

## Annex 1

### Ten-year probabilities of hip fracture in the United Kingdom population, by age, sex and gradient of risk

The following tables convert Z-scores of risk factor scores into 10-year hip fracture probabilities. They can be used to approximate hip fracture probabilities from risk factors for fracture that are not incorporated in the assessment algorithms. Examples include peripheral DXA and ultrasound techniques.

The gradients of risk vary from 1.0 (i.e. the average population risk) to 3.0/SD.

The probabilities shown are derived for the United Kingdom using hip fracture hazards from Singer et al. (1) and the mortality hazard from the United Nations (2).

Table A1.1 gives 10-year probabilities of hip fracture in men and Table A1.2 gives 10-year probabilities of hip fracture in women.

In men at the age of 80 years, the average 10-year hip fracture probability is 5.0%, from Table A1.1(a). Consider, for example, peripheral DXA measurements. Many of these techniques have a gradient of hip fracture risk of approximately 1.5/SD decrease in BMD, so Table A1.1(c) applies. With a BMD Z-score of  $-1$  SD, the hip fracture probability in that individual would be 6.8%, and with a Z-score of  $-2$  it would be 9.9%.

For women, the same example (i.e. aged 80 years; gradient of risk 1.5/SD) would give probabilities of 16% and 22% with Z-scores of  $-1$  and  $-2$ , respectively, from Table A1.2(c).

### References

1. Singer BR et al. Epidemiology of fracture in 1000 adults: the influence of age and gender. *Journal of Bone and Joint Surgery*, 1998, 80B:234–238.
2. *World population prospects: the 2002 revision and world urban prospects*. New York, United Nations Population Division, Department of Economic and Social Affairs, 2003.

**Table A1.1****Ten-year probability (%) of hip fracture according to age and Z-score for men**

(a) Gradient of risk = 1.00/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
55	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
60	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
65	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
75	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
80	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
85	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1

(b) Gradient of risk = 1.25/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3
55	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4
60	1.7	1.5	1.3	1.2	1.1	1.0	0.9	0.8	0.7
65	2.9	2.6	2.3	2.1	1.8	1.7	1.5	1.3	1.2
70	3.9	3.5	3.2	2.8	2.5	2.3	2.0	1.8	1.6
75	5.7	5.1	4.6	4.1	3.7	3.3	3.0	2.7	2.4
80	7.5	6.7	6.1	5.4	4.9	4.4	3.9	3.5	3.2
85	7.6	6.9	6.2	5.6	5.0	4.5	4.0	3.6	3.3

(c) Gradient of risk = 1.50/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2
55	1.2	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.2
60	2.3	1.9	1.5	1.2	1.0	0.8	0.7	0.6	0.5
65	3.9	3.2	2.6	2.1	1.7	1.4	1.2	1.0	0.8
70	5.3	4.4	3.6	2.9	2.4	2.0	1.6	1.3	1.1
75	7.6	6.3	5.2	4.3	3.5	2.9	2.3	1.9	1.6
80	9.9	8.2	6.8	5.6	4.6	3.8	3.1	2.6	2.1
85	10	8.4	6.9	5.7	4.7	3.9	3.2	2.6	2.2

(d) Gradient of risk = 1.75/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.1	0.8	0.6	0.5	0.4	0.3	0.2	0.2	0.1
55	1.5	1.2	0.9	0.7	0.5	0.4	0.3	0.2	0.2
60	2.9	2.2	1.6	1.2	0.9	0.7	0.5	0.4	0.3
65	4.9	3.7	2.8	2.1	1.6	1.2	0.9	0.7	0.5
70	6.6	5.1	3.9	2.9	2.2	1.7	1.3	1.0	0.7
75	9.5	7.3	5.6	4.3	3.2	2.5	1.9	1.4	1.1
80	12	9.5	7.3	5.6	4.3	3.3	2.5	1.9	1.4
85	13	9.7	7.5	5.8	4.4	3.4	2.6	1.9	1.5

