ATTACHMENT A-15

ESTIMATES OF ABSORBED DOSE TO RED BONE MARROW OF PEOPLE IN JAPAN FOR THE FIRST YEAR AFTER THE ACCIDENT AT THE FUKUSHIMA DAIICHI NUCLEAR POWER STATION

UNSCEAR 2020/2021 Report, Annex B, Levels and effects of radiation exposure due to the accident at the Fukushima Daiichi Nuclear Power Station: implications of information published since the UNSCEAR 2013 Report

Contents

This attachment details all the summary tables for the Committee's estimates of absorbed doses to the red bone marrow of people across Japan for the first year after the Fukushima-Daiichi Nuclear Power Station accident. These summaries are provided for each age group (adults, 10-year-old children, 1-year-old infants and in utero) for non-evacuated municipalities within Fukushima Prefecture, for adults, 10-year-old children and 1-year-old infants in some municipalities within some of the neighbouring prefectures (Ibaraki, Miyagi, Tochigi and Yamagata) and for prefectures in the rest of Japan.

The population data are taken from the Japan Census [MIC, 2011].

Notes

For consistency, doses in this attachment are quoted, in general, to two significant figures. This should not be interpreted as an indication of their precision that is often much less.

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This publication has not been formally edited.

Table A-15.1. Absorbed doses to the red bone marrow of adults in the first year for Fukushima Prefecture (excluding evacuated areas)

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of adults (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Fukushima Prefecture									
Aizubange Machi	17 918	39 454	<0.001	0.63	<0.001	0.019	0.65	0.35	1.1
Aizumisato Machi	24 631	14 523	<0.001	0.25	<0.001	0.019	0.26	0.14	0.43
Aizuwakamatsu Shi	131 928	24 878	<0.001	0.49	<0.001	0.019	0.50	0.27	0.83
Asakawa Machi	7 402	23 748	0.001	0.40	0.001	0.019	0.42	0.23	0.70
Bandai Machi	4 293	22 201	<0.001	0.42	<0.001	0.019	0.44	0.24	0.72
Date Shi	69 963	147 228	0.007	2.3	0.010	0.019	2.3	1.2	3.9
Fukushima Shi	296 181	228 498	0.006	3.5	0.007	0.019	3.5	1.9	5.8
Furudono Machi	6 374	21 963	0.002	0.36	0.002	0.019	0.38	0.21	0.63
Hanawa Machi	10 663	19 976	0.002	0.34	0.002	0.019	0.36	0.19	0.59
Hinoemata Mura	696	2 434	<0.001	0.042	<0.001	0.019	0.06	0.03	0.11
Hirata Mura	7 595	19 296	0.001	0.34	0.001	0.019	0.36	0.19	0.59
Inawashiro Machi	16 982	24 633	0.001	0.39	0.001	0.019	0.41	0.22	0.67
Ishikawa Machi	19 175	11 789	0.001	0.19	0.001	0.019	0.21	0.11	0.35
Iwaki Shi	354 297	26 385	0.008	0.69	0.013	0.019	0.73	0.39	1.2
Izumizaki Mura	6 949	55 888	0.001	0.87	0.001	0.019	0.89	0.48	1.5
Kagamiishi Machi	13 651	56 530	0.001	0.89	0.001	0.019	0.91	0.49	1.5
Kaneyama Machi	2 871	3 161	<0.001	0.046	<0.001	0.019	0.064	0.035	0.11
Kawamata Machi	16 847	93 168	0.004	1.5	0.004	0.019	1.5	0.80	2.5
Kitakata Shi	55 824	20 684	<0.001	0.36	<0.001	0.019	0.38	0.20	0.62
Kitashiobara Mura	3 791	49 371	<0.001	0.79	<0.001	0.019	0.81	0.44	1.3
Koori Machi	14 708	208 246	0.009	3.1	0.011	0.019	3.1	1.7	5.2
Koriyama Shi	341 781	162 070	0.001	2.4	0.001	0.019	2.4	1.3	4.1
Kunimi Machi	9 952	88 661	0.005	1.4	0.007	0.019	1.4	0.76	2.3
Miharu Machi	17 942	83 919	0.001	1.3	0.001	0.019	1.3	0.71	2.2
Minamiaizu Machi	19 896	5 101	<0.001	0.084	<0.001	0.019	0.10	0.055	0.17
Minamisoma Shi	40 941	109 472	0.035	1.7	0.049	0.019	1.8	0.94	3.0
Mishima Machi	2 213	13 560	<0.001	0.22	<0.001	0.019	0.24	0.13	0.39
Motomiya Shi	30 771	128 097	0.001	1.9	0.001	0.019	2.0	1.1	3.3
Nakajima Mura	4 865	25 332	0.001	0.43	0.001	0.019	0.45	0.24	0.73
Nihonmatsu Shi	63 751	197 153	0.003	2.9	0.003	0.019	2.9	1.6	4.8
Nishiaizu Machi	8 237	6 193	<0.001	0.10	<0.001	0.019	0.12	0.06	0.19
Nishigo Mura	18 615	96 014	0.001	1.4	0.001	0.019	1.5	0.78	2.4
Ono Machi	11 983	21 434	0.002	0.35	0.002	0.019	0.38	0.20	0.62
Otama Mura	8 130	162 855	0.002	2.5	0.002	0.019	2.5	1.3	4.1

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of adults (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Samegawa Mura	4 259	21 146	0.002	0.37	0.002	0.019	0.39	0.21	0.64
Shimogo Machi	7 010	3 376	<0.001	0.18	<0.001	0.019	0.20	0.11	0.33
Shinchi Machi	9 039	55 233	0.013	0.89	0.019	0.019	0.94	0.50	1.5
Shirakawa Shi	66 544	71 676	0.001	1.2	0.001	0.019	1.2	0.66	2.0
Showa Mura	1 632	12 200	<0.001	0.20	<0.001	0.019	0.22	0.12	0.36
Soma Shi	38 187	54 612	0.018	0.86	0.025	0.019	0.92	0.49	1.5
Sukagawa Shi	78 819	73 261	0.001	1.1	0.001	0.019	1.2	0.63	1.9
Tadami Machi	5 277	5 311	<0.001	0.12	<0.001	0.019	0.14	0.073	0.22
Tamakawa Mura	7 295	15 751	0.001	0.26	0.001	0.019	0.28	0.15	0.45
Tamura Shi	40231	34945	0.002	0.57	0.002	0.019	0.59	0.31	1.0
Tanagura Machi	15 702	45 108	0.003	0.70	0.003	0.019	0.72	0.39	1.2
Ten-ei Mura	6 589	115 367	0.001	1.7	0.001	0.019	1.7	0.9	2.9
Yabuki Machi	18 688	33 530	<0.001	0.57	0.001	0.019	0.59	0.32	1.0
Yamatsuri Machi	6 821	6 324	<0.001	0.26	<0.001	0.019	0.28	0.15	0.46
Yanaizu Machi	4 263	12 995	<0.001	0.21	<0.001	0.019	0.23	0.12	0.38
Yugawa Mura	3 455	37 400	<0.001	0.60	<0.001	0.019	0.62	0.33	1.0

