f >= 2) & (dsq2_41s >= 2)) MEICC_41 = 1.
EXECUTE.

COMPUTE MEICC_42 = 0.
EXECUTE.
IF ((dsq2_42f >= 2) & (dsq2_42s >= 2)) MEICC_42 = 1.
EXECUTE.

COMPUTE MEICC_43 = 0.

EXECUTE.
 IF ((dsq2_43f >= 2) & (dsq2_43s >= 2)) MEICC_43 = 1.
 EXECUTE.

COMPUTE MEICC_44 = 0.
 EXECUTE.
 IF ((dsq2_44f >= 2) & (dsq2_44s >= 2)) MEICC_44 = 1.
 EXECUTE.

COMPUTE MEICC_45 = 0.
 EXECUTE.
 IF ((dsq2_45f >= 2) & (dsq2_45s >= 2)) MEICC_45 = 1.
 EXECUTE.

COMPUTE MEICC_78 = 0.
 EXECUTE.
 IF ((dsq2_78f >= 2) & (dsq2_78s >= 2)) MEICC_78 = 1.
 EXECUTE.

COMPUTE MEICC_79 = 0.
 EXECUTE.
 IF ((dsq2_79f >= 2) & (dsq2_79s >= 2)) MEICC_79 = 1.
 EXECUTE.

COMPUTE MEICC_80 = 0.
 EXECUTE.
 IF ((dsq2_80f >= 2) & (dsq2_80s >= 2)) MEICC_80 = 1.
 EXECUTE.

COMPUTE MEICC_Cognitive = 0.
 EXECUTE.
 IF(SUM(MEICC_36, MEICC_37, MEICC_38, MEICC_39, MEICC_40, MEICC_41,
 MEICC_42, MEICC_43, MEICC_44, MEICC_45, MEICC_78, MEICC_79, MEICC_80) >= 1)
 MEICC_Cognitive = 1.
 EXECUTE.

***Pain*.**
 COMPUTE MEICC_25 = 0.
 EXECUTE.
 IF ((dsq2_25f >= 2) & (dsq2_25s >= 2)) MEICC_25 = 1.
 EXECUTE.

COMPUTE MEICC_26 = 0.
 EXECUTE.
 IF ((dsq2_26f >= 2) & (dsq2_26s >= 2)) MEICC_26 = 1.
 EXECUTE.

COMPUTE MEICC_27 = 0.
 EXECUTE.

IF ((dsq2_27f >= 2) & (dsq2_27s >= 2)) MEICC_27 = 1.
EXECUTE.

COMPUTE MEICC_28 = 0.
EXECUTE.
IF ((dsq2_28f >= 2) & (dsq2_28s >= 2)) MEICC_28 = 1.
EXECUTE.

COMPUTE MEICC_31 = 0.
EXECUTE.
IF ((dsq2_31f >= 2) & (dsq2_31s >= 2)) MEICC_31 = 1.
EXECUTE.

COMPUTE MEICC_81 = 0.
EXECUTE.
IF ((dsq2_81f >= 2) & (dsq2_81s >= 2)) MEICC_81 = 1.
EXECUTE.

COMPUTE MEICC_82 = 0.
EXECUTE.
IF ((dsq2_82f >= 2) & (dsq2_82s >= 2)) MEICC_82 = 1.
EXECUTE.

COMPUTE MEICC_83 = 0.
EXECUTE.
IF ((dsq2_83f >= 2) & (dsq2_83s >= 2)) MEICC_83 = 1.
EXECUTE.

COMPUTE MEICC_Pain = 0.
EXECUTE.
IF(SUM(MEICC_25, MEICC_26, MEICC_27, MEICC_28, MEICC_31, MEICC_81,
MEICC_82, MEICC_83) >= 1) MEICC_Pain = 1.
EXECUTE.

Sleep.
COMPUTE MEICC_19 = 0.
EXECUTE.
IF ((dsq2_19f >= 2) & (dsq2_19s >= 2)) MEICC_19 = 1.
EXECUTE.

COMPUTE MEICC_20 = 0.
EXECUTE.
IF ((dsq2_20f >= 2) & (dsq2_20s >= 2)) MEICC_20 = 1.
EXECUTE.

COMPUTE MEICC_21 = 0.
EXECUTE.
IF ((dsq2_21f >= 2) & (dsq2_21s >= 2)) MEICC_21 = 1.
EXECUTE.


```
COMPUTE MEICC_22 = 0.  
EXECUTE.  
IF ((dsq2_22f >= 2) & (dsq2_22s >= 2)) MEICC_22 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_23 = 0.  
EXECUTE.  
IF ((dsq2_23f >= 2) & (dsq2_23s >= 2)) MEICC_23 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_24 = 0.  
EXECUTE.  
IF ((dsq2_24f >= 2) & (dsq2_24s >= 2)) MEICC_24 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_84 = 0.  
EXECUTE.  
IF ((dsq2_84f >= 2) & (dsq2_84s >= 2)) MEICC_84 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_Sleep = 0.  
EXECUTE.  
IF(SUM(MEICC_19, MEICC_20, MEICC_21, MEICC_22, MEICC_23, MEICC_24,  
MEICC_84) >= 1) MEICC_Sleep = 1.  
EXECUTE.
```

Neurosensory.

```
COMPUTE MEICC_32 = 0.  
EXECUTE.  
IF ((dsq2_32f >= 2) & (dsq2_32s >= 2)) MEICC_32 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_33 = 0.  
EXECUTE.  
IF ((dsq2_33f >= 2) & (dsq2_33s >= 2)) MEICC_33 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_34 = 0.  
EXECUTE.  
IF ((dsq2_34f >= 2) & (dsq2_34s >= 2)) MEICC_34 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_35 = 0.  
EXECUTE.  
IF ((dsq2_35f >= 2) & (dsq2_35s >= 2)) MEICC_35 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_49 = 0.
```

EXECUTE.
IF ((dsq2_49f >= 2) & (dsq2_49s >= 2)) MEICC_49 = 1.
EXECUTE.

COMPUTE MEICC_85 = 0.
EXECUTE.
IF ((dsq2_85f >= 2) & (dsq2_85s >= 2)) MEICC_85 = 1.
EXECUTE.

COMPUTE MEICC_86 = 0.
EXECUTE.
IF ((dsq2_86f >= 2) & (dsq2_86s >= 2)) MEICC_86 = 1.
EXECUTE.