(e) Gradient of risk = 2.00/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.3	0.9	0.7	0.5	0.3	0.2	0.2	0.1	0.1
55	1.9	1.3	0.9	0.7	0.5	0.3	0.2	0.2	0.1
60	3.4	2.4	1.7	1.2	0.9	0.6	0.4	0.3	0.2
65	5.8	4.1	3.0	2.1	1.5	1.1	0.7	0.5	0.4
70	7.9	5.7	4.1	2.9	2.1	1.5	1.0	0.7	0.5
75	11.2	8.1	5.9	4.2	3.0	2.1	1.5	1.1	0.8
80	14	11	7.7	5.5	4.0	2.8	2.0	1.4	1.0
85	15	11	7.8	5.7	4.1	2.9	2.1	1.5	1.0

(f) Gradient of risk = 2.25/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.5	1.0	0.7	0.4	0.3	0.2	0.1	0.1	0.1
55	2.1	1.4	1.0	0.6	0.4	0.3	0.2	0.1	0.1
60	4.0	2.7	1.8	1.2	0.8	0.5	0.4	0.2	0.2
65	6.7	4.5	3.0	2.0	1.4	0.9	0.6	0.4	0.3
70	9.1	6.2	4.2	2.8	1.9	1.3	0.8	0.6	0.4
75	13	8.8	6.0	4.1	2.7	1.8	1.2	0.8	0.6
80	16	12	7.9	5.4	3.7	2.5	1.7	1.1	0.7
85	17	12	8.1	5.5	3.7	2.5	1.7	1.1	0.8

(g) Gradient of risk = 2.50/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.7	1.1	0.7	0.4	0.3	0.2	0.1	0.1	0.0
55	2.4	1.5	1.0	0.6	0.4	0.2	0.2	0.1	0.1
60	4.4	2.8	1.8	1.1	0.7	0.5	0.3	0.2	0.1
65	7.5	4.8	3.1	2.0	1.2	0.8	0.5	0.3	0.2
70	10	6.6	4.2	2.7	1.7	1.1	0.7	0.4	0.3
75	14	9.4	6.1	3.9	2.5	1.6	1.0	0.6	0.4
80	18	12	8.0	5.2	3.3	2.1	1.4	0.9	0.5
85	18	12	8.2	5.3	3.4	2.2	1.4	0.9	0.6

(h) Gradient of risk = 2.75/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.9	1.1	0.7	0.4	0.2	0.2	0.1	0.1	0.0
55	2.7	1.6	1.0	0.6	0.4	0.2	0.1	0.1	0.0
60	4.9	3.0	1.8	1.1	0.7	0.4	0.2	0.1	0.1
65	8.2	5.1	3.1	1.9	1.1	0.7	0.4	0.3	0.2
70	11	6.9	4.3	2.6	1.6	1.0	0.6	0.3	0.2
75	16	9.9	6.1	3.8	2.3	1.4	0.8	0.5	0.3
80	20	13	8.0	5.0	3.1	1.9	1.1	0.7	0.4
85	20	13	8.2	5.1	3.1	1.9	1.2	0.7	0.4

(i) Gradient of risk = 3.00/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	2.0	1.2	0.7	0.4	0.2	0.1	0.1	0.0	0.0
55	2.9	1.7	1.0	0.6	0.3	0.2	0.1	0.1	0.0
60	5.3	3.1	1.8	1.0	0.6	0.3	0.2	0.1	0.1
65	8.9	5.3	3.1	1.8	1.0	0.6	0.3	0.2	0.1
70	12	7.2	4.2	2.5	1.4	0.8	0.5	0.3	0.2
75	17	10	6.1	3.6	2.1	1.2	0.7	0.4	0.2
80	21	13	8.0	4.8	2.8	1.6	0.9	0.5	0.3
85	21	13	8.2	4.9	2.9	1.7	1.0	0.6	0.3

