

\* Encoding: UTF-8.

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\* CR\_Baseline\_MDS2017\_FrailtyIndex\_19items.

\* Construction of a Frailty Index short (19 items) based on TOPICS-MDS questionnaire 2017 (baseline).

\* Specifically morbidities and ADL items were skipped from this Frailty Index, see Lutomski JE et al, Validation of a frailty index from the older persons and informal caregivers survey minimum data set.;

\*\* <https://www.ncbi.nlm.nih.gov/pubmed/24028364> .

\* Last updated: March 15, 2018.

\* Protocol of Searle et al. 2008 "A standard procedure for creating a frailty index" BMC Geriatrics.

\* Convert values of included health deficits to indicate worsening condition - Range of 0 to 1.

\* ADVICE: run this syntax in pieces; running it all at once may create errors/problems.

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\*\*\*\*\* Define deficits \*\*\*\*\*.

\*\*\* Psych sub-scale \*\*\*.

IF (TO\_PW\_NERV = 6) TO\_FI\_nerv=0.

IF (TO\_PW\_NERV = 5) TO\_FI\_nerv=0.2.

IF (TO\_PW\_NERV = 4) TO\_FI\_nerv=0.4.

IF (TO\_PW\_NERV = 3) TO\_FI\_nerv=0.6.

IF (TO\_PW\_NERV = 2) TO\_FI\_nerv=0.8.

IF (TO\_PW\_NERV = 1) TO\_FI\_nerv=1.

EXECUTE.

IF (TO\_PW\_BLUE = 6) TO\_FI\_blue=0.

IF (T0\_PW\_BLUE = 5) T0\_FI\_blue=0.2.

IF (T0\_PW\_BLUE = 4) T0\_FI\_blue=0.4.

IF (T0\_PW\_BLUE = 3) T0\_FI\_blue=0.6.

IF (T0\_PW\_BLUE = 2) T0\_FI\_blue=0.8.

IF (T0\_PW\_BLUE = 1) T0\_FI\_blue=1.

EXECUTE.

IF (T0\_PW\_DOWN = 6) T0\_FI\_down=0.

IF (T0\_PW\_DOWN = 5) T0\_FI\_down=0.2.

IF (T0\_PW\_DOWN = 4) T0\_FI\_down=0.4.

IF (T0\_PW\_DOWN = 3) T0\_FI\_down=0.6.

IF (T0\_PW\_DOWN = 2) T0\_FI\_down=0.8.

IF (T0\_PW\_DOWN = 1) T0\_FI\_down=1.

EXECUTE.

IF (T0\_PW\_CALM = 6) T0\_FI\_calm=1.

IF (T0\_PW\_CALM = 5) T0\_FI\_calm=0.8.

IF (T0\_PW\_CALM = 4) T0\_FI\_calm=0.6.

IF (T0\_PW\_CALM = 3) T0\_FI\_calm=0.4.

IF (T0\_PW\_CALM = 2) T0\_FI\_calm=0.2.

IF (T0\_PW\_CALM = 1) T0\_FI\_calm=0.

EXECUTE.

IF (T0\_PW\_HAPPY = 6) T0\_FI\_happy=1.

IF (T0\_PW\_HAPPY = 5) T0\_FI\_happy=0.8.

IF (T0\_PW\_HAPPY = 4) T0\_FI\_happy=0.6.

IF (T0\_PW\_HAPPY = 3) T0\_FI\_happy=0.4.

IF (T0\_PW\_HAPPY = 2) T0\_FI\_happy=0.2.

IF (T0\_PW\_HAPPY = 1) T0\_FI\_happy=0.

EXECUTE.

\*\*\* EQ-5D-5L \*\*\*.

IF (T0\_EQ5MO = 1) T0\_FI\_EQ\_mob=0.

IF (T0\_EQ5MO = 2) T0\_FI\_EQ\_mob=0.25.

IF (T0\_EQ5MO = 3) T0\_FI\_EQ\_mob=0.5.

IF (T0\_EQ5MO = 4) T0\_FI\_EQ\_mob=0.75.

IF (T0\_EQ5MO = 5) T0\_FI\_EQ\_mob=1.

EXECUTE.

IF (T0\_EQ5SC = 1) T0\_FI\_EQ\_selfcare=0.

IF (T0\_EQ5SC = 2) T0\_FI\_EQ\_selfcare=0.25.

IF (T0\_EQ5SC = 3) T0\_FI\_EQ\_selfcare=0.5.

IF (T0\_EQ5SC = 4) T0\_FI\_EQ\_selfcare=0.75.