Table A-15.2. Absorbed doses to the red bone marrow of 10-year-old children in the first year after the accident for Fukushima Prefecture (excluding evacuated areas)

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 10-year-old children (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Fukushima Prefecture									
Aizubange Machi	17 918	39 454	<0.001	0.76	<0.001	0.012	0.77	0.42	1.3
Aizumisato Machi	24 631	14 523	<0.001	0.30	<0.001	0.012	0.31	0.17	0.51
Aizuwakamatsu Shi	131 928	24 878	<0.001	0.59	<0.001	0.012	0.61	0.33	1.0
Asakawa Machi	7 402	23 748	0.001	0.49	0.001	0.012	0.50	0.27	0.83
Bandai Machi	4 293	22 201	<0.001	0.51	<0.001	0.012	0.52	0.28	0.86
Date Shi	69 963	147 228	0.008	2.8	0.006	0.012	2.8	1.5	4.6
Fukushima Shi	296 181	228 498	0.006	4.2	0.005	0.012	4.2	2.3	6.9
Furudono Machi	6 374	21 963	0.002	0.44	0.002	0.012	0.45	0.24	0.74
Hanawa Machi	10 663	19 976	0.002	0.41	0.001	0.012	0.42	0.23	0.69
Hinoemata Mura	696	2 434	<0.001	0.050	<0.001	0.012	0.062	0.033	0.10
Hirata Mura	7 595	19 296	0.001	0.41	0.001	0.012	0.43	0.23	0.70
Inawashiro Machi	16 982	24 633	0.001	0.47	0.001	0.012	0.48	0.26	0.80
Ishikawa Machi	19 175	11 789	0.001	0.23	<0.001	0.012	0.25	0.13	0.40
Iwaki Shi	354 297	26 385	0.009	0.85	0.008	0.012	0.87	0.47	1.4
Izumizaki Mura	6 949	55 888	0.001	1.1	0.001	0.012	1.1	0.6	1.8
Kagamiishi Machi	13 651	56 530	0.001	1.1	0.001	0.012	1.1	0.6	1.8
Kaneyama Machi	2 871	3 161	<0.001	0.056	<0.001	0.012	0.067	0.036	0.11
Kawamata Machi	16 847	93 168	0.004	1.8	0.003	0.012	1.8	1.0	3.0
Kitakata Shi	55 824	20 684	<0.001	0.44	<0.001	0.012	0.45	0.24	0.74
Kitashiobara Mura	3 791	49 371	0.001	0.96	<0.001	0.012	1.0	0.5	1.6
Koori Machi	14 708	208 246	0.010	3.7	0.008	0.012	3.8	2.0	6.2
Koriyama Shi	341 781	162 070	0.001	2.9	0.001	0.012	2.9	1.6	4.9
Kunimi Machi	9 952	88 661	0.006	1.7	0.005	0.012	1.7	0.9	2.8
Miharu Machi	17 942	83 919	0.001	1.6	0.001	0.012	1.6	0.9	2.6
Minamiaizu Machi	19 896	5 101	<0.001	0.10	<0.001	0.012	0.11	0.06	0.18
Minamisoma Shi	40 941	109 472	0.039	2.0	0.032	0.012	2.1	1.1	3.5
Mishima Machi	2 213	13 560	<0.001	0.27	<0.001	0.012	0.28	0.15	0.45
Motomiya Shi	30 771	128 097	0.001	2.3	0.001	0.012	2.4	1.3	3.9
Nakajima Mura	4 865	25 332	0.001	0.52	<0.001	0.012	0.53	0.29	0.87
Nihonmatsu Shi	63 751	197 153	0.003	3.5	0.002	0.012	3.5	1.9	5.8
Nishiaizu Machi	8 237	6 193	<0.001	0.12	<0.001	0.012	0.13	0.070	0.21
Nishigo Mura	18 615	96 014	0.001	1.7	0.001	0.012	1.8	0.94	2.9

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 10-year-old children (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Ono Machi	11 983	21 434	0.002	0.43	0.001	0.012	0.44	0.24	0.73
Otama Mura	8 130	162 855	0.002	3.0	0.001	0.012	3.0	1.6	4.9
Samegawa Mura	4 259	21 146	0.002	0.45	0.001	0.012	0.46	0.25	0.76
Shimogo Machi	7 010	3 376	<0.001	0.23	<0.001	0.012	0.24	0.13	0.39
Shinchi Machi	9 039	55 233	0.015	1.1	0.012	0.012	1.1	0.60	1.8
Shirakawa Shi	66 544	71 676	0.001	1.5	0.001	0.012	1.5	0.79	2.4
Showa Mura	1 632	12 200	<0.001	0.24	<0.001	0.012	0.25	0.14	0.42
Soma Shi	38 187	54 612	0.020	1.0	0.016	0.012	1.1	0.58	1.8
Sukagawa Shi	78 819	73 261	0.001	1.4	0.001	0.012	1.4	0.75	2.3
Tadami Machi	5 277	5 311	<0.001	0.15	<0.001	0.012	0.16	0.084	0.26
Tamakawa Mura	7 295	15 751	0.001	0.31	<0.001	0.012	0.32	0.17	0.53
Tamura Shi	40231	34945	0.002	0.687	0.001	0.012	0.70	0.38	1.2
Tanagura Machi	15 702	45 108	0.003	0.84	0.002	0.012	0.86	0.46	1.4
Ten-ei Mura	6 589	115 367	0.001	2.1	0.001	0.012	2.1	1.1	3.5
Yabuki Machi	18 688	33 530	0.001	0.69	<0.001	0.012	0.70	0.38	1.2
Yamatsuri Machi	6 821	6 324	<0.001	0.33	<0.001	0.012	0.34	0.18	0.55
Yanaizu Machi	4 263	12 995	<0.001	0.26	<0.001	0.012	0.27	0.14	0.44
Yugawa Mura	3 455	37 400	<0.001	0.73	<0.001	0.012	0.74	0.40	1.2