**Table A1.2****Ten-year probability (%) of hip fracture according to age and Z-score for women**

(a) Gradient of risk = 1.00/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
55	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
60	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
65	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
70	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
75	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
80	12	12	12	12	12	12	12	12	12
85	11	11	11	11	11	11	11	11	11

(b) Gradient of risk = 1.25/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.3
55	1.3	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5
60	2.7	2.5	2.2	2.0	1.8	1.6	1.4	1.3	1.1
65	5.5	5.0	4.5	4.0	3.6	3.2	2.9	2.6	2.3
70	9.0	8.1	7.3	6.6	5.9	5.3	4.8	4.3	3.8
75	14	12	11	10	9.1	8.2	7.4	6.6	5.9
80	17	16	14	13	12	10	9.4	8.5	7.6
85	16	15	13	12	11	9.7	8.8	7.9	7.1

(c) Gradient of risk = 1.50/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2
55	1.7	1.4	1.1	0.9	0.8	0.6	0.5	0.4	0.3
60	3.7	3.0	2.5	2.0	1.7	1.4	1.1	0.9	0.7
65	7.4	6.1	5.0	4.1	3.4	2.8	2.3	1.9	1.5
70	12	10	8.2	6.8	5.6	4.6	3.8	3.1	2.5
75	18	15	13	10	8.6	7.1	5.9	4.8	4.0
80	22	19	16	13	11	9.1	7.5	6.2	5.1
85	21	17	15	12	10	8.5	7.0	5.8	4.8

(d) Gradient of risk = 1.75

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.4	1.0	0.8	0.6	0.4	0.3	0.3	0.2	0.1
55	2.2	1.6	1.2	0.9	0.7	0.5	0.4	0.3	0.2
60	4.7	3.5	2.7	2.0	1.5	1.2	0.9	0.7	0.5
65	9.3	7.1	5.4	4.1	3.1	2.4	1.8	1.4	1.0
70	15	12	8.9	6.8	5.2	4.0	3.0	2.3	1.7
75	22	17	14	10	8.0	6.1	4.7	3.6	2.7
80	27	21	17	13	10	7.9	6.0	4.6	3.5
85	25	20	16	12	9.6	7.4	5.7	4.3	3.3

(e) Gradient of risk = 2.00/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.6	1.2	0.8	0.6	0.4	0.3	0.2	0.1	0.1
55	2.6	1.8	1.3	0.9	0.7	0.5	0.3	0.2	0.2
60	5.6	4.0	2.8	2.0	1.4	1.0	0.7	0.5	0.4
65	11	8.0	5.7	4.1	2.9	2.1	1.5	1.0	0.7
70	18	13	9.3	6.7	4.8	3.4	2.4	1.7	1.2
75	26	19	14	10	7.4	5.3	3.8	2.7	1.9
80	31	24	18	13	9.5	6.8	4.9	3.5	2.5
85	29	22	17	12	8.8	6.4	4.6	3.3	2.3

(f) Gradient of risk = 2.25/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	1.9	1.3	0.8	0.6	0.4	0.3	0.2	0.1	0.1
55	3.0	2.0	1.3	0.9	0.6	0.4	0.3	0.2	0.1
60	6.4	4.3	2.9	1.9	1.3	0.9	0.6	0.4	0.3
65	13	8.7	5.9	4.0	2.7	1.8	1.2	0.8	0.5
70	20	14	9.6	6.5	4.4	3.0	2.0	1.3	0.9
75	29	21	15	10	6.8	4.6	3.1	2.1	1.4
80	34	25	18	13	8.7	5.9	4.0	2.7	1.8
85	32	24	17	12	8.2	5.6	3.8	2.5	1.7