COMPUTE MEICC_Sensory = 0.
EXECUTE.
IF(SUM(MEICC_32, MEICC_33, MEICC_34, MEICC_35, MEICC_49, MEICC_85,
MEICC_86) >= 1) MEICC_Sensory = 1.
EXECUTE.

****Neurological Impairments**.**
COMPUTE MEICC_Neuro = 0.
EXECUTE.
IF(SUM(MEICC_Cognitive, MEICC_Pain, MEICC_Sleep, MEICC_Sensory) >= 3)
MEICC_Neuro = 1.
EXECUTE.

****Immune, Gastrointestinal, Genitourinary Impairments**.**
***Flu*.**
COMPUTE MEICC_64 = 0.
EXECUTE.
IF ((dsq2_64f >= 2) & (dsq2_64s >= 2)) MEICC_64 = 1.
EXECUTE.

COMPUTE MEICC_65 = 0.
EXECUTE.
IF ((dsq2_65f >= 2) & (dsq2_65s >= 2)) MEICC_65 = 1.
EXECUTE.

COMPUTE MEICC_66 = 0.
EXECUTE.
IF ((dsq2_66f >= 2) & (dsq2_66s >= 2)) MEICC_66 = 1.
EXECUTE.

COMPUTE MEICC_67 = 0.
EXECUTE.
IF ((dsq2_67f >= 2) & (dsq2_67s >= 2)) MEICC_67 = 1.
EXECUTE.

```
COMPUTE MEICC_87 = 0.  
EXECUTE.  
IF ((dsq2_87f >= 2) & (dsq2_87s >= 2)) MEICC_87 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_Flu = 0.  
EXECUTE.  
IF(SUM(MEICC_64, MEICC_65, MEICC_66, MEICC_67, MEICC_87) >= 1) MEICC_Flu = 1.  
EXECUTE.
```

```
*Gastrointestinal*.  
COMPUTE MEICC_29 = 0.  
EXECUTE.  
IF ((dsq2_29f >= 2) & (dsq2_29s >= 2)) MEICC_29 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_30 = 0.  
EXECUTE.  
IF ((dsq2_30f >= 2) & (dsq2_30s >= 2)) MEICC_30 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_47 = 0.  
EXECUTE.  
IF ((dsq2_47f >= 2) & (dsq2_47s >= 2)) MEICC_47 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_48 = 0.  
EXECUTE.  
IF ((dsq2_48f >= 2) & (dsq2_48s >= 2)) MEICC_48 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_Gastro = 0.  
EXECUTE.  
IF(SUM(MEICC_29, MEICC_30, MEICC_47, MEICC_48) >= 1) MEICC_Gastro = 1.  
EXECUTE.
```

```
*Genitourinary*.  
COMPUTE MEICC_46 = 0.  
EXECUTE.  
IF ((dsq2_46f >= 2) & (dsq2_46s >= 2)) MEICC_46 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_88 = 0.  
EXECUTE.  
IF ((dsq2_88f >= 2) & (dsq2_88s >= 2)) MEICC_88 = 1.  
EXECUTE.
```

```
COMPUTE MEICC_89 = 0.
```

EXECUTE.
 IF ((dsq2_89f >= 2) & (dsq2_89s >= 2)) MEICC_89 = 1.
 EXECUTE.

COMPUTE MEICC_Urinary = 0.
 EXECUTE.
 IF(SUM(MEICC_46, MEICC_88, MEICC_89) >= 1) MEICC_Urinary = 1.
 EXECUTE.

Sensitivities
 COMPUTE MEICC_63 = 0.
 EXECUTE.
 IF (((dsq2_63f >= 2) & (dsq2_63s >= 2)) | (dsq2_63a = 1)) MEICC_63 = 1.
 EXECUTE.

COMPUTE MEICC_68 = 0.
 EXECUTE.
 IF ((dsq2_68f >= 2) & (dsq2_68s >= 2)) MEICC_68 = 1.
 EXECUTE.

COMPUTE MEICC_Sensitivity = 0.
 EXECUTE.
 IF(SUM(MEICC_63, MEICC_68) >= 1) MEICC_Sensitivity = 1.
 EXECUTE.

Virus Susceptibility
 COMPUTE MEICC_74 = 0.
 EXECUTE.
 IF ((dsq2_74f >= 2) & (dsq2_74s >= 2)) MEICC_74 = 1.
 EXECUTE.

COMPUTE MEICC_128 = 0.
 EXECUTE.
 IF (dsq2_128 = 1) MEICC_128 = 1.
 EXECUTE.

COMPUTE MEICC_Viral = 0.
 EXECUTE.
 IF(SUM(MEICC_74, MEICC_128) >= 1) MEICC_Viral = 1.
 EXECUTE.

****Immune, Gastrointestinal, Genitourinary Impairments****
 COMPUTE MEICC_IGG = 0.
 EXECUTE.
 IF(SUM(MEICC_Flu, MEICC_Gastro, MEICC_Urinary, MEICC_Sensitivity, MEICC_Viral)
 >= 3) MEICC_IGG = 1.
 EXECUTE.

****Energy Metabolism, Ion Transport Impairments**.**

Cardiovascular

COMPUTE MEICC_51 = 0.

EXECUTE.

IF ((dsq2_51f >= 2) & (dsq2_51s >= 2)) MEICC_51 = 1.

EXECUTE.

COMPUTE MEICC_52 = 0.

EXECUTE.

IF ((dsq2_52f >= 2) & (dsq2_52s >= 2)) MEICC_52 = 1.

EXECUTE.

COMPUTE MEICC_69 = 0.

EXECUTE.

IF ((dsq2_69f >= 2) & (dsq2_69s >= 2)) MEICC_69 = 1.

EXECUTE.

COMPUTE MEICC_70 = 0.

EXECUTE.

IF ((dsq2_70f >= 2) & (dsq2_70s >= 2)) MEICC_70 = 1.

EXECUTE.

COMPUTE MEICC_71 = 0.

EXECUTE.

IF ((dsq2_71f >= 2) & (dsq2_71s >= 2)) MEICC_71 = 1.

EXECUTE.

COMPUTE MEICC_90 = 0.

EXECUTE.

IF ((dsq2_90f >= 2) & (dsq2_90s >= 2)) MEICC_90 = 1.

EXECUTE.

COMPUTE MEICC_Cardio = 0.

EXECUTE.

IF(SUM(MEICC_51, MEICC_52, MEICC_69, MEICC_70, MEICC_71, MEICC_90) >= 1)

MEICC_Cardio = 1.

EXECUTE.