IF (T0\_EQ5SC = 5) T0\_FI\_EQ\_selfcare=1.

EXECUTE.

IF (T0\_EQ5ACT= 1) T0\_FI\_EQ\_act=0.

IF (T0\_EQ5ACT = 2) T0\_FI\_EQ\_act=0.25.

IF (T0\_EQ5ACT = 3) T0\_FI\_EQ\_act=0.5.

IF (T0\_EQ5ACT = 4) T0\_FI\_EQ\_act=0.75.

IF (T0\_EQ5ACT = 5) T0\_FI\_EQ\_act=1.

EXECUTE.

IF (T0\_EQ5PAIN= 1) T0\_FI\_EQ\_pain=0.

IF (T0\_EQ5PAIN = 2) T0\_FI\_EQ\_pain=0.25.

IF (T0\_EQ5PAIN = 3) T0\_FI\_EQ\_pain=0.5.

IF (T0\_EQ5PAIN = 4) T0\_FI\_EQ\_pain=0.75.

IF (T0\_EQ5PAIN = 5) T0\_FI\_EQ\_pain=1.

EXECUTE.

IF (T0\_EQ5ANX= 1) T0\_FI\_EQ\_mood=0.

IF (T0\_EQ5ANX = 2) T0\_FI\_EQ\_mood=0.25.

IF (T0\_EQ5ANX = 3) T0\_FI\_EQ\_mood=0.5.

IF (T0\_EQ5ANX = 4) T0\_FI\_EQ\_mood=0.75.

IF (T0\_EQ5ANX = 5) T0\_FI\_EQ\_mood=1.

EXECUTE.

\*\*\* Social functioning and self-reported health \*\*\*.

IF (T0\_SOCFUNC = 5) T0\_FI\_SocFunc=0.

IF (T0\_SOCFUNC = 4) T0\_FI\_SocFunc=0.25.

IF (T0\_SOCFUNC = 3) T0\_FI\_SocFunc=0.50.

IF (T0\_SOCFUNC = 2) T0\_FI\_SocFunc=0.75.

IF (T0\_SOCFUNC = 1) T0\_FI\_SocFunc=1.

EXECUTE.

IF (T0\_HEALTH = 0) T0\_FI\_Health=1.

IF (T0\_HEALTH = 1) T0\_FI\_Health=0.9.

IF (T0\_HEALTH = 2) T0\_FI\_Health=0.8.

IF (T0\_HEALTH = 3) T0\_FI\_Health=0.7.

IF (TO\_HEALTH = 4) TO\_FI\_Health=0.6.

IF (TO\_HEALTH = 5) TO\_FI\_Health=0.5.

IF (TO\_HEALTH = 6) TO\_FI\_Health=0.4.

IF (TO\_HEALTH = 7) TO\_FI\_Health=0.3.

IF (TO\_HEALTH = 8) TO\_FI\_Health=0.2.

IF (TO\_HEALTH = 9) TO\_FI\_Health=0.1.

IF (TO\_HEALTH = 10) TO\_FI\_Health=0.

EXECUTE.

\*\*\* Tasks and occupations in daily life \*\*\*.

IF (TO\_GARS\_HH=1) TO\_FI\_GARS\_HH=0.

IF (TO\_GARS\_HH=2) TO\_FI\_GARS\_HH=0.33.

IF (TO\_GARS\_HH=3) TO\_FI\_GARS\_HH=0.66.

IF (TO\_GARS\_HH=4) TO\_FI\_GARS\_HH=1.

EXECUTE.

IF (TO\_GARS\_SHOP=1) TO\_FI\_GARS\_SHOP=0.

IF (TO\_GARS\_SHOP=2) TO\_FI\_GARS\_SHOP=0.33.

IF (TO\_GARS\_SHOP=3) TO\_FI\_GARS\_SHOP=0.66.

IF (TO\_GARS\_SHOP=4) TO\_FI\_GARS\_SHOP=1.

EXECUTE.

IF (TO\_LASA\_MED=1) TO\_FI\_LASA\_MED=0.

IF (TO\_LASA\_MED=2) TO\_FI\_LASA\_MED=0.33.

IF (TO\_LASA\_MED=3) TO\_FI\_LASA\_MED=0.66.

IF (TO\_LASA\_MED=4) TO\_FI\_LASA\_MED=1.

EXECUTE.

IF (TO\_LASA\_TRANSP=1) TO\_FI\_LASA\_TRANSP=0.

IF (TO\_LASA\_TRANSP=2) TO\_FI\_LASA\_TRANSP=0.33.

