



Supplemental tables

Table S1. Prevalence of metabolic syndrome (international criteria) according to fiscal years and areas stratified by gender and age category.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total										
Mountainous area	26.5	26.1	26.3	26.8	27.2	27.4	27.9	27.8	28.8	28.6
Central area	24.4	24.1	24.1	24.5	25.0	24.8	25.3	25.4	26.1	26.5
Coastal area	25.9	25.0	25.5	25.8	26.6	26.6	26.6	26.5	27.3	27.7
Evacuation area	26.8	26.1	26.7	29.0	31.1	31.7	31.9	32.2	32.9	32.6
Men										
Mountainous area	25.6	25.9	26.0	27.2	27.6	28.0	28.8	28.7	30.1	30.0
Central area	23.9	24.0	24.2	24.9	25.6	25.5	26.2	26.4	27.1	28.0
Coastal area	26.3	25.5	26.4	27.2	28.0	28.1	28.2	28.1	29.1	29.9
Evacuation area	24.7	24.6	24.9	28.0	30.4	31.2	31.6	32.3	33.2	33.3
Women										
Mountainous area	27.2	26.1	26.4	26.3	26.6	26.8	27.1	26.9	27.5	27.4
Central area	24.9	24.0	23.9	23.9	24.3	24.0	24.2	24.3	25.0	24.9
Coastal area	25.2	24.1	24.4	23.9	25.0	24.8	24.8	24.7	25.3	25.3
Evacuation area	28.9	27.6	28.5	29.9	31.9	32.1	32.2	32.3	32.5	31.7
Age <60 years										
Mountainous area	21.0	20.6	20.5	20.9	21.2	21.2	21.8	21.4	21.9	22.3
Central area	19.4	19.2	19.3	19.3	19.7	19.4	19.8	19.7	20.3	20.5
Coastal area	21.6	20.5	20.9	21.1	21.9	21.8	21.6	21.1	21.8	22.2
Evacuation area	21.3	20.6	20.7	22.6	24.7	25.1	25.1	25.0	25.5	25.6
Age ≥60 years										
Mountainous area	34.5	34.1	34.4	34.8	35.3	35.8	36.3	36.4	37.8	37.1
Central area	33.4	32.7	32.6	33.1	33.9	34.1	34.6	34.9	35.9	36.5
Coastal area	34.1	33.0	33.7	33.8	34.7	34.8	35.3	35.8	36.6	37.1
Evacuation area	33.9	33.1	34.2	36.7	39.1	39.8	40.2	41.1	41.7	41.0

Table S2. Risk ratios and 95% confidence intervals of metabolic syndrome after the Great East Japan Earthquake compared to that before the disaster (international criteria).