***Respiratory*.**

COMPUTE MEICC_Resp = 0.

EXECUTE.

IF((dsq2_50f >= 2) & (dsq2_50s >= 2)) MEICC_Resp = 1.

EXECUTE.

***Thermostatic Ability*.**

COMPUTE MEICC_56 = 0.

EXECUTE.
 IF ((dsq2_56f >= 2) & (dsq2_56s >= 2)) MEICC_56 = 1.
 EXECUTE.

COMPUTE MEICC_57 = 0.
 EXECUTE.
 IF ((dsq2_57f >= 2) & (dsq2_57s >= 2)) MEICC_57 = 1.
 EXECUTE.

COMPUTE MEICC_58 = 0.
 EXECUTE.
 IF ((dsq2_58f >= 2) & (dsq2_58s >= 2)) MEICC_58 = 1.
 EXECUTE.

COMPUTE MEICC_59 = 0.
 EXECUTE.
 IF ((dsq2_59f >= 2) & (dsq2_59s >= 2)) MEICC_59 = 1.
 EXECUTE.

COMPUTE MEICC_60 = 0.
 EXECUTE.
 IF ((dsq2_60f >= 2) & (dsq2_60s >= 2)) MEICC_60 = 1.
 EXECUTE.

COMPUTE MEICC_61 = 0.
 EXECUTE.
 IF ((dsq2_61f >= 2) & (dsq2_61s >= 2)) MEICC_61 = 1.
 EXECUTE.

COMPUTE MEICC_62 = 0.
 EXECUTE.
 IF ((dsq2_62f >= 2) & (dsq2_62s >= 2)) MEICC_62 = 1.
 EXECUTE.

COMPUTE MEICC_91 = 0.
 EXECUTE.
 IF ((dsq2_91f >= 2) & (dsq2_91s >= 2)) MEICC_91 = 1.
 EXECUTE.

COMPUTE MEICC_Thermo = 0.
 EXECUTE.
 IF(SUM(MEICC_56, MEICC_57, MEICC_58, MEICC_59, MEICC_60, MEICC_61,
 MEICC_62, MEICC_91) >= 1) MEICC_Thermo = 1.
 EXECUTE.

Temperature Intolerance.
 COMPUTE MEICC_73 = 0.
 EXECUTE.
 IF ((dsq2_73f >= 2) & (dsq2_73s >= 2)) MEICC_73 = 1.

EXECUTE.

COMPUTE MEICC_129 = 0.

EXECUTE.

IF(dsq2_129 = 1) MEICC_129 = 1.

EXECUTE.

COMPUTE MEICC_Temp = 0.

EXECUTE.

IF(SUM(MEICC_73, MEICC_129) >= 1) MEIC_Temp = 1.

EXECUTE.

****Immune, Gastrointestinal, Genitourinary Impairments**.**

COMPUTE MEICC_Energy = 0.

EXECUTE.

IF(SUM(MEICC_Cardio, MEICC_Resp, MEICC_Thermo, MEICC_Temp) >= 1)

MEICC_Energy = 1.

EXECUTE.

*****ME-ICC Case Definition***.**

COMPUTE MEICC = 0.

EXECUTE.

IF(SUM(MEICC_SR, MEICC_PENE, MEICC_Neuro, MEICC_IGG, MEICC_Energy) = 5)

MEICC = 1.

EXECUTE.

VALUE LABELS

MEICC

0 'Does Not Meet ME-ICC'

1 'Meets ME-ICC'.

EXECUTE.

DSQ-2.

Institute of Medicine Criteria (IOM, 2015).

Substantial Reduction in Functioning Criteria, SF-36.

***To score the SF-36, use scoring rules found here:

https://www.rand.org/health/surveys_tools/mos/36-item-short-form/scoring.html.

Variable names are equivalent to SF-36 Subscale Names.

COMPUTE IOM_RP = 0.

EXECUTE.

IF (RolePhysical <= 50) IOM_RP = 1.

EXECUTE.

COMPUTE IOM_SF = 0.

EXECUTE.

IF (SocialFunctioning <= 62.5) IOM_SF = 1.

EXECUTE.

COMPUTE IOM_V = 0.

EXECUTE.

IF (Vitality <= 35) IOM_V = 1.

EXECUTE.

COMPUTE IOM_SR = 0.

EXECUTE.

IF (SUM(IOM_RP, IOM_SF, IOM_V) >= 2) IOM_SR = 1.

EXECUTE.

DSQ-2 Symptom Scoring.

Fatigue, Not Lifelong, Not Result of Exertion.

COMPUTE IOM_Six = 0.

EXECUTE.

IF ((dsq2_94 = 2) | (dsq2_94 = 3) | (dsq2_94 = 4) | (dsq2_94 = 5)) IOM_Six = 1.

EXECUTE.

COMPUTE IOM_Life = 0.

EXECUTE.

IF ((dsq2_92 = 1) & (dsq2_94 = 5) & (dsq2_106 = 7)) IOM_Life = 1.

EXECUTE.

COMPUTE IOM_Exert = 0.

EXECUTE.

IF((SUM(dsq2_119a, dsq2_119d) >= 60)) IOM_Exert = 1.

EXECUTE.

COMPUTE IOM_Fatigue = 0.

EXECUTE.

IF((IOM_Six = 1) & (IOM_Life = 0) & (IOM_Exert = 0)) IOM_Fatigue = 1.

EXECUTE.

Post-Exertional Malaise.

COMPUTE IOM_14 = 0.

EXECUTE.

IF ((dsq2_14f >= 2) & (dsq2_14s >= 2)) IOM_14 = 1.

EXECUTE.

COMPUTE IOM_15 = 0.

EXECUTE.

IF ((dsq2_15f >= 2) & (dsq2_15s >= 2)) IOM_15 = 1.

EXECUTE.

COMPUTE IOM_16 = 0.

EXECUTE.

IF ((dsq2_16f >= 2) & (dsq2_16s >= 2)) IOM_16 = 1.

EXECUTE.

COMPUTE IOM_17 = 0.

EXECUTE.

IF ((dsq2_17f >= 2) & (dsq2_17s >= 2)) IOM_17 = 1.

EXECUTE.

COMPUTE IOM_18 = 0.

EXECUTE.

IF ((dsq2_18f >= 2) & (dsq2_18s >= 2)) IOM_18 = 1.

EXECUTE.

COMPUTE IOM_75 = 0.

EXECUTE.

IF ((dsq2_75f >= 2) & (dsq2_75s >= 2)) IOM_75 = 1.