(g) Gradient of risk = 2.50/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	2.1	1.3	0.9	0.5	0.3	0.2	0.1	0.1	0.1
55	3.4	2.1	1.4	0.9	0.5	0.3	0.2	0.1	0.1
60	7.2	4.6	2.9	1.9	1.2	0.8	0.5	0.3	0.2
65	14	9.2	6.0	3.8	2.4	1.5	1.0	0.6	0.4
70	22	15	9.7	6.3	4.0	2.6	1.6	1.0	0.7
75	32	22	15	9.6	6.2	4.0	2.6	1.6	1.0
80	37	27	18	12	8.0	5.2	3.3	2.1	1.3
85	35	25	17	11	7.5	4.8	3.1	2.0	1.3

(h) Gradient of risk = 2.75/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	2.3	1.4	0.9	0.5	0.3	0.2	0.1	0.1	0.0
55	3.7	2.3	1.4	0.8	0.5	0.3	0.2	0.1	0.1
60	7.9	4.9	3.0	1.8	1.1	0.7	0.4	0.2	0.1
65	15	9.7	6.0	3.6	2.2	1.3	0.8	0.5	0.3
70	24	15	9.7	6.0	3.7	2.2	1.4	0.8	0.5
75	34	23	15	9.2	5.7	3.5	2.1	1.3	0.8
80	40	28	18	12	7.3	4.5	2.8	1.7	1.0
85	37	26	17	11	6.9	4.2	2.6	1.6	1.0

(i) Gradient of risk = 3.00/SD

Age (years)	Z-score (SD units)								
	-2.0	-1.5	-1.0	-0.5	0	+0.5	+1.0	+1.5	+2.0
50	2.5	1.5	0.9	0.5	0.3	0.2	0.1	0.1	0.0
55	4.0	2.3	1.4	0.8	0.5	0.3	0.2	0.1	0.1
60	8.6	5.0	2.9	1.7	1.0	0.6	0.3	0.2	0.1
65	17	10	5.9	3.5	2.0	1.2	0.7	0.4	0.2
70	26	16	9.7	5.7	3.4	2.0	1.1	0.7	0.4
75	36	24	15	8.8	5.2	3.1	1.8	1.0	0.6
80	42	29	18	11	6.7	4.0	2.3	1.3	0.8
85	39	27	17	10	6.3	3.7	2.2	1.3	0.7

## Annex 2

### Ten-year probabilities of hip fracture in the United Kingdom population, by age, sex and risk ratio

Tables A2.1 and A2.2 convert risk ratios into 10-year hip fracture probabilities in men and women, respectively. The risk ratio is the risk of fracture in those with a risk factor compared to the population without the risk factor. The 10-year probability depends upon the prevalence of the risk factor for any given age and sex (see section 6).

The probabilities shown are derived for the United Kingdom using hip fracture hazards from Singer et al. (1) and the mortality hazard from the United Nations (2).

Take, for example, a high value for CTX, a marker of bone resorption. In the EPIDOS study the risk ratio for hip fracture in women aged 80 years was approximately 2.5 in women with CTX values above the normal range of premenopausal values compared to women with values below the premenopausal values. The prevalence of high CTX in women aged 80 years is approximately 25%. Inspection of Table A2.2(g) shows a 10-year hip fracture probability of 20%.

Tables A2.3 and A2.4 give 10-year probabilities in individuals without the condition. In the example above, women aged 80 years with normal values for CTX have a hip fracture probability of 8.8%, according to Table A2.4(g).

### References

1. Singer BR et al. Epidemiology of fracture in 1000 adults: the influence of age and gender. *Journal of Bone and Joint Surgery*, 1998, 80B:234–238.
2. *World population prospects: the 2002 revision and world urban prospects*. New York, United Nations Population Division, Department of Economic and Social Affairs, 2003.