	2008–2010	2011	2012	2013	2014	2015	2016	2017
Total								
Mountainous area	1.00	1.02 (1.00–1.04)	1.03 (1.02–1.05)	1.04 (1.02–1.06)	1.06 (1.04–1.08)	1.06 (1.04–1.08)	1.10 (1.08–1.12)	1.09 (1.07–1.11)
Central area	1.00	1.01 (1.00–1.02)	1.03 (1.02–1.04)	1.03 (1.02–1.04)	1.04 (1.03–1.05)	1.05 (1.04–1.06)	1.08 (1.07–1.09)	1.09 (1.08–1.10)
Coastal area	1.00	1.01 (0.99–1.03)	1.05 (1.03–1.06)	1.04 (1.03–1.06)	1.04 (1.03–1.06)	1.04 (1.02–1.05)	1.07 (1.05–1.09)	1.08 (1.07–1.10)
Evacuation area	1.00	1.10 (1.07–1.13)	1.18 (1.15–1.21)	1.20 (1.17–1.23)	1.20 (1.18–1.23)	1.22 (1.19–1.24)	1.24 (1.22–1.27)	1.23 (1.20–1.25)
Men								
Mountainous area	1.00	1.05 (1.03–1.08)	1.07 (1.04–1.10)	1.08 (1.05–1.11)	1.11 (1.09–1.14)	1.11 (1.08–1.14)	1.16 (1.14–1.19)	1.16 (1.13–1.19)
Central area	1.00	1.03 (1.02–1.05)	1.06 (1.05–1.08)	1.06 (1.04–1.07)	1.08 (1.07–1.10)	1.09 (1.08–1.10)	1.12 (1.11–1.14)	1.16 (1.14–1.17)
Coastal area	1.00	1.04 (1.02–1.07)	1.07 (1.05–1.10)	1.07 (1.05–1.10)	1.08 (1.05–1.10)	1.07 (1.05–1.09)	1.11 (1.09–1.13)	1.14 (1.11–1.16)
Evacuation area	1.00	1.13 (1.09–1.17)	1.23 (1.19–1.27)	1.26 (1.22–1.30)	1.27 (1.23–1.31)	1.30 (1.26–1.34)	1.33 (1.29–1.37)	1.33 (1.30–1.38)
Women								
Mountainous area	1.00	0.99 (0.97–1.02)	1.01 (0.98–1.03)	1.01 (0.99–1.04)	1.02 (1.00–1.05)	1.02 (0.99–1.04)	1.04 (1.02–1.07)	1.04 (1.01–1.07)
Central area	1.00	0.99 (0.98–1.01)	1.01 (0.99–1.02)	0.99 (0.98–1.01)	1.00 (0.99–1.02)	1.01 (0.99–1.02)	1.04 (1.02–1.05)	1.03 (1.02–1.04)
Coastal area	1.00	0.97 (0.95–1.00)	1.02 (0.99–1.05)	1.01 (0.99–1.04)	1.01 (0.98–1.03)	1.00 (0.98–1.03)	1.03 (1.01–1.06)	1.03 (1.00–1.06)
Evacuation area	1.00	1.06 (1.02–1.10)	1.13 (1.10–1.17)	1.14 (1.11–1.18)	1.14 (1.11–1.18)	1.15 (1.11–1.18)	1.16 (1.12–1.19)	1.13 (1.09–1.16)
Age <60 years								
Mountainous area	1.00	1.01 (0.99–1.04)	1.02 (1.00–1.05)	1.03 (1.00–1.05)	1.06 (1.03–1.08)	1.03 (1.01–1.06)	1.06 (1.03–1.09)	1.08 (1.05–1.11)
Central area	1.00	1.00 (0.99–1.02)	1.02 (1.01–1.03)	1.01 (0.99–1.02)	1.03 (1.01–1.04)	1.02 (1.01–1.04)	1.05 (1.04–1.06)	1.07 (1.05–1.08)
Coastal area	1.00	1.00 (0.98–1.03)	1.04 (1.02–1.07)	1.04 (1.01–1.06)	1.03 (1.00–1.05)	1.00 (0.98–1.03)	1.04 (1.02–1.06)	1.06 (1.04–1.08)
Evacuation area	1.00	1.08 (1.04–1.12)	1.18 (1.14–1.22)	1.20 (1.16–1.24)	1.21 (1.17–1.25)	1.20 (1.16–1.24)	1.22 (1.19–1.27)	1.23 (1.19–1.27)
Age ≥60 years								
Mountainous area	1.00	1.01 (0.99–1.04)	1.03 (1.00–1.06)	1.04 (1.02–1.07)	1.06 (1.03–1.08)	1.06 (1.04–1.09)	1.10 (1.08–1.13)	1.08 (1.06–1.11)
Central area	1.00	1.01 (0.99–1.02)	1.03 (1.02–1.05)	1.04 (1.02–1.05)	1.05 (1.04–1.07)	1.06 (1.05–1.08)	1.09 (1.08–1.11)	1.11 (1.09–1.12)
Coastal area	1.00	1.01 (0.98–1.03)	1.03 (1.01–1.06)	1.04 (1.01–1.06)	1.05 (1.03–1.08)	1.06 (1.04–1.09)	1.09 (1.06–1.11)	1.10 (1.08–1.13)
Evacuation area	1.00	1.09 (1.05–1.13)	1.16 (1.12–1.20)	1.18 (1.14–1.21)	1.19 (1.16–1.23)	1.22 (1.18–1.25)	1.24 (1.20–1.27)	1.21 (1.18–1.25)

Table S3. Risk ratios and 95% confidence intervals of metabolic syndrome (international criteria) for the evacuation area compared with the mountainous area in 2008–2017.

	2008	2009	2010	2011	2012
Total					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.96 (0.94–0.98)	0.96 (0.94–0.98)	0.95 (0.94–0.97)	0.95 (0.93–0.97)	0.95 (0.94–0.97)
Coastal area	1.02 (1.00–1.04)	1.00 (0.98–1.02)	1.01 (0.99–1.04)	1.00 (0.98–1.02)	1.02 (1.00–1.04)