Table A-15.3. Absorbed doses to the red bone marrow of 1-year-old infants in the first year after the accident for Fukushima Prefecture (excluding evacuated areas)

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 1-year-old infants (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Fukushima Prefecture									
Aizubange Machi	17 918	39 454	<0.001	0.86	<0.001	0.007	0.87	0.46	1.4
Aizumisato Machi	24 631	14 523	<0.001	0.34	<0.001	0.007	0.34	0.18	0.57
Aizuwakamatsu Shi	131 928	24 878	<0.001	0.67	<0.001	0.007	0.68	0.36	1.1
Asakawa Machi	7 402	23 748	0.001	0.56	<0.001	0.007	0.57	0.30	0.94
Bandai Machi	4 293	22 201	<0.001	0.58	<0.001	0.007	0.59	0.31	0.98
Date Shi	69 963	147 228	0.009	3.1	0.004	0.007	3.2	1.7	5.3
Fukushima Shi	296 181	228 498	0.007	4.7	0.003	0.007	4.7	2.5	7.9
Furudono Machi	6 374	21 963	0.003	0.50	0.001	0.007	0.51	0.27	0.84
Hanawa Machi	10 663	19 976	0.002	0.46	0.001	0.007	0.47	0.25	0.78
Hinoemata Mura	696	2 434	<0.001	0.057	<0.001	0.007	0.064	0.034	0.11
Hirata Mura	7 595	19 296	0.002	0.47	0.001	0.007	0.48	0.26	0.79
Inawashiro Machi	16 982	24 633	0.001	0.53	0.001	0.007	0.54	0.29	0.90
Ishikawa Machi	19 175	11 789	0.001	0.26	<0.001	0.007	0.27	0.15	0.45
Iwaki Shi	354 297	26 385	0.010	0.96	0.004	0.007	1.0	0.52	1.6
Izumizaki Mura	6 949	55 888	0.001	1.2	<0.001	0.007	1.2	0.64	2.0
Kagamiishi Machi	13 651	56 530	0.001	1.2	<0.001	0.007	1.2	0.66	2.0
Kaneyama Machi	2 871	3 161	<0.001	0.063	<0.001	0.007	0.070	0.037	0.11
Kawamata Machi	16 847	93 168	0.005	2.0	0.002	0.007	2.0	1.1	3.4
Kitakata Shi	55 824	20 684	<0.001	0.49	<0.001	0.007	0.50	0.27	0.83
Kitashiobara Mura	3 791	49 371	0.001	1.1	<0.001	0.007	1.1	0.59	1.8
Koori Machi	14 708	208 246	0.011	4.2	0.005	0.007	4.3	2.3	7.1
Koriyama Shi	341 781	162 070	0.002	3.3	0.001	0.007	3.3	1.8	5.5
Kunimi Machi	9 952	88 661	0.007	1.9	0.003	0.007	1.9	1.0	3.2
Miharu Machi	17 942	83 919	0.001	1.8	<0.001	0.007	1.8	1.0	3.0
Minamiaizu Machi	19 896	5 101	<0.001	0.12	<0.001	0.007	0.12	0.065	0.20
Minamisoma Shi	40 941	109 472	0.044	2.3	0.018	0.007	2.4	1.3	3.9
Mishima Machi	2 213	13 560	<0.001	0.30	<0.001	0.007	0.31	0.16	0.51
Motomiya Shi	30 771	128 097	0.001	2.7	0.001	0.007	2.7	1.4	4.4
Nakajima Mura	4 865	25 332	0.001	0.59	<0.001	0.007	0.60	0.32	1.0
Nihonmatsu Shi	63 751	197 153	0.004	3.9	0.002	0.007	4.0	2.1	6.6
Nishiaizu Machi	8 237	6 193	<0.001	0.13	<0.001	0.007	0.14	0.075	0.23
Nishigo Mura	18 615	96 014	0.001	2.0	<0.001	0.007	2.0	1.1	3.3
Ono Machi	11 983	21 434	0.002	0.49	0.001	0.007	0.50	0.26	0.82

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 1-year-old infants (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Otama Mura	8 130	162 855	0.002	3.3	0.001	0.007	3.4	1.8	5.6
Samegawa Mura	4 259	21 146	0.002	0.51	0.001	0.007	0.52	0.28	0.86
Shimogo Machi	7 010	3 376	<0.001	0.26	<0.001	0.007	0.27	0.14	0.45
Shinchi Machi	9 039	55 233	0.017	1.2	0.007	0.007	1.3	0.67	2.1
Shirakawa Shi	66 544	71 676	0.001	1.6	0.001	0.007	1.7	0.89	2.8
Showa Mura	1 632	12 200	<0.001	0.28	<0.001	0.007	0.28	0.15	0.47
Soma Shi	38 187	54 612	0.023	1.2	0.009	0.007	1.2	0.64	2.0
Sukagawa Shi	78 819	73 261	0.001	1.6	<0.001	0.007	1.6	0.84	2.6
Tadami Machi	5 277	5 311	<0.001	0.17	<0.001	0.007	0.17	0.092	0.28
Tamakawa Mura	7 295	15 751	0.001	0.35	<0.001	0.007	0.36	0.19	0.60
Tamura Shi	40231	34945	0.00	0.78	0.001	0.007	0.79	0.42	1.3
Tanagura Machi	15 702	45 108	0.003	0.96	0.001	0.007	0.97	0.52	1.6
Ten-ei Mura	6 589	115 367	0.002	2.3	0.001	0.007	2.4	1.3	3.9
Yabuki Machi	18 688	33 530	0.001	0.78	<0.001	0.007	0.79	0.42	1.3
Yamatsuri Machi	6 821	6 324	<0.001	0.37	<0.001	0.007	0.38	0.20	0.62
Yanaizu Machi	4 263	12 995	<0.001	0.29	<0.001	0.007	0.30	0.16	0.49
Yugawa Mura	3 455	37 400	<0.001	0.83	<0.001	0.007	0.84	0.45	1.4

Table A-15.4. Absorbed doses to the red bone marrow of adults in the first year after the accident for prefectures neighbouring Fukushima Prefecture

