with the current intake, recommendation most fitting to model, and 90%probability range of recommendations. PUFA Linoleic acid Alpha-linol. acid Vit. C EPA-fatty acid Sucrose Protein Carboh. SFA MUFA Fiber Chol. Folic acid DHA-fatty acid $20.1\rightarrow$ $232\rightarrow$ 199→ 8.4 19.7 50.8 9.9 10.5 6.4 26.6 7.6 226 125 13 1.4 0.0 [201:241]

6.3

10.0

[20.6:37.3]

 $20.8\rightarrow$

23.4 25.6

9.8 10.3 8.1 52.6 65.3

51.7

7.8 18.4

> 16.4 44.8 9.3 10.3

[44.1:45.6]

163→ 226→

[28:244] [206:246] [48:179]

226 102

 $346 \rightarrow$ 264→

93 217 62

 $261 \rightarrow$ 200-

255 191 114 1.8

1.4

1.4

0.0

0.1

0.1

Table 1: Personal intake recommendations for Sysdimet study control cohort

104	5.3 $[0.6;9.9]$	$17.8 \rightarrow 19.0$ [16.1;20.0]	$^{48.7 o}_{58.0}$ [52.0;59.9]	$^{12.0\rightarrow}_{9.6}_{[8.5;10.0]}$	$^{10.1\rightarrow}_{10.2}_{[10.0;10.8]}$	$5.1 \rightarrow 8.2$ [6.1;9.9]	$^{24.0\rightarrow}_{24.2}_{[23.2;25.5]}$	$^{8.3 \rightarrow}_{10.5}$ $_{[7.3;15.3]}$	$\begin{array}{c} 3.8 \rightarrow \\ 8.3 \\ [6.1;9.0] \end{array}$	$0.5 \rightarrow 0.6$ [0.5;0.9]	$^{346\rightarrow}_{10}$ [0;39]	179 [106;282]	$^{161\rightarrow}$ 969 $_{[890;999]}$	$0.2 \rightarrow \\ 2.5$ [2.4;2.5]	$0.6 \rightarrow 0.0$ [0.0;0.1]
105	$^{4.5 o }_{6.7}$ [1.2;9.9]	16.1 [11.9;19.9]	$49.6 \rightarrow 55.8$ $[48.2;59.9]$	$^{10.8 o }_{9.4}$ $_{[8.3;10.0]}$	$7.3 \rightarrow 15.5$ [10.9;19.7]	$^{4.9 o}_{7.9}$ $_{[5.8;9.9]}$	$19.8 \rightarrow 52.9$ $[47.7;54.9]$	$\begin{array}{c} 8.3 \rightarrow \\ 9.5 \\ [6.5;14.1] \end{array}$	$1.7 \rightarrow 7.7$ [5.3;9.0]	$0.3 \rightarrow 0.6$ [0.5;1.0]	$\begin{array}{c} 210 \rightarrow \\ {\bf 55} \\ [1;165] \end{array}$	288 [113;617]	$^{219\rightarrow}_{\begin{subarray}{c} 27 \\ [10;70] \end{subarray}}$	$0.0 \rightarrow 1.2$ [1.0;1.5]	$0.1 \rightarrow 0.1$ [0.0;0.2]
107	$^{7.9 o }_{6.3}$ $_{[1.3;9.7]}$	$^{13.7\rightarrow}_{13.8}_{[10.2;17.4]}$	$40.6 \rightarrow 46.2$ [40.3;53.2]	$\begin{array}{c} 13.7 \rightarrow \\ 9.4 \\ [8.3;10.0] \end{array}$	$^{15.5\rightarrow}_{13.6}_{[10.2;16.8]}$	$^{6.4 o }_{7.2}$ $_{[5.8;9.6]}$	$14.9 \rightarrow 48.2$ [31.0;54.8]	$^{9.9 o }$ $^{13.3}$ $_{[8.2;22.4]}$	7.4 [4.8;9.0]	$0.8 \rightarrow 0.7$ [0.5;1.1]	$277 \rightarrow 206$ [83;292]	$239 \rightarrow 238$ [216;257]	$120 \rightarrow 105$ [51;135]	$0.1 \rightarrow \\ 1.2 \\ [0.9;1.5]$	$0.2 \rightarrow 0.1$ [0.0;0.2]
108	$6.3 \rightarrow 6.3$ $[6.1;6.4]$	$17.8 \rightarrow 15.4$ [10.8;19.6]	$54.0 \rightarrow 52.5$ [43.8;59.7]	$\begin{array}{c} 11.4 \rightarrow \\ 9.0 \\ [7.8;10.0] \end{array}$	$^{8.8 o }_{11.3}$ $_{[10.0;14.7]}$	$^{4.0 o}$ $^{7.5}$ $_{[5.5;9.8]}$	$15.2 \rightarrow 52.5$ [46.0;54.9]	$5.6 \rightarrow \\ 76.2$ [34.6;99.0]	$3.2 \rightarrow 6.5$ [3.8;8.9]	$0.6 \rightarrow 0.9$ [0.5;1.8]	$\begin{array}{c} 222 \rightarrow \\ 84 \\ [3;189] \end{array}$	203→ 953 [850;999]	$^{61}\rightarrow$ 931 [762;998]	$0.0 \rightarrow 1.8$ [1.3;2.3]	$0.1 \rightarrow 0.3$ [0.0;1.0]
108	6.3	15.4	52.5	9.0	11.3	7.5	52.5	76.2	6.5	0.9	84	953	931	1.8	0.3