EXECUTE.

COMPUTE IOM_76 = 0.

EXECUTE.

IF ((dsq2_76f >= 2) & (dsq2_76s >= 2)) IOM_76 = 1.

EXECUTE.

COMPUTE IOM_77 = 0.

EXECUTE.

IF ((dsq2_77f >= 2) & (dsq2_77s >= 2)) IOM_77 = 1.

EXECUTE.

COMPUTE IOM_PEM = 0.

```
EXECUTE.
IF(SUM(IOM_14, IOM_15, IOM_16, IOM_17, IOM_18, IOM_75, IOM_76, IOM_77) >= 1)
IOM_PEM = 1.
EXECUTE.
```

Unrefreshing Sleep.

```
COMPUTE IOM_19 = 0.
EXECUTE.
IF ((dsq2_19f >= 2) & (dsq2_19s >= 2)) IOM_19 = 1.
EXECUTE.
```

```
COMPUTE IOM_20 = 0.
EXECUTE.
IF ((dsq2_20f >= 2) & (dsq2_20s >= 2)) IOM_20 = 1.
EXECUTE.
```

```
COMPUTE IOM_21 = 0.
EXECUTE.
IF ((dsq2_21f >= 2) & (dsq2_21s >= 2)) IOM_21 = 1.
EXECUTE.
```

```
COMPUTE IOM_22 = 0.
EXECUTE.
IF ((dsq2_22f >= 2) & (dsq2_22s >= 2)) IOM_22 = 1.
EXECUTE.
```

```
COMPUTE IOM_24 = 0.
EXECUTE.
IF ((dsq2_24f >= 2) & (dsq2_24s >= 2)) IOM_24 = 1.
EXECUTE.
```

```
COMPUTE IOM_Sleep = 0.
EXECUTE.
IF(SUM(IOM_19, IOM_20, IOM_21, IOM_22, IOM_24) >= 1) IOM_Sleep = 1.
EXECUTE.
```

Cognitive Impairment.

```
COMPUTE IOM_36 = 0.
EXECUTE.
IF ((dsq2_36f >= 2) & (dsq2_36s >= 2)) IOM_36 = 1.
EXECUTE.
```

```
COMPUTE IOM_37 = 0.
EXECUTE.
IF ((dsq2_37f >= 2) & (dsq2_37s >= 2)) IOM_37 = 1.
EXECUTE.
```

```
COMPUTE IOM_38 = 0.
```

EXECUTE.
 IF ((dsq2_38f >= 2) & (dsq2_38s >= 2)) IOM_38 = 1.
 EXECUTE.

COMPUTE IOM_39 = 0.
 EXECUTE.
 IF ((dsq2_39f >= 2) & (dsq2_39s >= 2)) IOM_39 = 1.
 EXECUTE.

COMPUTE IOM_40 = 0.
 EXECUTE.
 IF ((dsq2_40f >= 2) & (dsq2_40s >= 2)) IOM_40 = 1.
 EXECUTE.

COMPUTE IOM_42 = 0.
 EXECUTE.
 IF ((dsq2_42f >= 2) & (dsq2_42s >= 2)) IOM_42 = 1.
 EXECUTE.

COMPUTE IOM_44 = 0.
 EXECUTE.
 IF ((dsq2_44f >= 2) & (dsq2_44s >= 2)) IOM_44 = 1.
 EXECUTE.

COMPUTE IOM_45 = 0.
 EXECUTE.
 IF ((dsq2_45f >= 2) & (dsq2_45s >= 2)) IOM_45 = 1.
 EXECUTE.

COMPUTE IOM_78 = 0.
 EXECUTE.
 IF ((dsq2_78f >= 2) & (dsq2_78s >= 2)) IOM_78 = 1.
 EXECUTE.

COMPUTE IOM_Cognitive = 0.
 EXECUTE.
 IF(SUM(IOM_36, IOM_37, IOM_38, IOM_39, IOM_40, IOM_42, IOM_44, IOM_45,
 IOM_78) >= 1) IOM_Cognitive = 1.
 EXECUTE.

Orthostatic Intolerance.
 COMPUTE IOM_49 = 0.
 EXECUTE.
 IF ((dsq2_49f >= 2) & (dsq2_49s >= 2)) IOM_49 = 1.
 EXECUTE.

COMPUTE IOM_50 = 0.
 EXECUTE.
 IF ((dsq2_50f >= 2) & (dsq2_50s >= 2)) IOM_50 = 1.

EXECUTE.

COMPUTE IOM_51 = 0.

EXECUTE.

IF ((dsq2_51f >= 2) & (dsq2_51s >= 2)) IOM_51 = 1.

EXECUTE.

COMPUTE IOM_52 = 0.

EXECUTE.

IF ((dsq2_52f >= 2) & (dsq2_52s >= 2)) IOM_52 = 1.

EXECUTE.

COMPUTE IOM_69 = 0.

EXECUTE.

IF ((dsq2_69f >= 2) & (dsq2_69s >= 2)) IOM_69 = 1.

EXECUTE.

COMPUTE IOM_70 = 0.

EXECUTE.

IF ((dsq2_70f >= 2) & (dsq2_70s >= 2)) IOM_70 = 1.

EXECUTE.

COMPUTE IOM_71 = 0.

EXECUTE.

IF ((dsq2_71f >= 2) & (dsq2_71s >= 2)) IOM_71 = 1.

EXECUTE.

COMPUTE IOM_90 = 0.

EXECUTE.

IF ((dsq2_90f >= 2) & (dsq2_90s >= 2)) IOM_90 = 1.

EXECUTE.

COMPUTE IOM_OI = 0.

EXECUTE.

IF(SUM(IOM_49, IOM_50, IOM_51, IOM_52, IOM_69, IOM_70, IOM_71, IOM_90) >= 1)

IOM_OI = 1.

EXECUTE.

IOM Case Definition.

COMPUTE IOM = 0.

EXECUTE.

IF((SUM(IOM_SR, IOM_Fatigue, IOM_PEM, IOM_Sleep) = 4) & (SUM(IOM_Cognitive, IOM_OI) >= 1)) IOM = 1.

EXECUTE.

VALUE LABELS

IOM

0 'Does Not Meet IOM Criteria'

1 'Meets IOM Criteria'.

EXECUTE.