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of adults (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Ibaraki Prefecture									
Daigo Machi	22 077	9 233	0.001	0.16	0.001	0.004	0.16	0.087	0.27
Hitachi Shi	14 753	27 366	0.007	0.45	0.012	0.004	0.47	0.25	0.78
Hitachiomiya Shi	2 512	8 220	<0.001	0.14	0.001	0.004	0.14	0.078	0.24
Hitachiota Shi	5 188	6 358	<0.001	0.13	0.001	0.004	0.13	0.072	0.22
Kitaibaraki Shi	49 847	16 821	0.003	0.48	0.006	0.004	0.50	0.27	0.83
Takahagi Shi	32 207	26 854	0.007	0.70	0.012	0.004	0.72	0.39	1.2
Miyagi Ken									
Higashimatsushima Shi	43 611	7 050	0.006	0.12	0.008	0.004	0.14	0.07	0.23
Iwanuma Shi	42 842	16 081	0.003	0.27	0.008	0.004	0.29	0.15	0.47
Kakuda Shi	33 783	37 016	0.003	0.60	0.005	0.004	0.61	0.33	1.0
Kawasaki Machi	10 517	9 496	0.001	0.17	0.001	0.004	0.17	0.092	0.29
Marumori Machi	16 632	49 610	0.003	0.83	0.004	0.004	0.84	0.45	1.4
Murata Machi	12 390	14 629	0.001	0.25	0.001	0.004	0.25	0.13	0.42
Natori Shi	75 306	14 709	0.004	0.34	0.008	0.004	0.35	0.19	0.59
Ogawara Machi	23 398	33 604	0.001	0.55	0.002	0.004	0.55	0.30	0.92
Rifu Cho	32 611	14 720	0.006	0.24	0.008	0.004	0.26	0.14	0.42
Sendai Shi	1 014 208	10 674	0.001	0.18	0.001	0.004	0.18	0.10	0.30
Shibata Machi	39 490	29 017	0.002	0.46	0.003	0.004	0.47	0.25	0.78
Shichigahama Machi	22 259	7 680	0.003	0.13	0.004	0.004	0.14	0.076	0.23
Shichikashuku Machi	1 871	9 264	0.001	0.17	0.001	0.004	0.17	0.093	0.29
Shiogama Shi	56 266	13 640	0.006	0.23	0.007	0.004	0.25	0.13	0.41
Shiroishi Shi	39 696	31 054	0.001	0.50	0.001	0.004	0.50	0.27	0.84
Tagajo Shi	64 922	15 380	0.006	0.26	0.007	0.004	0.27	0.15	0.45
Watari Cho	35 776	26 777	0.006	0.43	0.011	0.004	0.46	0.24	0.76
Yamamoto Cho	17 248	42 626	0.011	0.65	0.016	0.004	0.68	0.36	1.1
Zao Machi	13 073	18 296	0.002	0.31	0.002	0.004	0.31	0.17	0.52
Tochigi Ken									
Nakagawa Machi	19 903	18 800	0.002	0.31	0.002	0.004	0.32	0.17	0.52
Nasu Machi	26 691	51 525	0.001	0.83	0.001	0.004	0.83	0.44	1.4
Nasushiobara Shi	118 463	52 368	0.001	0.87	0.001	0.004	0.88	0.47	1.5
Nikko Shi	85 261	7 203	<0.001	0.26	<0.001	0.004	0.27	0.14	0.44
Otawara Shi	75 385	23 434	0.001	0.43	0.002	0.004	0.44	0.24	0.73

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of adults (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Yamagata Ken									
Kaminoyama Shi	36 118	4 240	<0.001	0.093	<0.001	0.004	0.097	0.052	0.16
Nan-yo Shi	35 110	5 580	<0.001	0.081	<0.001	0.004	0.086	0.046	0.14
Takahata Machi	26 358	4 540	0.001	0.074	0.001	0.004	0.080	0.043	0.13
Yamagata Shi	257 936	5 880	<0.001	0.10	<0.001	0.004	0.11	0.057	0.18
Yonezawa Shi	92 876	3 434	0.001	0.086	<0.001	0.004	0.091	0.049	0.15

Table A-15.5. Absorbed doses to the red bone marrow of 10-year-old children in the first year after the accident for prefectures neighbouring Fukushima Prefecture

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 10-year-old children (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Ibaraki Prefecture									
Daigo Machi	22 077	9 233	0.001	0.19	<0.001	0.003	0.19	0.10	0.32
Hitachi Shi	14 753	27 366	0.008	0.55	0.007	0.003	0.57	0.30	0.93
Hitachiomiya Shi	2 512	8 220	<0.001	0.17	<0.001	0.003	0.17	0.093	0.29
Hitachiota Shi	5 188	6 358	<0.001	0.16	<0.001	0.003	0.16	0.09	0.27
Kitaibaraki Shi	49 847	16 821	0.004	0.59	0.003	0.003	0.60	0.32	1.0
Takahagi Shi	32 207	26 854	0.008	0.86	0.007	0.003	0.88	0.47	1.4
Miyagi Ken									
Higashimatsushima Shi	43 611	7 050	0.007	0.15	0.005	0.003	0.16	0.088	0.27
Iwanuma Shi	42 842	16 081	0.004	0.33	0.005	0.003	0.34	0.18	0.56
Kakuda Shi	33 783	37 016	0.004	0.72	0.003	0.003	0.73	0.39	1.2
Kawasaki Machi	10 517	9 496	0.001	0.20	0.001	0.003	0.21	0.11	0.34
Marumori Machi	16 632	49 610	0.004	1.0	0.003	0.003	1.0	0.54	1.7
Murata Machi	12 390	14 629	0.001	0.30	0.001	0.003	0.30	0.16	0.50
Natori Shi	75 306	14 709	0.004	0.42	0.005	0.003	0.43	0.23	0.70
Ogawara Machi	23 398	33 604	0.002	0.66	0.002	0.003	0.67	0.36	1.1
Rifu Cho	32 611	14 720	0.007	0.29	0.005	0.003	0.31	0.16	0.50
Sendai Shi	1 014 208	10 674	0.001	0.21	0.001	0.003	0.22	0.12	0.36
Shibata Machi	39 490	29 017	0.002	0.56	0.002	0.003	0.56	0.30	0.93
Shichigahama Machi	22 259	7 680	0.004	0.16	0.003	0.003	0.17	0.091	0.27
Shichikashuku Machi	1 871	9 264	0.001	0.20	<0.001	0.003	0.21	0.11	0.34
Shiogama Shi	56 266	13 640	0.006	0.28	0.005	0.003	0.29	0.16	0.48
Shiroishi Shi	39 696	31 054	0.001	0.60	0.001	0.003	0.61	0.33	1.0
Tagajo Shi	64 922	15 380	0.006	0.31	0.005	0.003	0.33	0.18	0.54
Watari Cho	35 776	26 777	0.007	0.52	0.007	0.003	0.54	0.29	0.89
Yamamoto Cho	17 248	42 626	0.012	0.79	0.010	0.003	0.81	0.43	1.3
Zao Machi	13 073	18 296	0.002	0.37	0.002	0.003	0.38	0.20	0.62
Tochigi Ken									
Nakagawa Machi	19 903	18 800	0.002	0.37	0.002	0.003	0.38	0.20	0.62
Nasu Machi	26 691	51 525	0.001	1.0	<0.001	0.003	1.0	0.54	1.7
Nasushiobara Shi	118 463	52 368	0.001	1.1	0.001	0.003	1.1	0.57	1.8
Nikko Shi	85 261	7 203	<0.001	0.33	<0.001	0.003	0.33	0.18	0.55
Otawara Shi	75 385	23 434	0.002	0.53	0.001	0.003	0.53	0.29	0.88