Evacuation area	1.00 (0.97–1.02)	0.99 (0.96–1.01)	1.00 (0.98–1.03)	1.07 (1.04–1.10)	1.13 (1.10–1.16)
Men					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.95 (0.92–0.98)	0.94 (0.92–0.97)	0.95 (0.93–0.98)	0.93 (0.91–0.96)	0.94 (0.92–0.97)
Coastal area	1.05 (1.02–1.09)	1.01 (0.97–1.04)	1.04 (1.01–1.07)	1.03 (1.00–1.06)	1.04 (1.01–1.07)
Evacuation area	0.96 (0.92–1.00)	0.94 (0.91–0.98)	0.95 (0.92–0.99)	1.02 (0.99–1.06)	1.09 (1.05–1.13)
Women					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.97 (0.95–1.00)	0.97 (0.95–1.00)	0.96 (0.94–0.99)	0.96 (0.94–0.99)	0.97 (0.94–0.99)
Coastal area	0.98 (0.95–1.01)	0.97 (0.94–1.01)	0.97 (0.94–1.00)	0.96 (0.92–0.99)	0.98 (0.95–1.02)
Evacuation area	1.05 (1.01–1.09)	1.05 (1.01–1.08)	1.07 (1.03–1.11)	1.13 (1.08–1.17)	1.18 (1.14–1.23)
Age <60 years					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.92 (0.89–0.94)	0.92 (0.90–0.95)	0.93 (0.90–0.96)	0.91 (0.89–0.94)	0.92 (0.89–0.94)
Coastal area	1.01 (0.98–1.05)	0.98 (0.95–1.01)	1.00 (0.97–1.04)	0.99 (0.96–1.02)	1.01 (0.98–1.04)
Evacuation area	1.01 (0.97–1.05)	1.00 (0.96–1.04)	1.01 (0.97–1.05)	1.07 (1.03–1.11)	1.16 (1.11–1.20)
Age ≥60 years					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.98 (0.95–1.00)	0.97 (0.94–0.99)	0.95 (0.93–0.98)	0.96 (0.93–0.98)	0.96 (0.94–0.99)
Coastal area	1.00 (0.96–1.03)	0.97 (0.94–1.01)	0.99 (0.96–1.02)	0.98 (0.95–1.01)	0.99 (0.96–1.02)
Evacuation area	0.99 (0.96–1.03)	0.98 (0.95–1.02)	1.00 (0.97–1.04)	1.06 (1.02–1.10)	1.11 (1.08–1.15)

	2013	2014	2015	2016	2017
Total					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.94 (0.93–0.96)	0.94 (0.92–0.95)	0.95 (0.93–0.96)	0.94 (0.93–0.96)	0.96 (0.94–0.97)
Coastal area	1.01 (0.99–1.03)	0.99 (0.97–1.01)	0.99 (0.97–1.01)	0.98 (0.97–1.00)	1.00 (0.98–1.02)
Evacuation area	1.14 (1.11–1.17)	1.12 (1.10–1.15)	1.14 (1.11–1.17)	1.12 (1.10–1.15)	1.11 (1.09–1.14)
Men					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.93 (0.91–0.96)	0.93 (0.91–0.95)	0.94 (0.92–0.96)	0.92 (0.90–0.94)	0.96 (0.94–0.98)
Coastal area	1.03 (1.00–1.06)	1.01 (0.98–1.03)	1.01 (0.98–1.03)	0.99 (0.97–1.02)	1.03 (1.00–1.05)
Evacuation area	1.10 (1.07–1.14)	1.08 (1.05–1.12)	1.11 (1.07–1.14)	1.09 (1.05–1.12)	1.09 (1.06–1.13)
Women					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.95 (0.93–0.97)	0.94 (0.92–0.97)	0.96 (0.93–0.98)	0.96 (0.94–0.98)	0.96 (0.93–0.98)
Coastal area	0.97 (0.94–1.00)	0.96 (0.93–0.99)	0.96 (0.93–0.99)	0.96 (0.93–0.99)	0.96 (0.93–0.99)
Evacuation area	1.19 (1.14–1.23)	1.17 (1.13–1.21)	1.18 (1.14–1.22)	1.16 (1.12–1.20)	1.14 (1.10–1.18)
Age <60 years					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.90 (0.88–0.93)	0.90 (0.87–0.92)	0.91 (0.89–0.93)	0.91 (0.89–0.93)	0.91 (0.89–0.93)
Coastal area	1.01 (0.97–1.04)	0.97 (0.94–1.00)	0.96 (0.94–0.99)	0.97 (0.94–1.00)	0.98 (0.95–1.00)
Evacuation area	1.17 (1.13–1.22)	1.15 (1.11–1.19)	1.16 (1.12–1.20)	1.16 (1.12–1.20)	1.14 (1.10–1.18)
Age ≥60 years					
Mountainous area	1.00	1.00	1.00	1.00	1.00
Central area	0.95 (0.93–0.98)	0.96 (0.93–0.98)	0.96 (0.94–0.99)	0.95 (0.93–0.97)	0.99 (0.96–1.01)
Coastal area	0.98 (0.95–1.00)	0.98 (0.95–1.01)	0.99 (0.96–1.01)	0.97 (0.95–1.00)	1.00 (0.98–1.03)
Evacuation area	1.11 (1.08–1.15)	1.11 (1.08–1.15)	1.13 (1.10–1.17)	1.11 (1.07–1.14)	1.11 (1.08–1.14)