ID# _____

Date _____

DePaul Symptom Questionnaire (DSQ-2)**New items are highlighted in grey**

1. What is your height? _____
2. What is your weight? _____
3. What is your date of birth? _____
4. What is your gender? _____
5. To which of the following race(s) do you belong? Select all that apply.
 - Black, African-American
 - White
 - American Indian or Alaska Native
 - Asian or Pacific Islander
 - Other race (*Please specify*) _____
6. Are you of Latino or Hispanic origin?
 - Yes No
7. What is your current marital status?
 - Married or living with partner
 - Separated
 - Widowed
 - Divorced
 - Never married
8. Do you have any children?
 - Yes No (*Skip to Question 9*)
- 8a. How many children do you have? _____
- 8b. How many of your children are under 18 years old? _____

9. How many people live in your home? _____

10. What grade or degree have you completed in school?

- Less than high school
- Some high school
- High school degree or GED
- Partial college (at least one year) or specialized training
- Standard college degree
- Graduate professional degree including masters and doctorate

11. What is your current work status? Select all that apply.

- On disability
- Student
- Homemaker
- Retired
- Unemployed
- Working part-time
- Working full-time

11a. If you are on disability, for what condition do you receive disability compensation?

Please Specify _____

12. What is your current occupation?

Current _____

12a. If you are currently not working, what was your most recent occupation?

Most Recent _____

For each symptom below, please circle **one** number for frequency
and **one** number for severity:

Please complete the chart from left to right.

| <i>Frequency:</i> | <i>Severity:</i> |
|--|--|
| Throughout the past 6 months , how often have you had this symptom? | Throughout the past 6 months , how much has this symptom bothered you? |
| For each symptom listed below, circle a number from: 0 = none of the time 1 = a little of the time 2 = about half the time 3 = most of the time 4 = all of the time | For each symptom listed below, circle a number from: 0 = symptom not present 1 = mild 2 = moderate 3 = severe 4 = very severe |

| Symptom | Frequency: | Severity: |
|---|------------|-----------|
| 13. Fatigue / Extreme tiredness | 0 1 2 3 4 | 0 1 2 3 4 |
| 14. Dead, heavy feeling after starting to exercise | 0 1 2 3 4 | 0 1 2 3 4 |
| 15. Next-day soreness or fatigue after non-strenuous, everyday activities | 0 1 2 3 4 | 0 1 2 3 4 |
| 16. Mentally tired after the slightest effort | 0 1 2 3 4 | 0 1 2 3 4 |
| 17. Minimum exercise makes you physically tired | 0 1 2 3 4 | 0 1 2 3 4 |
| 18. Physically drained or sick after mild activity | 0 1 2 3 4 | 0 1 2 3 4 |
| 19. Feeling unrefreshed after you wake up in the morning | 0 1 2 3 4 | 0 1 2 3 4 |
| 20. Needing to nap daily | 0 1 2 3 4 | 0 1 2 3 4 |
| 21. Problems falling asleep | 0 1 2 3 4 | 0 1 2 3 4 |
| 22. Problems staying asleep | 0 1 2 3 4 | 0 1 2 3 4 |
| 23. Waking up early in the morning (e.g., 3:00am) | 0 1 2 3 4 | 0 1 2 3 4 |
| 24. Sleeping all day and staying awake all night | 0 1 2 3 4 | 0 1 2 3 4 |
| 25. Pain or aching in your muscles | 0 1 2 3 4 | 0 1 2 3 4 |
| 26. Pain, stiffness, or tenderness in more than one joint, without swelling or redness | 0 1 2 3 4 | 0 1 2 3 4 |
| 27. Eye pain | 0 1 2 3 4 | 0 1 2 3 4 |
| 28. Chest pain | 0 1 2 3 4 | 0 1 2 3 4 |
| 29. Bloating | 0 1 2 3 4 | 0 1 2 3 4 |
| 30. Abdomen / Stomach pain | 0 1 2 3 4 | 0 1 2 3 4 |

For each symptom below, please circle **one** number for frequency
and **one** number for severity:

| <i>Frequency:</i> | <i>Severity:</i> |
|--|---|
| Throughout the past 6 months , how often have you had this symptom? | Throughout the past 6 months , how much has this symptom bothered you? |
| For each symptom listed below, circle a number from: | For each symptom listed below, circle a number from: |
| 0 = none of the time | 0 = symptom not present |
| 1 = a little of the time | 1 = mild |
| 2 = about half the time | 2 = moderate |
| 3 = most of the time | 3 = severe |
| 4 = all of the time | 4 = very severe |

| Symptom | Frequency: | Severity: |
|--|------------|-----------|
| 31. Headaches | 0 1 2 3 4 | 0 1 2 3 4 |
| 32. Muscle twitches | 0 1 2 3 4 | 0 1 2 3 4 |
| 33. Muscle weakness | 0 1 2 3 4 | 0 1 2 3 4 |
| 34. Sensitivity to noise | 0 1 2 3 4 | 0 1 2 3 4 |
| 35. Sensitivity to bright lights | 0 1 2 3 4 | 0 1 2 3 4 |
| 36. Problems remembering things | 0 1 2 3 4 | 0 1 2 3 4 |
| 37. Difficulty paying attention for a long period of time | 0 1 2 3 4 | 0 1 2 3 4 |
| 38. Difficulty finding the right word to say, or expressing thoughts | 0 1 2 3 4 | 0 1 2 3 4 |
| 39. Difficulty understanding things | 0 1 2 3 4 | 0 1 2 3 4 |
| 40. Only able to focus on one thing at a time | 0 1 2 3 4 | 0 1 2 3 4 |
| 41. Unable to focus vision | 0 1 2 3 4 | 0 1 2 3 4 |
| 42. Unable to focus attention | 0 1 2 3 4 | 0 1 2 3 4 |
| 43. Loss of depth perception | 0 1 2 3 4 | 0 1 2 3 4 |
| 44. Slowness of thought | 0 1 2 3 4 | 0 1 2 3 4 |
| 45. Absent-mindedness or forgetfulness | 0 1 2 3 4 | 0 1 2 3 4 |
| 46. Bladder problems | 0 1 2 3 4 | 0 1 2 3 4 |
| 47. Irritable bowel problems | 0 1 2 3 4 | 0 1 2 3 4 |
| 48. Nausea | 0 1 2 3 4 | 0 1 2 3 4 |
| 49. Feeling unsteady on your feet, like you might fall | 0 1 2 3 4 | 0 1 2 3 4 |