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 10-year-old children (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Yamagata Ken									
Kaminoyama Shi	36 118	5 580	<0.001	0.11	<0.001	0.003	0.12	0.062	0.19
Nan-yo Shi	35 110	4 540	<0.001	0.10	<0.001	0.003	0.10	0.055	0.17
Takahata Machi	26 358	4 240	0.001	0.090	0.001	0.003	0.095	0.051	0.15
Yamagata Shi	257 936	5 880	<0.001	0.12	<0.001	0.003	0.13	0.069	0.21
Yonezawa Shi	92 876	3 434	0.001	0.11	<0.001	0.003	0.11	0.060	0.18

Table A-15.6. Absorbed doses to the red bone marrow of 1-year-old infants in the first year after the accident for prefectures neighbouring Fukushima Prefecture

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 1-year-old infants (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Ibaraki Prefecture									
Daigo Machi	22 077	9 233	0.001	0.22	<0.001	0.002	0.22	0.11	0.36
Hitachi Shi	14 753	27 366	0.008	0.62	0.004	0.002	0.64	0.33	1.1
Hitachiomiya Shi	2 512	8 220	0.001	0.19	<0.001	0.002	0.19	0.10	0.32
Hitachiota Shi	5 188	6 358	0.001	0.18	<0.001	0.002	0.18	0.10	0.30
Kitaibaraki Shi	49 847	16 821	0.004	0.67	0.002	0.002	0.68	0.36	1.1
Takahagi Shi	32 207	26 854	0.008	0.97	0.004	0.002	0.99	0.52	1.6
Miyagi Ken									
Higashimatsushima Shi	43 611	7 050	0.008	0.17	0.003	0.002	0.18	0.09	0.30
Iwanuma Shi	42 842	16 081	0.004	0.38	0.002	0.002	0.38	0.20	0.64
Kakuda Shi	33 783	37 016	0.004	0.82	0.002	0.002	0.83	0.43	1.4
Kawasaki Machi	10 517	9 496	0.001	0.23	<0.001	0.002	0.23	0.12	0.39
Marumori Machi	16 632	49 610	0.004	1.1	0.002	0.002	1.1	0.60	1.9
Murata Machi	12 390	14 629	0.001	0.34	<0.001	0.002	0.34	0.18	0.57
Natori Shi	75 306	14 709	0.005	0.47	0.002	0.002	0.48	0.25	0.80
Ogawara Machi	23 398	33 604	0.002	0.75	0.001	0.002	0.75	0.39	1.3
Rifu Cho	32 611	14 720	0.008	0.33	0.003	0.002	0.34	0.18	0.56
Sendai Shi	1 014 208	10 674	0.001	0.24	<0.001	0.002	0.25	0.13	0.41
Shibata Machi	39 490	29 017	0.002	0.63	0.001	0.002	0.64	0.33	1.1
Shichigahama Machi	22 259	7 680	0.004	0.18	0.002	0.002	0.19	0.10	0.31
Shichikashuku Machi	1 871	9 264	0.001	0.23	<0.001	0.002	0.23	0.12	0.39
Shiogama Shi	56 266	13 640	0.007	0.32	0.003	0.002	0.33	0.17	0.54
Shiroishi Shi	39 696	31 054	0.001	0.68	<0.001	0.002	0.69	0.36	1.1
Tagajo Shi	64 922	15 380	0.007	0.35	0.003	0.002	0.37	0.19	0.60
Watari Cho	35 776	26 777	0.008	0.59	0.004	0.002	0.61	0.31	1.0
Yamamoto Cho	17 248	42 626	0.014	0.89	0.006	0.002	0.92	0.48	1.5
Zao Machi	13 073	18 296	0.002	0.42	0.001	0.002	0.43	0.22	0.71
Tochigi Ken									
Nakagawa Machi	19 903	18 800	0.003	0.42	0.001	0.002	0.43	0.22	0.71
Nasu Machi	26 691	51 525	0.001	1.1	0.000	0.002	1.1	0.59	1.9
Nasushiobara Shi	118 463	52 368	0.001	1.2	0.001	0.002	1.2	0.63	2.0
Nikko Shi	85 261	7 203	<0.001	0.38	<0.001	0.002	0.38	0.20	0.63
Otawara Shi	75 385	23 434	0.002	0.60	0.001	0.002	0.60	0.32	1.0

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated absorbed doses to red bone marrow of 1-year-old infants (mGy)*						
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*		
			Mean	*Mean*	*Mean*	*Mean*	*Mean*	*5%ile*	*95%ile*
Yamagata Ken									
Kaminoyama Shi	36 118	5 580	<0.001	0.10	<0.001	0.002	0.10	0.055	0.31
Nan-yo Shi	35 110	4 540	<0.001	0.13	<0.001	0.002	0.13	0.068	0.31
Takahata Machi	26 358	4 240	0.001	0.11	<0.001	0.002	0.11	0.060	0.28
Yamagata Shi	257 936	5 880	<0.001	0.14	<0.001	0.002	0.14	0.075	0.38
Yonezawa Shi	92 876	3 434	0.001	0.12	<0.001	0.002	0.12	0.065	0.32

Table A-15.7. In utero absorbed doses to the red bone marrow of infants born between mid-March and mid-December 2011 in Fukushima Prefecture (excluding evacuated areas)