**Table A2.1**

**Ten-year probability (%) of hip fracture in men, by age and the proportion of the population with the risk factor**

(a) Risk ratio= 1.00

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
55	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
60	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
65	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
75	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
80	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
85	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1

(b) Risk ratio = 1.25

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
55	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
60	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2
65	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1
70	3.2	3.2	3.1	3.1	3.1	3.0	3.0	3.0	2.9	2.9
75	4.6	4.6	4.5	4.5	4.4	4.4	4.3	4.3	4.2	4.2
80	6.1	6.1	6.0	5.9	5.9	5.8	5.7	5.7	5.6	5.5
85	6.2	6.2	6.1	6.0	6.0	5.9	5.8	5.8	5.7	5.7

(c) Risk ratio = 1.50

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
55	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
60	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3
65	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.3
70	3.8	3.7	3.6	3.5	3.5	3.4	3.3	3.2	3.2	3.1
75	5.5	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.5
80	7.2	7.0	6.9	6.7	6.6	6.5	6.3	6.2	6.1	6.0
85	7.3	7.2	7.0	6.9	6.7	6.6	6.4	6.3	6.2	6.1

(d) Risk ratio = 1.75

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5
55	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8
60	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4
65	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4
70	4.3	4.2	4.1	3.9	3.8	3.7	3.6	3.5	3.4	3.3
75	6.3	6.1	5.9	5.7	5.5	5.3	5.2	5.0	4.9	4.8
80	8.2	7.9	7.7	7.5	7.2	7.0	6.8	6.6	6.5	6.3
85	8.4	8.1	7.8	7.6	7.4	7.2	7.0	6.8	6.6	6.4

(e) Risk ratio = 2.00

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
55	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8
60	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.5
65	3.6	3.4	3.3	3.1	3.0	2.9	2.8	2.7	2.6	2.5
70	4.9	4.7	4.5	4.3	4.1	4.0	3.8	3.7	3.6	3.5
75	7.0	6.7	6.4	6.2	6.0	5.7	5.5	5.3	5.2	5.0
80	9.2	8.8	8.4	8.1	7.8	7.5	7.3	7.0	6.8	6.6
85	9.4	9.0	8.6	8.3	8.0	7.7	7.4	7.2	6.9	6.7

(f) Risk ratio = 2.25

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6
55	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.8
60	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5
65	4.0	3.7	3.5	3.4	3.2	3.1	2.9	2.8	2.7	2.6
70	5.4	5.1	4.9	4.6	4.4	4.2	4.0	3.9	3.7	3.6
75	7.8	7.4	7.0	6.7	6.4	6.1	5.8	5.6	5.4	5.2
80	10	9.6	9.1	8.7	8.3	8.0	7.7	7.4	7.1	6.8
85	10	9.8	9.3	8.9	8.5	8.1	7.8	7.5	7.2	7.0

(g) Risk ratio = 2.50

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6
55	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.8
60	2.5	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.6
65	4.3	4.1	3.8	3.6	3.4	3.2	3.1	2.9	2.8	2.7
70	5.9	5.6	5.2	4.9	4.7	4.4	4.2	4.0	3.9	3.7
75	8.5	8.0	7.5	7.1	6.7	6.4	6.1	5.8	5.6	5.3
80	11	10	9.8	9.3	8.8	8.4	8.0	7.6	7.3	7.0
85	11	11	10	9.4	9.0	8.5	8.1	7.8	7.5	7.2

(h) Risk ratio = 2.75

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6
55	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9	0.9
60	2.8	2.6	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6
65	4.7	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.9	2.8
70	6.4	6.0	5.6	5.2	4.9	4.6	4.4	4.2	4.0	3.8
75	9.2	8.5	8.0	7.5	7.1	6.7	6.3	6.0	5.7	5.5
80	12	11	10	9.8	9.2	8.7	8.3	7.9	7.5	7.2
85	12	11	11	9.9	9.4	8.9	8.4	8.0	7.7	7.3

(i) Risk ratio = 3.00

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.6
55	1.6	1.5	1.4	1.3	1.2	1.1	1.0	1.0	0.9	0.9
60	3.0	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6
65	5.1	4.6	4.3	4.0	3.7	3.5	3.3	3.1	3.0	2.8
70	6.9	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.1	3.9
75	9.8	9.1	8.4	7.9	7.4	6.9	6.5	6.2	5.9	5.6
80	13	12	11	10	9.6	9.1	8.6	8.1	7.7	7.4
85	13	12	11	10	9.8	9.2	8.7	8.3	7.9	7.5