For each symptom below, please circle **one** number for frequency
and **one** number for severity:

| <i>Frequency:</i> | <i>Severity:</i> |
|--|--|
| Throughout the past 6 months , how often have you had this symptom? | Throughout the past 6 months , how much has this symptom bothered you? |
| For each symptom listed below, circle a number from: 0 = none of the time 1 = a little of the time 2 = about half the time 3 = most of the time 4 = all of the time | For each symptom listed below, circle a number from: 0 = symptom not present 1 = mild 2 = moderate 3 = severe 4 = very severe |

| Symptom | Frequency: | Severity: |
|---|------------|-----------|
| 50. Shortness of breath or trouble catching your breath | 0 1 2 3 4 | 0 1 2 3 4 |
| 51. Dizziness or fainting | 0 1 2 3 4 | 0 1 2 3 4 |
| 52. Irregular heart beats | 0 1 2 3 4 | 0 1 2 3 4 |
| 53. Losing weight without trying | 0 1 2 3 4 | 0 1 2 3 4 |
| 54. Gaining weight without trying | 0 1 2 3 4 | 0 1 2 3 4 |
| 55. No appetite | 0 1 2 3 4 | 0 1 2 3 4 |
| 56. Sweating hands | 0 1 2 3 4 | 0 1 2 3 4 |
| 57. Night sweats | 0 1 2 3 4 | 0 1 2 3 4 |
| 58. Cold limbs | 0 1 2 3 4 | 0 1 2 3 4 |
| 59. Feeling chills or shivers | 0 1 2 3 4 | 0 1 2 3 4 |
| 60. Feeling hot or cold for no reason | 0 1 2 3 4 | 0 1 2 3 4 |
| 61. Feeling like you have a high temperature | 0 1 2 3 4 | 0 1 2 3 4 |
| 62. Feeling like you have a low temperature | 0 1 2 3 4 | 0 1 2 3 4 |
| 63. Alcohol intolerance | 0 1 2 3 4 | 0 1 2 3 4 |

- a. Over the last 6 months, did you avoid alcohol due to an alcohol intolerance (feeling sick after drinking alcohol)?
- Yes No, I drank alcohol No, I do not drink alcohol for other reasons
- b. If you were to drink alcohol, how severe would the intolerance be?
- Symptom Not Present Mild Moderate Severe Very Severe

For each symptom below, please circle **one** number for frequency
and **one** number for severity:

| <i>Frequency:</i> | <i>Severity:</i> |
|--|---|
| Throughout the past 6 months , how often have you had this symptom? | Throughout the past 6 months , how much has this symptom bothered you? |
| For each symptom listed below, circle a number from: | For each symptom listed below, circle a number from: |
| 0 = none of the time | 0 = symptom not present |
| 1 = a little of the time | 1 = mild |
| 2 = about half the time | 2 = moderate |
| 3 = most of the time | 3 = severe |
| 4 = all of the time | 4 = very severe |

| Symptom | Frequency: | Severity: |
|--|------------|-----------|
| 64. Sore throat | 0 1 2 3 4 | 0 1 2 3 4 |
| 65. Tender / Sore lymph nodes | 0 1 2 3 4 | 0 1 2 3 4 |
| 66. Fever | 0 1 2 3 4 | 0 1 2 3 4 |
| 67. Flu-like symptoms | 0 1 2 3 4 | 0 1 2 3 4 |
| 68. Some smells, foods, medications, or chemicals make you feel sick | 0 1 2 3 4 | 0 1 2 3 4 |
| 69. Heart beats quickly after standing | 0 1 2 3 4 | 0 1 2 3 4 |
| 70. Blurred or tunnel vision after standing | 0 1 2 3 4 | 0 1 2 3 4 |
| 71. Graying or blacking out after standing | 0 1 2 3 4 | 0 1 2 3 4 |
| 72. Sensitivity to mold | 0 1 2 3 4 | 0 1 2 3 4 |
| 73. Intolerance to extremes of temperature | 0 1 2 3 4 | 0 1 2 3 4 |
| 74. Viral infections with prolonged recovery periods | 0 1 2 3 4 | 0 1 2 3 4 |
| 75. Muscle fatigue after mild physical activity | 0 1 2 3 4 | 0 1 2 3 4 |
| 76. Worsening of symptoms after mild physical activity | 0 1 2 3 4 | 0 1 2 3 4 |
| 77. Worsening of symptoms after mild mental activity | 0 1 2 3 4 | 0 1 2 3 4 |
| 78. Feeling disoriented | 0 1 2 3 4 | 0 1 2 3 4 |
| 79. Slowed speech | 0 1 2 3 4 | 0 1 2 3 4 |
| 80. Difficulty reading (dyslexia) after mild physical or mental activity | 0 1 2 3 4 | 0 1 2 3 4 |
| 81. Aching of the eyes or behind the eyes | 0 1 2 3 4 | 0 1 2 3 4 |
| 82. Sensitivity to pain | 0 1 2 3 4 | 0 1 2 3 4 |

For each symptom below, please circle **one** number for frequency
and **one** number for severity:

| <i>Frequency:</i> | <i>Severity:</i> |
|--|--|
| Throughout the past 6 months , how often have you had this symptom? | Throughout the past 6 months , how much has this symptom bothered you? |
| For each symptom listed below, circle a number from: 0 = none of the time 1 = a little of the time 2 = about half the time 3 = most of the time 4 = all of the time | For each symptom listed below, circle a number from: 0 = symptom not present 1 = mild 2 = moderate 3 = severe 4 = very severe |

| Symptom | Frequency: | Severity: |
|--|------------|-----------|
| 83. Pressure on parts of your body causes pain in other parts of your body | 0 1 2 3 4 | 0 1 2 3 4 |
| 84. Daytime drowsiness | 0 1 2 3 4 | 0 1 2 3 4 |
| 85. Sensitivity to vibration | 0 1 2 3 4 | 0 1 2 3 4 |
| 86. Poor coordination | 0 1 2 3 4 | 0 1 2 3 4 |
| 87. Sinus infections | 0 1 2 3 4 | 0 1 2 3 4 |
| 88. Urinary urgency | 0 1 2 3 4 | 0 1 2 3 4 |
| 89. Waking up at night because you need to urinate | 0 1 2 3 4 | 0 1 2 3 4 |
| 90. Inability to tolerate an upright position | 0 1 2 3 4 | 0 1 2 3 4 |
| 91. Fluctuations in temperature throughout the day | 0 1 2 3 4 | 0 1 2 3 4 |

92. Have you **always** had persistent or recurring fatigue/energy problems, even back to your earliest memories as a child? (By persistent or recurring, we mean that the fatigue/energy problems are usually ongoing and constant, but sometimes there are good periods and bad periods.)