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated in utero absorbed dose to red bone marrow of infants (mGy)*			
			External[a] exposure	*Inhalation and ingestion*	*Total*	
			Mean	*Mean*	*Mean*	*95%ile*
Fukushima Prefecture						
Aizubange Machi	17 918	39 454	0.39	0.020	0.41	0.67
Aizumisato Machi	24 631	14 523	0.16	0.020	0.18	0.28
Aizuwakamatsu Shi	131 928	24 878	0.34	0.020	0.36	0.58
Asakawa Machi	7 402	23 748	0.26	0.020	0.28	0.46
Bandai Machi	4 293	22 201	0.29	0.020	0.31	0.50
Date Shi	69 963	147 228	1.4	0.020	1.4	2.3
Fukushima Shi	296 181	228 498	2.1	0.020	2.1	3.4
Furudono Machi	6 374	21 963	0.23	0.020	0.25	0.40
Hanawa Machi	10 663	19 976	0.21	0.020	0.23	0.38
Hinoemata Mura	696	2 434	0.027	0.020	0.047	0.070
Hirata Mura	7 595	19 296	0.22	0.020	0.24	0.39
Inawashiro Machi	16 982	24 633	0.24	0.020	0.26	0.42
Ishikawa Machi	19 175	11 789	0.12	0.020	0.14	0.23
Iwaki Shi	354 297	26 385	0.54	0.020	0.56	0.91
Izumizaki Mura	6 949	55 888	0.54	0.020	0.56	0.91
Kagamiishi Machi	13 651	56 530	0.54	0.020	0.56	0.92
Kaneyama Machi	2 871	3 161	0.03	0.020	0.051	0.076
Kitakata Shi	55 824	20 684	0.23	0.020	0.25	0.41
Kitashiobara Mura	3 791	49 371	0.50	0.020	0.52	0.85
Koori Machi	14 708	208 246	1.9	0.020	1.9	3.1
Koriyama Shi	341 781	162 070	1.4	0.020	1.5	2.4
Kunimi Machi	9 952	88 661	0.85	0.020	0.87	1.4
Miharu Machi	17 942	83 919	0.79	0.020	0.81	1.3
Minamiaizu Machi	19 896	5 101	0.054	0.020	0.074	0.11
Minamisoma Shi	40 941	109 472	1.0	0.020	1.0	1.7
Mishima Machi	2 213	13 560	0.14	0.020	0.16	0.25
Motomiya Shi	30 771	128 097	1.2	0.020	1.2	1.9
Nakajima Mura	4 865	25 332	0.28	0.020	0.30	0.48
Nihonmatsu Shi	63 751	197 153	1.7	0.020	1.7	2.9
Nishiaizu Machi	8 237	6 193	0.063	0.020	0.083	0.13
Nishigo Mura	18 615	96 014	0.87	0.020	0.89	1.5
Ono Machi	11 983	21 434	0.22	0.020	0.24	0.39
Otama Mura	8 130	162 855	1.5	0.020	1.47	2.4
Samegawa Mura	4 259	21 146	0.24	0.020	0.26	0.42

Municipality	*Population in 2010 (persons)*	*Average deposition density of ^{137}Cs on soil (Bq/m^2)*	*Estimated in utero absorbed dose to red bone marrow of infants (mGy)*			
			External[a] exposure	*Inhalation and ingestion*	*Total*	
			Mean	*Mean*	*Mean*	*95%ile*
Shimogo Machi	7 010	3 376	0.17	0.020	0.19	0.30
Shinchi Machi	9 039	55 233	0.56	0.020	0.58	0.94
Shirakawa Shi	66 544	71 676	0.73	0.020	0.75	1.2
Showa Mura	1 632	12 200	0.13	0.020	0.15	0.23
Soma Shi	38 187	54 612	0.53	0.020	0.55	0.90
Sukagawa Shi	78 819	73 261	0.70	0.020	0.72	1.2
Tadami Machi	5 277	5 311	0.089	0.020	0.11	0.17
Tamakawa Mura	7 295	15 751	0.16	0.020	0.18	0.29
Tanagura Machi	15 702	45 108	0.42	0.020	0.44	0.72
Ten-ei Mura	6 589	115 367	1.04	0.020	1.1	1.7
Yabuki Machi	18 688	33 530	0.37	0.020	0.39	0.63
Yamatsuri Machi	6 821	6 324	0.23	0.020	0.25	0.40
Yanaizu Machi	4 263	12 995	0.13	0.020	0.15	0.24
Yugawa Mura	3 455	37 400	0.38	0.020	0.40	0.64

[a] Average external in utero dose from deposited radionuclides to red bone marrow of infants born between mid-March and mid-December 2011 in a particular municipality of Fukushima Prefecture was calculated as average absorbed dose to the mother's colon over the remaining period of in utero development 1, 2, … 9 months since after 15 March 2011.

Table A-15.8. Absorbed doses to the red bone marrow of adults in the first year after the accident for prefectures in Japan distant from Fukushima Prefecture

Prefecture	*Population in 2010 (persons)*	*Average soil deposition of ^{137}Cs (Bq/m²)*	*Estimated absorbed doses to red bone marrow of adults (mGy)*				
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*
			Mean	*Mean*	*Mean*	*Mean*	*Mean*
Remainder of Japan							
Aichi Prefecture	7 410 719	9	<0.001	<0.001	<0.001	0.003	0.003
Akita Prefecture	1 085 997	175	<0.001	0.003	<0.001	0.003	0.006
Aomori Prefecture	1 373 339	67	<0.001	0.001	<0.001	0.003	0.004
Chiba Prefecture	6 216 289	20 931	<0.001	0.34	<0.001	0.003	0.34
Ehime Prefecture	1 431 493	7	<0.001	<0.001	<0.001	0.003	0.003
Fukui Prefecture	806 314	31	<0.001	0.001	<0.001	0.003	0.004
Fukuoka Prefecture	5 071 968	1	<0.001	<0.001	<0.001	0.003	0.003
Gifu Prefecture	2 080 773	16	<0.001	<0.001	<0.001	0.003	0.003
Gunma Prefecture	2 008 068	13 639	<0.001	0.23	<0.001	0.003	0.228
Hiroshima Prefecture	2 860 750	4	<0.001	<0.001	<0.001	0.003	0.003
Hokkaido Prefecture	5 506 419	9	<0.001	<0.001	<0.001	0.003	0.003
Hyogo Prefecture	5 588 133	8	<0.001	<0.001	<0.001	0.003	0.003
Ishikawa Prefecture	1 169 788	13	<0.001	<0.001	<0.001	0.003	0.003
Iwate Prefecture	1 330 147	11 880	<0.001	0.20	<0.001	0.003	0.20
Kagawa Prefecture	995 842	6	<0.001	<0.001	<0.001	0.003	0.003
Kagoshima Prefecture	1 706 242	1	<0.001	<0.001	<0.001	0.003	0.003
Kanagawa Prefecture	9 048 331	3 857	<0.001	0.066	<0.001	0.003	0.069
Kochi Prefecture	764 456	36	<0.001	0.001	<0.001	0.003	0.004
Kumamoto Prefecture	1 817 426	0	<0.001	<0.001	<0.001	0.003	0.003
Kyoto Prefecture	2 636 092	7	<0.001	<0.001	<0.001	0.003	0.003
Mie Prefecture	1 854 724	27	<0.001	0.001	<0.001	0.003	0.003
Miyazaki Prefecture	1 135 233	6	<0.001	<0.001	<0.001	0.003	0.003
Nagano Prefecture	2 152 449	1 251	<0.001	0.022	<0.001	0.003	0.025
Nagasaki Prefecture	1 426 779	2	<0.001	<0.001	<0.001	0.003	0.003
Nara Prefecture	1 400 728	7	<0.001	<0.001	<0.001	0.003	0.003
Niigata Prefecture	2 374 450	49	<0.001	0.001	<0.001	0.003	0.004
Oita Prefecture	1 196 529	1	<0.001	<0.001	<0.001	0.003	0.003
Okayama Prefecture	1 945 276	4	<0.001	<0.001	<0.001	0.003	0.003
Okinawa Prefecture	1 392 818	4	<0.001	<0.001	<0.001	0.003	0.003
Osaka Prefecture	8 865 245	9	<0.001	<0.001	<0.001	0.003	0.003
Saga Prefecture	849 788	1	<0.001	<0.001	<0.001	0.003	0.003
Saitama Prefecture	7 194 556	6 284	<0.001	0.11	<0.001	0.003	0.11
Shiga Prefecture	1 410 777	7	<0.001	<0.001	<0.001	0.003	0.003
Shimane Prefecture	717 397	6	<0.001	<0.001	<0.001	0.003	0.003
Shizuoka Prefecture	3 765 007	643	<0.001	0.012	<0.001	0.003	0.015