IF (TO\_LASA\_TRANSP=3) TO\_FI\_LASA\_TRANSP=0.66.

IF (TO\_LASA\_TRANSP=4) TO\_FI\_LASA\_TRANSP=1.

EXECUTE.

\*\*\* Dental care is counted as one deficit \*\*\*.

IF (TO\_MOUTH\_PAIN=1) TO\_FI\_MOUTH\_PAIN = 0.25.

IF (TO\_MOUTH\_PAIN=0) TO\_FI\_MOUTH\_PAIN = 0.

IF (TO\_MOUTH\_CHEW=1) TO\_FI\_MOUTH\_CHEW = 0.25.

IF (TO\_MOUTH\_CHEW=0) TO\_FI\_MOUTH\_CHEW = 0.

IF (TO\_MOUTH\_DRY=1) TO\_FI\_MOUTH\_DRY = 0.25.

IF (TO\_MOUTH\_DRY=0) TO\_FI\_MOUTH\_DRY = 0.

IF (TO\_MOUTH\_SWAL=1) TO\_FI\_MOUTH\_SWAL = 0.25.

IF (TO\_MOUTH\_SWAL=0) TO\_FI\_MOUTH\_SWAL = 0.

EXECUTE.

COMPUTE TO\_FI\_MOUTH = SUM (TO\_FI\_MOUTH\_PAIN, TO\_FI\_MOUTH\_CHEW, TO\_FI\_MOUTH\_DRY,  
TO\_FI\_MOUTH\_SWAL).

EXECUTE.

\*\*\* Compute TO\_FI \*\*\*.

\*\*\* First determine the number of missing values \*\*\*.

COMPUTE FI\_short\_missing\_number =NMISS (TO\_FI\_Health, TO\_FI\_EQ\_mob, TO\_FI\_EQ\_selfcare,  
TO\_FI\_EQ\_act, TO\_FI\_EQ\_pain, TO\_FI\_EQ\_mood, TO\_LASA\_MEMO1, TO\_LASA\_FALL, TO\_FI\_GARS\_HH,

TO\_FI\_GARS\_SHOP, TO\_FI\_LASA\_MED, TO\_FI\_LASA\_TRANSP, TO\_FI\_MOUTH, TO\_FI\_nerv, TO\_FI\_calm,  
TO\_FI\_blue, TO\_FI\_happy, TO\_FI\_down, TO\_FI\_SocFunc).

EXECUTE.

\*\*\* Calculate the total number of deficits accrued \*\*\*.

COMPUTE Frailty\_short\_total = sum (TO\_FI\_Health, TO\_FI\_EQ\_mob, TO\_FI\_EQ\_selfcare,  
TO\_FI\_EQ\_act, TO\_FI\_EQ\_pain, TO\_FI\_EQ\_mood, TO\_LASA\_MEMO1, TO\_LASA\_FALL, TO\_FI\_GARS\_HH,  
TO\_FI\_GARS\_SHOP, TO\_FI\_LASA\_MED, TO\_FI\_LASA\_TRANSP, TO\_FI\_MOUTH, TO\_FI\_nerv, TO\_FI\_calm,  
TO\_FI\_blue, TO\_FI\_happy, TO\_FI\_down, TO\_FI\_SocFunc).

EXECUTE.

\*\*\* Examine different methods to address missing \*\*\*.

\*\*\* Complete case analysis - all deficits must be present (no missing values) \*\*\*.

\*\*\* WARNING --> Results in high levels of missing values \*\*\*.

DO IF

FI\_short\_missing\_number = 0.

COMPUTE TO\_FI\_short\_complete\_case=TO\_Frailty\_short\_total/19.

END IF.

EXECUTE.

\*\*\* Establish a minimum number of permissible missing deficits \*\*\*.

\*\*\* Adjustment of base for missing data \*\*\*.

IF (FI\_short\_missing\_number <= 3) FI\_short\_corrected=Frailty\_short\_total/(19-  
FI\_short\_missing\_number).

EXECUTE.

\*\*\* Dichotomize the frailty index \*\*\*.

\*\*\* No established threshold, cut-offs generally made at either 0.25 or 0.20 (see Searle et al. 2008 above) \*\*\*.

IF (FI\_short\_corrected ge 0.25) FI\_short\_binary\_25cut=1.

IF (FI\_short\_corrected lt 0.25) FI\_short\_binary\_25cut=0.

EXECUTE.

IF (FI\_short\_corrected ge 0.2) FI\_short\_binary\_20cut=1.

IF (FI\_short\_corrected lt 0.2) FI\_short\_binary\_20cut=0.

EXECUTE.