Yes No Not having a problem with fatigue/energy

93. Since your fatigue/energy related illness began, do your headaches either happen more often, feel worse or more severe, or are they in a different place or spot?

Yes No Not having a problem with fatigue/energy

94. How long ago did your problem with fatigue/energy begin?

- Less than 6 months
- 6-12 months
- 1-2 years
- Longer than 2 years
- Had problem with fatigue/energy since childhood or adolescence
- Not having a problem with fatigue/energy

95. Have you been diagnosed with Chronic Fatigue Syndrome or Myalgic Encephalomyelitis?

- Yes
- No

a. In what year were you diagnosed? _____

b. Who diagnosed you with Chronic Fatigue Syndrome or Myalgic Encephalomyelitis?

- Medical Doctor
- Alternative Practitioner
- Self-Diagnosed

96. Do you currently have a diagnosis of Chronic Fatigue Syndrome or Myalgic Encephalomyelitis?

- Yes
- No

97. Have any of your family members been diagnosed with Chronic Fatigue Syndrome or Myalgic Encephalomyelitis?

- Yes
- No

If yes, please list their relation to you and current age:

98. Did you experience any of the following symptoms regularly and repeatedly in the months and years before your fatigue/energy problems began?

- Sore throat
- Tender/sore lymph nodes
- Unrefreshing sleep
- Impaired memory and concentration
- Prolonged fatigue following physical or mental exertion
- Muscle pain
- Headaches
- Joint Pain
- Not having a problem with fatigue/energy

99. If you rest, does your problem with fatigue/energy go away? **(Check one)**

- Entirely
- Partially
- My fatigue/energy problem is not improved by rest (*Skip to Question 100*)
- I am not having a problem with fatigue/energy (*Skip to Question 100*)

a. How long do you have to rest for your problem with fatigue/energy to entirely or partially go away?

- Fewer than 30 minutes
- 30 to 59 minutes
- 1-2 hours
- more than 2 hours

100. If you were to become exhausted after actively participating in extracurricular activities, sports, or outings with friends, would you recover within an hour or two after the activity ended?

- Yes
- No

101. Do you reduce your activity level to avoid experiencing problems with fatigue/energy?

- Yes No Not having a problem with fatigue/energy

102. Do you experience a worsening of your fatigue/energy related illness after engaging in minimal physical effort?

- Yes No Not having a problem with fatigue/energy

103. Do you experience a worsening of your fatigue/energy related illness after engaging in mental effort?

- Yes No Not having a problem with fatigue/energy

a. If you feel worse after physical or mental activity, how long does this last?

- 1 hour or less 2-3 hours 4-10 hours 11-13 hours
 14-23 hours More than 24 hours (Please specify _____)

104. Are you currently engaging in any form of exercise?

- Yes No

a. If you do not exercise, why aren't you exercising? Check all that apply.

- Not interested
 No time
 Would like to but cannot because of problems with fatigue/energy
 Cannot because exercise makes symptoms worse

105. If you were to engage in exercise or vigorous activity, would you feel physically drained or sick?

- Yes No

106. Over what period of time did your fatigue/energy related illness develop?

- Within 24 hours
- Over 1 week
- Over 1 month
- Over 2-6 months
- Over 7-12 months
- Over 1-2 years
- Over 3 or more years
- I am not ill

107. How would you describe the course of your fatigue/energy related illness?

- Constantly getting worse
- Constantly improving
- Persisting (no change)
- Relapsing & remitting (having “good” periods with no symptoms & “bad” periods)
- Fluctuating (symptoms periodically get better and get worse, but never disappear completely)
- No Symptoms/I am not ill

108. Which statement best describes your fatigue/energy related illness during the **last 6 months**?

- I am not able to work or do anything, and I am bedridden
- I can walk around the house, but I cannot do light housework
- I can do light housework, but I cannot work part-time
- I can only work part time at work, or on some family responsibilities
- I can work full time, but I have no energy left for anything else
- I can work full time and finish some family responsibilities, but I have no energy left for anything else
- I can do all work or family responsibilities without any problems with my energy

109. Since the onset of your fatigue/energy related illness, have you stopped getting sick with colds or flus?

- Yes, I have stopped getting sick with colds or flus
- No, I still get sick with colds or flus
- I am unsure if there has been a change in whether I get colds or flus
- I do not have a fatigue/energy related illness

110. Did your fatigue/energy related illness start after you experienced any of the following?
(Check one or more and please specify)

- An infectious illness _____
- An accident _____
- A trip or vacation _____
- An immunization (shot at doctor's office) _____
- Surgery _____
- Severe stress (bad or unhappy event(s)) _____
- Other _____
- I am not ill

111. Have you ever consulted a medical doctor or health professional about your fatigue/energy problem?

- Yes
- No

112. Do you currently have a medical doctor overseeing your fatigue/energy problem?

- Yes
- No

113. Do you have any medical illness(es) that might be causing your symptoms?

- Yes No

a. What medical illness(es) do you have? Illness name(s) and year it began:

b. For which of these conditions are you currently receiving treatment?

114. Are you currently taking any medications (over the counter or prescription)?

- Yes No

a. What medications are you taking?

115. Do you think any medication(s) is (are) causing your problem with fatigue/energy?

- Yes No
 I do not have a problem with fatigue/energy

a. Please specify which medications: _____

116. Have you ever been diagnosed and/or treated for any of the following: (Check all that apply and write year(s) experienced, year(s) treated, and medication, if applicable, in the blank)

Major depressive disorder

Major depressive disorder with melancholic or psychotic features

Bipolar disorder (manic-depression)

Anxiety

Schizophrenia

Eating disorder

Substance abuse

Multiple chemical sensitivities

Fibromyalgia

Allergies

Other (*Please specify*)

No diagnosis/treatment

117. What do you think is the cause of your problem with fatigue/energy? (Check one)

- Definitely physical
- Mainly physical
- Equally physical and psychological
- Mainly psychological
- Definitely psychological
- No problem with fatigue/energy

118. Do you think anything specific in your personal life or environment accounts for your problem with fatigue/energy?

- Yes No
- I do not have a problem with fatigue/energy

a. Please specify: _____

119. In the **past 4 weeks**, approximately how many **hours per week** have you spent doing:

Household related activities? _____ hours per week

Social/Recreational related activities? _____ hours per week

Family related activities? _____ hours per week

Work related activities? _____ hours per week

120. In the **past 4 weeks**, have you had to reduce the number of hours you previously spent (prior to your illness) on occupational, social or family activities because of your health or problems with fatigue/energy?