Prefecture	*Population in 2010 (persons)*	*Average soil deposition of ^{137}Cs (Bq/m²)*	*Estimated absorbed doses to red bone marrow of adults (mGy)*				
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*
			Mean	*Mean*	*Mean*	*Mean*	*Mean*
Tokushima Prefecture	785 491	8	<0.001	<0.001	<0.001	0.003	0.003
Tokyo	13 159 388	8 499	<0.001	0.14	<0.001	0.003	0.15
Tottori Prefecture	588 667	11	<0.001	<0.001	<0.001	0.003	0.003
Toyama Prefecture	1 093 247	16	<0.001	<0.001	<0.001	0.003	0.003
Wakayama Prefecture	1 002 198	10	<0.001	<0.001	<0.001	0.003	0.003
Yamaguchi Prefecture	1 451 338	3	<0.001	<0.001	<0.001	0.003	0.003
Yamanashi Prefecture	863 075	208	<0.001	0.004	<0.001	0.003	0.007

Table A-15.9. Absorbed doses to the red bone marrow of 10-year-old children in the first year after the accident for prefectures in Japan distant from Fukushima Prefecture

Prefecture	*Population in 2010 (persons)*	*Average soil deposition of ^{137}Cs (Bq/m²)*	*Estimated absorbed doses to red bone marrow of 10-year-old children (mGy)*				
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*
			Mean	*Mean*	*Mean*	*Mean*	*Mean*
Remainder of Japan							
Aichi Prefecture	7 410 719	9	<0.001	<0.001	<0.001	0.002	0.002
Akita Prefecture	1 085 997	175	<0.001	0.004	<0.001	0.002	0.006
Aomori Prefecture	1 373 339	67	<0.001	0.002	<0.001	0.002	0.004
Chiba Prefecture	6 216 289	20 931	<0.001	0.41	<0.001	0.002	0.42
Ehime Prefecture	1 431 493	7	<0.001	<0.001	<0.001	0.002	0.002
Fukui Prefecture	806 314	31	<0.001	0.001	<0.001	0.002	0.003
Fukuoka Prefecture	5 071 968	1	<0.001	<0.001	<0.001	0.002	0.002
Gifu Prefecture	2 080 773	16	<0.001	<0.001	<0.001	0.002	0.002
Gunma Prefecture	2 008 068	13 639	<0.001	0.27	<0.001	0.002	0.275
Hiroshima Prefecture	2 860 750	4	<0.001	<0.001	<0.001	0.002	0.002
Hokkaido Prefecture	5 506 419	9	<0.001	<0.001	<0.001	0.002	0.002
Hyogo Prefecture	5 588 133	8	<0.001	<0.001	<0.001	0.002	0.002
Ishikawa Prefecture	1 169 788	13	<0.001	<0.001	<0.001	0.002	0.002
Iwate Prefecture	1 330 147	11 880	<0.001	0.24	<0.001	0.002	0.24
Kagawa Prefecture	995 842	6	<0.001	<0.001	<0.001	0.002	0.002
Kagoshima Prefecture	1 706 242	1	<0.001	<0.001	<0.001	0.002	0.002
Kanagawa Prefecture	9 048 331	3 857	<0.001	0.080	<0.001	0.002	0.082
Kochi Prefecture	764 456	36	<0.001	0.001	<0.001	0.002	0.003
Kumamoto Prefecture	1 817 426	0	<0.001	<0.001	<0.001	0.002	0.002
Kyoto Prefecture	2 636 092	7	<0.001	<0.001	<0.001	0.002	0.002
Mie Prefecture	1 854 724	27	<0.001	0.001	<0.001	0.002	0.003
Miyazaki Prefecture	1 135 233	6	<0.001	<0.001	<0.001	0.002	0.002
Nagano Prefecture	2 152 449	1 251	<0.001	0.027	<0.001	0.002	0.029
Nagasaki Prefecture	1 426 779	2	<0.001	<0.001	<0.001	0.002	0.002
Nara Prefecture	1 400 728	7	<0.001	<0.001	<0.001	0.002	0.002
Niigata Prefecture	2 374 450	49	<0.001	0.001	<0.001	0.002	0.003
Oita Prefecture	1 196 529	1	<0.001	<0.001	<0.001	0.002	0.002
Okayama Prefecture	1 945 276	4	<0.001	<0.001	<0.001	0.002	0.002
Okinawa Prefecture	1 392 818	4	<0.001	<0.001	<0.001	0.002	0.002
Osaka Prefecture	8 865 245	9	<0.001	<0.001	<0.001	0.002	0.002
Saga Prefecture	849 788	1	<0.001	<0.001	<0.001	0.002	0.002
Saitama Prefecture	7 194 556	6 284	<0.001	0.13	<0.001	0.002	0.13
Shiga Prefecture	1 410 777	7	<0.001	<0.001	<0.001	0.002	0.002
Shimane Prefecture	717 397	6	<0.001	<0.001	<0.001	0.002	0.002
Shizuoka Prefecture	3 765 007	643	<0.001	0.014	<0.001	0.002	0.016