121	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0.0;0.0]	[0;0]	[0;0]	[0;0]	[0.0;0.0]	[0.0;0.0]
18	$4.2 \rightarrow 4.8$ [2.8;7.9]	19.6 $[18.5;20.0]$	$42.9 \rightarrow 42.9$ $[40.6;45.6]$	$14.0 \rightarrow 9.8$ [9.3;10.0]	$^{9.4\rightarrow}_{10.2}_{\tiny{[10.0;10.9]}}$	$4.4 \rightarrow 5.5$ [5.0;6.8]	$17.0 \rightarrow 24.7$ [20.2;32.9]	$^{4.1\rightarrow}$ 17.8 $_{[5.2;36.5]}$	$\begin{array}{c} 3.1 \rightarrow \\ {\bf 8.4} \\ [6.4;9.0] \end{array}$	$0.9 \rightarrow \\ 0.6 \\ [0.5; 0.8]$	$229 \rightarrow 227$ [202;247]	$203 \rightarrow 202$ [172;230]	$^{48} \rightarrow 67$ [20;147]	$0.1 \rightarrow 1.2$ [1.0;1.4]	$0.2 \rightarrow 0.0$ [0.0;0.2]
19	$5.8 \rightarrow 5.8$ [1.3;9.7]	$^{18.8\rightarrow}_{17.8}_{\tiny{[14.6;19.9]}}$	$\begin{array}{c} 47.4 \rightarrow \\ 50.1 \\ [41.8;58.7] \end{array}$	$\begin{array}{c} 13.4 \rightarrow \\ {\bf 8.6} \\ [7.3;9.9] \end{array}$	$^{8.8\rightarrow}_{\begin{subarray}{c}13.4\\[10.1;17.7]\end{subarray}}$	$^{4.7 o}_{7.2}$ $_{[5.3;9.7]}$	$18.0 \rightarrow 42.0$ $[24.6;54.7]$	$\begin{array}{c} 5.9 \rightarrow \\ 39.0 \\ [5.0;93.8] \end{array}$	$\begin{array}{c} 3.3 \rightarrow \\ {\bf 6.2} \\ [3.3;8.8] \end{array}$	$1.0 \rightarrow 1.6$ $[0.5;3.2]$	$^{233}\rightarrow$ 162 $_{[34;276]}$	$\begin{array}{c} 233 \rightarrow \\ 234 \\ [219;250] \end{array}$	$^{106}\rightarrow$ 117 $_{[75;178]}$	$0.1 \rightarrow 2.0$ [1.2;2.5]	$\begin{array}{c} 0.2 \to \\ 0.2 \\ [0.0; 0.7] \end{array}$
44	$^{8.2\rightarrow}_{1.9}$	$13.9 \rightarrow 19.2$	$^{44.7 o }_{45.1}$	$^{13.5\rightarrow}_{9.7}$	$^{11.4\rightarrow}_{10.5}$	4.9→ 6.0	$^{17.6\rightarrow}_{53.5}$	$7.6 \rightarrow 8.5$	$^{3.6 ightarrow}$ 8.2	0.8→ 0.6	$292 \rightarrow 230$	$^{254\rightarrow}_{257}$	$\begin{array}{c} ^{92\rightarrow} \\ 222 \end{array}$	0.1→ 0.9	0.3→ 0.0