- Yes No Not having a problem with fatigue/energy

a. **Before your fatigue/energy related illness**, approximately how many hours did you used to spend on:

Household related activities? _____ hours per week

Social/Recreational related activities? _____ hours per week

Family related activities? _____ hours per week

Work related activities? _____ hours per week

121. Please rate the amount of **energy** you had **available yesterday**, using a scale from 1 to 100 where 1= no energy and 100 = your pre-illness energy level. *(If you don't have a fatigue/energy related illness, a score of 100 = having abundant energy such that you could work full time and complete your family responsibilities):* _____

122. Please rate the amount of **energy** you **expended** (used) **yesterday**, using a scale from 1 to 100 where 1 = no energy and 100 = your pre-illness energy expended: _____

123. Please rate the amount of **fatigue** you had **yesterday**, using a scale from 1 to 100 where 1 = no fatigue and 100 = severe fatigue: _____

124. For the **past week**, please rate the amount of **energy** you had **available** using a scale from 1 to 100 where 1 = no energy and 100 = your pre-illness energy level: _____

125. For the **past week**, please rate the amount of **energy** you have **expended** (used) using a scale from 1 to 100 where 1 = no energy and 100 = your pre-illness energy expended: _____

126. For the **past week**, please rate the amount of **fatigue** you have had using a scale from 1 to 100 where 1 = no fatigue and 100 = severe fatigue: _____

127. Since the onset of your problems with fatigue/energy, have your symptoms caused a 50% or greater reduction in your activity level?

- Yes No Not having a problem with fatigue/energy

128. Do you experience frequent viral infections with prolonged recovery periods?

- Yes No

129. Are you intolerant of extremes of temperatures (when it is extremely hot or cold)?

- Yes No

To Measure Substantial Reduction Requirement in the Case Definitions
MOS SURVEY (SF-36)

INSTRUCTIONS:

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is: **(Please circle one)**

Excellent..... 1
 Very good..... 2
 Good 3
 Fair 4
 Poor..... 5

2. **Compared to one year ago**, how would you rate your health in general now? **(Please circle one)**

Much better than one year ago 1
 Somewhat better now than one year ago 2
 About the same as one year ago 3
 Somewhat worse now than one year ago..... 4
 Much worse now than one year ago 5

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

| <u>Activities</u> | Yes, Limited A Lot | Yes, Limited A Little | No, Not Limited At All |
|---|--------------------------|-----------------------------|------------------------------|
| Vigorous activities: running, lifting heavy objects, participating in strenuous sports | 1 | 2 | 3 |
| Moderate activities: moving a table, pushing a vacuum cleaner, bowling, playing golf | 1 | 2 | 3 |
| Lifting or carrying groceries | 1 | 2 | 3 |
| Climbing several flights of stairs | 1 | 2 | 3 |
| Climbing one flight of stairs | 1 | 2 | 3 |
| Bending, kneeling, or stooping | 1 | 2 | 3 |
| Walking more than a mile | 1 | 2 | 3 |
| Walking several blocks | 1 | 2 | 3 |
| Walking one block | 1 | 2 | 3 |
| Bathing or dressing yourself | 1 | 2 | 3 |

4. During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities as a result of your **physical health**?

| <u>Problems</u> | Yes | No |
|---|-----|----|
| Cut down on the amount of time you spent on work or other activities | 1 | 2 |
| Accomplished less than you would like | 1 | 2 |
| Were limited in the kind of work or other activities | 1 | 2 |
| Had difficulty performing the work or other activities (For example, it took extra effort) | 1 | 2 |

5. During the **past 4 weeks**, have you had any of the following problems with your work or other

regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

| Problems | Yes | No |
|--|------------|-----------|
| Cut down the amount of time you spent on work or other activities | 1 | 2 |
| Accomplished less than you would like | 1 | 2 |
| Didn't do work or other activities as carefully as usual | 1 | 2 |

6. During the **past 4 weeks**, to what extent has your physical health or emotional problems interfered with your normal social activities with family, neighbors, or groups? (**Please circle one**)

Not at all 1
 Slightly 2
 Moderately 3
 Quite a bit 4
 Extremely 5

7. How much bodily pain have you had during the **past 4 weeks**?

None 1
 Very mild 2
 Mild 3
 Moderate 4
 Severe 5
 Very Severe 6

8. During the **past 4 weeks**, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not at all 1
 Slightly 2
 Moderately 3
 Quite a bit 4
 Extremely 5

9. These questions are about how you feel and how things have been with you **during the past 4 weeks**.

For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time **during the past 4 weeks**-

| Questions | All of the Time | Most of the Time | A Good Bit of the Time | Some of the Time | A Little of the Time | None of the Time |
|---|------------------------|-------------------------|-------------------------------|-------------------------|-----------------------------|-------------------------|
| Did you feel full of pep? | 1 | 2 | 3 | 4 | 5 | 6 |
| Have you been a nervous person? | 1 | 2 | 3 | 4 | 5 | 6 |
| Have you felt so down in the dumps that nothing could cheer you up? | 1 | 2 | 3 | 4 | 5 | 6 |
| Have you felt calm and peaceful? | 1 | 2 | 3 | 4 | 5 | 6 |
| Did you have a lot of energy? | 1 | 2 | 3 | 4 | 5 | 6 |
| Have you felt down-hearted and blue? | 1 | 2 | 3 | 4 | 5 | 6 |
| Did you feel worn out? | 1 | 2 | 3 | 4 | 5 | 6 |
| Have you been a happy person? | 1 | 2 | 3 | 4 | 5 | 6 |
| Did you feel tired? | 1 | 2 | 3 | 4 | 5 | 6 |

10. During the **past 4 weeks**, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

All of the time 1

Most of the time..... 2
 Some of the time 3
 A little of the time..... 4
 None of the time..... 5

11. How **TRUE** or **FALSE** is each of following statements for you?

| Statements | Definitely True | Mostly True | Don't Know | Mostly False | Definitely False |
|--|------------------------|--------------------|-------------------|---------------------|-------------------------|
| I seem to get sick a little easier than other people | 1 | 2 | 3 | 4 | 5 |
| I am as healthy as anybody I know | 1 | 2 | 3 | 4 | 5 |
| I expect my health to get worse | 1 | 2 | 3 | 4 | 5 |
| My health is excellent | 1 | 2 | 3 | 4 | 5 |