**Table A2.2**

**Ten-year probability (%) of hip fracture in women, by age, risk ratio and proportion of population with the risk factor**

(a) Risk ratio = 1.00

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
55	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
60	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
65	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
70	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
75	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
80	12	12	12	12	12	12	12	12	12	12
85	11	11	11	11	11	11	11	11	11	11

(b) Risk ratio = 1.25

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
55	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
60	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0
65	4.5	4.5	4.4	4.4	4.3	4.3	4.2	4.2	4.1	4.1
70	7.4	7.3	7.2	7.1	7.1	7.0	6.9	6.8	6.8	6.7
75	11	11	11	11	11	11	11	11	10	10
80	14	14	14	14	14	14	13	13	13	13
85	13	13	13	13	13	13	13	12	12	12

(c) Risk ratio = 1.50

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
55	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0
60	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.3	2.2	2.2
65	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.5	4.4
70	8.7	8.5	8.3	8.1	8.0	7.8	7.6	7.5	7.3	7.2
75	13	13	13	12	12	12	12	11	11	11
80	17	16	16	16	15	15	15	14	14	14
85	16	15	15	15	14	14	14	14	13	13

(d) Risk ratio = 1.75

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7
55	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
60	3.0	2.9	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.3
65	6.1	5.9	5.7	5.5	5.4	5.2	5.0	4.9	4.8	4.6
70	9.9	9.6	9.3	9.0	8.8	8.5	8.3	8.0	7.8	7.6
75	15	15	14	14	13	13	13	12	12	12
80	19	18	18	17	17	16	16	15	15	15
85	18	17	17	16	16	15	15	14	14	14

(e) Risk ratio = 2.00

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7
55	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1
60	3.4	3.3	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4
65	6.9	6.6	6.3	6.0	5.8	5.6	5.4	5.2	5.0	4.9
70	11	11	10	9.8	9.5	9.1	8.8	8.5	8.2	8.0
75	17	16	16	15	14	14	13	13	13	12
80	21	20	19	19	18	17	17	16	16	15
85	19	19	18	17	17	16	16	15	15	14

(f) Risk ratio = 2.25

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.1	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7
55	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1
60	3.8	3.6	3.4	3.2	3.1	2.9	2.8	2.7	2.6	2.5
65	7.6	7.2	6.8	6.5	6.2	5.9	5.7	5.4	5.2	5.0
70	12	12	11	11	10	9.7	9.3	8.9	8.6	8.3
75	18	18	17	16	15	15	14	14	13	13
80	23	22	21	20	19	18	18	17	16	16
85	21	20	19	19	18	17	16	16	15	15

(g) Risk ratio = 2.50

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.2	1.1	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.7
55	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2
60	4.1	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6
65	8.3	7.8	7.3	6.9	6.6	6.2	5.9	5.7	5.4	5.2
70	13	13	12	11	11	10	9.7	9.3	8.9	8.5
75	20	19	18	17	16	15	15	14	14	13
80	24	23	22	21	20	19	18	18	17	16
85	23	22	21	20	19	18	17	16	16	15

(h) Risk ratio = 2.75

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.3	1.2	1.1	1.1	1.0	0.9	0.9	0.8	0.8	0.8
55	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2
60	4.5	4.2	3.9	3.6	3.4	3.2	3.1	2.9	2.8	2.6
65	9.0	8.4	7.8	7.3	6.9	6.5	6.2	5.9	5.6	5.3
70	15	14	13	12	11	11	10	9.6	9.1	8.7
75	21	20	19	18	17	16	15	15	14	13
80	26	25	23	22	21	20	19	18	17	17
85	24	23	22	21	19	19	18	17	16	16