	[2.8;7.9]	[18.5;20.0]	[40.6;45.6]	[9.3;10.0]	[10.0;10.9]	[5.0;6.8]	[20.2;32.9]	[5.2;36.5]	[6.4;9.0]	[0.5;0.8]	[202;247]	[172;230]	[20;147]	[1.0;1.4]	[0.0;0.2]
19	$5.8 \rightarrow 5.8$ [1.3;9.7]	$^{18.8\rightarrow}_{17.8}_{\tiny{[14.6;19.9]}}$	$^{47.4\rightarrow}_{50.1}_{[41.8;58.7]}$	$\begin{array}{c} 13.4 \rightarrow \\ 8.6 \\ [7.3;9.9] \end{array}$	$^{8.8 o }_{f 13.4}$ $_{[10.1;17.7]}$	7.2 [5.3;9.7]	$^{18.0 ightarrow}_{42.0}$ $_{[24.6;54.7]}$	$5.9 \rightarrow 39.0$ $[5.0;93.8]$	$\begin{array}{c} 3.3 \rightarrow \\ {f 6.2} \\ [3.3;8.8] \end{array}$	$1.0 \rightarrow 1.6$ $[0.5;3.2]$	$^{233}\rightarrow$ 162 [34;276]	$^{233\rightarrow}_{234}_{[219;250]}$	$^{106 o }_{117}$ $_{[75;178]}$	$0.1 \rightarrow \\ 2.0$ $[1.2; 2.5]$	$\begin{array}{c} 0.2 \to \\ 0.2 \\ [0.0; 0.7] \end{array}$
44	$^{8.2 o}_{1.9}$ $_{[0.2;4.9]}$	$^{13.9\rightarrow}_{19.2}_{[16.8;20.0]}$	$^{44.7\rightarrow}_{\ 45.1}_{\ [43.8;47.5]}$	$\begin{array}{c} 13.5 \rightarrow \\ 9.7 \\ [8.8;10.0] \end{array}$	$^{11.4\rightarrow}_{10.5}_{[10.0;11.5]}$	$^{4.9 o }_{6.0}$ $_{[5.0;7.5]}$	$17.6 \rightarrow 53.5$ [49.6;55.0]	$7.6 \rightarrow 8.5$ $[6.7;11.7]$	$\begin{array}{c} 3.6 \rightarrow \\ 8.2 \\ [5.9;9.0] \end{array}$	$0.8 \rightarrow 0.6$ [0.5;0.9]	$^{292\rightarrow}_{230}$ [116;298]	$254 \rightarrow 257$ [204;315]	$\begin{array}{c} 92 \rightarrow \\ {f 222} \\ [93;463] \end{array}$	$0.1 \rightarrow 0.9$ [0.5;1.1]	$0.3 \rightarrow 0.0$ [0.0;0.2]
	4.0→	16.4→	41.6→	16.4→	$12.8 \rightarrow$	5.2→	19.4→	11.5→	2.6→	1.2→	224→	$217\rightarrow$	68→	0.0→	0.1→