Prefecture	*Population in 2010 (persons)*	*Average soil deposition of ^{137}Cs (Bq/m²)*	*Estimated absorbed doses to red bone marrow of 10-year-old children (mGy)*				
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*
			Mean	*Mean*	*Mean*	*Mean*	*Mean*
Tokushima Prefecture	785 491	8	<0.001	<0.001	<0.001	0.002	0.002
Tokyo	13 159 388	8 499	<0.001	0.17	<0.001	0.002	0.174
Tottori Prefecture	588 667	11	<0.001	<0.001	<0.001	0.002	0.002
Toyama Prefecture	1 093 247	16	<0.001	<0.001	<0.001	0.002	0.002
Wakayama Prefecture	1 002 198	10	<0.001	<0.001	<0.001	0.002	0.002
Yamaguchi Prefecture	1 451 338	3	<0.001	<0.001	<0.001	0.002	0.002
Yamanashi Prefecture	863 075	208	<0.001	0.005	<0.001	0.002	0.007

Table A-15.10. Absorbed doses to the red bone marrow of 1-year-old infants in the first year after the accident for prefectures in Japan distant from Fukushima Prefecture

Prefecture	*Population in 2010 (persons)*	*Average soil deposition of ^{137}Cs (Bq/m²)*	*Estimated absorbed dose to red bone marrow of 1-year-old infants (mGy)*				
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*
			Mean	*Mean*	*Mean*	*Mean*	*Mean*
Remainder of Japan							
Aichi Prefecture	7 410 719	9	<0.001	<0.001	<0.001	0.001	0.001
Akita Prefecture	1 085 997	175	<0.001	0.005	<0.001	0.001	0.006
Aomori Prefecture	1 373 339	67	<0.001	0.002	<0.001	0.001	0.003
Chiba Prefecture	6 216 289	20 931	<0.001	0.47	<0.001	0.001	0.47
Ehime Prefecture	1 431 493	7	<0.001	<0.001	<0.001	0.001	0.001
Fukui Prefecture	806 314	31	<0.001	<0.001	<0.001	0.001	0.002
Fukuoka Prefecture	5 071 968	1	<0.001	<0.001	<0.001	0.001	0.001
Gifu Prefecture	2 080 773	16	<0.001	<0.001	<0.001	0.001	0.001
Gunma Prefecture	2 008 068	13 639	<0.001	0.31	<0.001	0.001	0.31
Hiroshima Prefecture	2 860 750	4	<0.001	<0.001	<0.001	0.001	0.001
Hokkaido Prefecture	5 506 419	9	<0.001	<0.001	<0.001	0.001	0.001
Hyogo Prefecture	5 588 133	8	<0.001	<0.001	<0.001	0.001	0.001
Ishikawa Prefecture	1 169 788	13	<0.001	<0.001	<0.001	0.001	0.001
Iwate Prefecture	1 330 147	11 880	<0.001	0.27	<0.001	0.001	0.27
Kagawa Prefecture	995 842	6	<0.001	<0.001	<0.001	0.001	0.001
Kagoshima Prefecture	1 706 242	1	<0.001	<0.001	<0.001	0.001	0.001
Kanagawa Prefecture	9 048 331	3 857	<0.001	0.091	<0.001	0.001	0.092
Kochi Prefecture	764 456	36	<0.001	0.001	<0.001	0.001	0.002
Kumamoto Prefecture	1 817 426	0	<0.001	<0.001	<0.001	0.001	0.001
Kyoto Prefecture	2 636 092	7	<0.001	<0.001	<0.001	0.001	0.001
Mie Prefecture	1 854 724	27	<0.001	0.001	<0.001	0.001	0.002
Miyazaki Prefecture	1 135 233	6	<0.001	<0.001	<0.001	0.001	0.001
Nagano Prefecture	2 152 449	1 251	<0.001	0.031	<0.001	0.001	0.032
Nagasaki Prefecture	1 426 779	2	<0.001	<0.001	<0.001	0.001	0.001
Nara Prefecture	1 400 728	7	<0.001	<0.001	<0.001	0.001	0.001
Niigata Prefecture	2 374 450	49	<0.001	0.001	<0.001	0.001	0.002
Oita Prefecture	1 196 529	1	<0.001	<0.001	<0.001	0.001	0.001
Okayama Prefecture	1 945 276	4	<0.001	<0.001	<0.001	0.001	0.001
Okinawa Prefecture	1 392 818	4	<0.001	<0.001	<0.001	0.001	0.001
Osaka Prefecture	8 865 245	9	<0.001	<0.001	<0.001	0.001	0.001
Saga Prefecture	849 788	1	<0.001	<0.001	<0.001	0.001	0.001
Saitama Prefecture	7 194 556	6 284	<0.001	0.15	<0.001	0.001	0.15
Shiga Prefecture	1 410 777	7	<0.001	<0.001	<0.001	0.001	0.001
Shimane Prefecture	717 397	6	<0.001	<0.001	<0.001	0.001	0.001
Shizuoka Prefecture	3 765 007	643	<0.001	0.016	<0.001	0.001	0.017

Prefecture	*Population in 2010 (persons)*	*Average soil deposition of ^{137}Cs (Bq/m²)*	*Estimated absorbed dose to red bone marrow of 1-year-old infants (mGy)*				
			External (plume)	*External (ground)*	*Inhalation (plume)*	*Ingestion*	*Total*
			Mean	*Mean*	*Mean*	*Mean*	*Mean*
Tokushima Prefecture	785 491	8	<0.001	<0.001	<0.001	0.001	0.001
Tokyo	13 159 388	8 499	<0.001	0.20	<0.001	0.001	0.20
Tottori Prefecture	588 667	11	<0.001	<0.001	<0.001	0.001	0.001
Toyama Prefecture	1 093 247	16	<0.001	<0.001	<0.001	0.001	0.001
Wakayama Prefecture	1 002 198	10	<0.001	<0.001	<0.001	0.001	0.001
Yamaguchi Prefecture	1 451 338	3	<0.001	<0.001	<0.001	0.001	0.001
Yamanashi Prefecture	863 075	208	<0.001	0.006	<0.001	0.001	0.006

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