	[1.3;9.7]	[14.6;19.9]	[41.8;58.7]	[7.3;9.9]	[10.1;17.7]	[5.3;9.7]	[24.6;54.7]	[5.0;93.8]	[3.3;8.8]	[0.5;3.2]	[34;276]	[219;250]	[75;178]	[1.2;2.5]	[0.0;0.7]
44	$\begin{array}{c} 8.2 \rightarrow \\ 1.9 \\ [0.2;4.9] \end{array}$	$13.9 \rightarrow 19.2$ [16.8;20.0]	$44.7 \rightarrow 45.1$ $[43.8;47.5]$	$\begin{array}{c} 13.5 \rightarrow \\ 9.7 \\ [8.8;10.0] \end{array}$	$^{11.4\rightarrow}_{10.5}_{[10.0;11.5]}$	$^{4.9 o }_{6.0}$ $_{[5.0;7.5]}$	$17.6 \rightarrow 53.5$ [49.6;55.0]	$7.6 \rightarrow 8.5$ $[6.7;11.7]$	$\begin{array}{c} 3.6 \rightarrow \\ 8.2 \\ [5.9; 9.0] \end{array}$	$0.8 \rightarrow 0.6$ [0.5;0.9]	$^{292\rightarrow}_{230}$ [116;298]	$254 \rightarrow 257$ [204;315]	$\begin{array}{c} 92 \rightarrow \\ {f 222} \\ [93;463] \end{array}$	$0.1 \rightarrow 0.9$ [0.5;1.1]	$0.3 \rightarrow 0.0$ [0.0;0.2]
48	$4.0 \rightarrow 4.1$ [1.4;8.3]	$16.4 \rightarrow 16.0$ [13.5;19.1]	$41.6 \rightarrow 43.5$ $[40.2;50.4]$	$16.4 \rightarrow 8.8$ [7.5;9.9]	$12.8 \rightarrow 13.3$ [10.5;16.1]	$5.2\rightarrow$ 5.2 [5.0;5.4]	$19.4 \rightarrow 26.2$ [20.3;34.9]	$11.5\rightarrow$ 12.1 [7.5;17.2]	2.6→ 6.2 [3.3;8.8]	$1.2 \rightarrow 1.3$ [0.5;2.8]	$224 \rightarrow 216$ [166;256]	$217 \rightarrow 217$ [191;244]	68 → 557 [462;662]	$0.0 \rightarrow \\ 0.1 \\ [0.0;0.4]$	$0.1 \rightarrow 0.1$ [0.0;0.3]

44	1.9 [0.2;4.9]	$13.9 \rightarrow 19.2$ [16.8;20.0]	$44.7 \rightarrow 45.1$ [43.8;47.5]	$\begin{array}{c} 13.5 \rightarrow \\ 9.7 \\ [8.8;10.0] \end{array}$	$11.4 \rightarrow 10.5$ [10.0;11.5]	6.0 [5.0;7.5]	$17.6 \rightarrow 53.5$ [49.6;55.0]	$7.6 \rightarrow 8.5$ $[6.7;11.7]$	8.2 [5.9;9.0]	$0.8 \rightarrow 0.6$ [0.5;0.9]	$^{292\rightarrow}_{230}$ [116;298]	$254 \rightarrow 257$ [204;315]	$\begin{array}{c} 92 \rightarrow \\ {\bf 222} \\ [93;463] \end{array}$	$0.1 \rightarrow 0.9$ [0.5;1.1]	$0.3 \rightarrow 0.0$ [0.0; 0.2]
48	$4.0 \rightarrow 4.1$ [1.4;8.3]	$16.4 \rightarrow 16.0$ $[13.5;19.1]$	$41.6 \rightarrow 43.5$ [40.2;50.4]	$16.4 \rightarrow 8.8$ [7.5;9.9]	$12.8 \rightarrow 13.3$ [10.5;16.1]	$5.2 \rightarrow 5.2$ [5.0;5.4]	$19.4 \rightarrow 26.2$ [20.3;34.9]	$11.5 \rightarrow 12.1$ [7.5;17.2]	$^{2.6 o }_{6.2}$ [3.3;8.8]	$1.2 \rightarrow 1.3$ [0.5;2.8]	$224 \rightarrow 216$ [166;256]	$217 \rightarrow 217$ [191;244]	68→ 557 [462;662]	$0.0 \rightarrow 0.1$ [0.0;0.4]	$0.1 \rightarrow 0.1$ [0.0;0.3]
	$2.9 \rightarrow$	$24.2 \rightarrow$	$41.9 \rightarrow$	9.0→	7.6→	$4.2 \rightarrow$	$14.2 \rightarrow$	5.5→	3.0→	0.5→	$189 \rightarrow$	$167 \rightarrow$	84→	0.2→	$0.5 \rightarrow$

48	4.1 [1.4;8.3]	16.0 $[13.5;19.1]$	43.5 [40.2;50.4]	8.8 [7.5;9.9]	13.3 [10.5;16.1]	5.2 [5.0;5.4]	26.2 [20.3;34.9]	12.1 [7.5;17.2]	6.2 [3.3;8.8]	1.3 [0.5;2.8]	216 [166;256]	217 [191;244]	557 [462;662]	0.1 [0.0;0.4]	0.1 [0.0;0.3]
55	$2.9 \rightarrow 2.6 \\ [0.5;5.4]$	$^{24.2 o}_{f 17.4}$ $_{[13.7;19.9]}$	$^{41.9\rightarrow}_{42.0}_{\tiny [40.1;45.5]}$	$\begin{array}{c} 9.0 \to \\ 9.2 \\ [8.2;10.0] \end{array}$	$7.6 \rightarrow 11.6$ [10.0;15.2]	6.5 [5.1;8.3]	$\begin{array}{c} 14.2 \rightarrow \\ {\bf 51.6} \\ [42.8;54.9] \end{array}$	$5.5 \rightarrow 7.5 \\ [4.0;13.9]$	$3.0 \rightarrow 7.6$ [5.2;9.0]	$0.5 \rightarrow 0.6$ $[0.5;1.0]$	$^{189 o }$ 168 $_{[110;220]}$	$167 \rightarrow 183$ [116;276]	$84 \rightarrow 85$ [52;119]	$0.2 \rightarrow \\ 0.4 \\ [0.2;0.7]$	0.5 → 0.1 [0.0;0.4]

	[1.4;8.3]	[13.5;19.1]	[40.2;50.4]	[7.5;9.9]	[10.5;16.1]	[5.0;5.4]	[20.3;34.9]	[7.5;17.2]	[3.3;8.8]	[0.5;2.8]	[166;256]	[191;244]	[462;662]	[0.0;0.4]	[0.0;0.3]
55	$2.9 \rightarrow 2.6$ $[0.5;5.4]$	$^{24.2 o}_{\begin{subarray}{c} 17.4 \\ [13.7;19.9] \end{subarray}}$	$^{41.9 o }_{42.0}$ $_{[40.1;45.5]}$	$\begin{array}{c} 9.0 \to \\ 9.2 \\ [8.2;10.0] \end{array}$	$7.6 \rightarrow 11.6$ $[10.0;15.2]$	$ \begin{array}{c} 4.2 \rightarrow \\ 6.5 \\ [5.1;8.3] \end{array} $	$14.2 \rightarrow 51.6$ $[42.8;54.9]$	$5.5 \rightarrow 7.5 \\ [4.0;13.9]$	7.6 [5.2;9.0]	$0.5 \rightarrow 0.6$ [0.5;1.0]	$^{189 o }$ 168 $_{[110;220]}$	$167 \rightarrow 183$ [116;276]	$84 \rightarrow 85$ [52;119]	$0.2 \rightarrow \\ 0.4 \\ [0.2;0.7]$	$0.5 \rightarrow 0.1$ [0.0;0.4]
64	4.0→ 4.6	21.4→ 15.3	45.6→ 45.9	11.5→ 9.5	10.3→ 10.3	4.9→ 6.1	16.5→ 37.0	6.1→ 8.6	3.4→ 6.3	0.7→ 1.1	306→ 180	167→ 220	54→ 893	0.1→ 0.1	0.2→ 0.2

8.3

7.0