(i) Risk ratio = 3.00

Age (years)	Proportion of population having the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	1.4	1.3	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.8
55	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2
60	4.8	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.7
65	9.7	8.9	8.2	7.7	7.2	6.8	6.4	6.0	5.7	5.4
70	16	14	13	12	12	11	10	9.8	9.3	8.9
75	23	21	20	19	18	17	16	15	14	14
80	28	26	24	23	22	21	19	19	18	17
85	26	24	23	21	20	19	18	17	17	16

**Table A2.3**

**Ten-year probability (%) of hip fractures, by age, prevalence of risk factor and risk ratio in men without the risk factor**

(a) Risk ratio = 1.00

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
55	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
60	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
65	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
75	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
80	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
85	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1

(b) Risk ratio = 1.25

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
55	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
60	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
65	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7
70	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.3
75	3.7	3.7	3.6	3.6	3.6	3.5	3.5	3.4	3.4	3.4
80	5.0	4.9	4.8	4.8	4.7	4.7	4.6	4.6	4.5	4.5
85	5.1	5.0	4.9	4.9	4.8	4.8	4.7	4.7	4.6	4.6

(c) Risk ratio = 1.50

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
55	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
60	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
65	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5
70	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1
75	3.7	3.6	3.5	3.4	3.4	3.3	3.2	3.2	3.1	3.0
80	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0
85	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1

(d) Risk ratio = 1.75

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
55	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
60	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8
65	1.8	1.8	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4
70	2.5	2.4	2.3	2.3	2.2	2.1	2.1	2.0	2.0	1.9
75	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.8
80	4.8	4.7	4.5	4.4	4.2	4.1	4.0	3.9	3.8	3.7
85	4.9	4.8	4.6	4.5	4.3	4.2	4.1	4.0	3.9	3.8

(e) Risk ratio = 2.00

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
55	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
60	1.1	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.7
65	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3
70	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.9	1.8	1.7
75	3.6	3.4	3.3	3.2	3.0	2.9	2.8	2.7	2.6	2.5
80	4.8	4.6	4.4	4.2	4.0	3.9	3.8	3.6	3.5	3.4
85	4.9	4.7	4.5	4.3	4.1	4.0	3.8	3.7	3.6	3.5

(f) Risk ratio = 2.25

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
55	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
60	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7
65	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
70	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.7	1.6
75	3.6	3.4	3.2	3.0	2.9	2.8	2.7	2.5	2.4	2.4
80	4.7	4.5	4.2	4.0	3.9	3.7	3.5	3.4	3.3	3.1
85	4.8	4.6	4.3	4.1	3.9	3.8	3.6	3.5	3.3	3.2

(g) Risk ratio = 2.50

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2
55	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3
60	1.0	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6
65	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.2	1.1	1.1
70	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.6	1.5
75	3.5	3.3	3.1	2.9	2.8	2.6	2.5	2.4	2.3	2.2
80	4.7	4.4	4.1	3.9	3.7	3.5	3.3	3.2	3.0	2.9
85	4.8	4.5	4.2	4.0	3.8	3.6	3.4	3.3	3.1	3.0

(h) Risk ratio = 2.75

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
55	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3
60	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6
65	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.0
70	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.4
75	3.5	3.2	3.0	2.8	2.7	2.5	2.4	2.3	2.1	2.0
80	4.6	4.3	4.0	3.8	3.5	3.3	3.2	3.0	2.9	2.7
85	4.7	4.4	4.1	3.8	3.6	3.4	3.2	3.1	2.9	2.8

(i) Risk ratio = 3.00

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
55	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3
60	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6
65	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0
70	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.5	1.4	1.3
75	3.4	3.2	2.9	2.7	2.5	2.4	2.3	2.1	2.0	1.9
80	4.6	4.2	3.9	3.6	3.4	3.2	3.0	2.8	2.7	2.6
85	4.7	4.3	4.0	3.7	3.5	3.3	3.1	2.9	2.8	2.6

**Table A2.4**

**Ten-year probability (%) of hip fracture, by age, prevalence of risk factor and risk ratio in women without the risk factor**

(a) Risk ratio = 1.00

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
55	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
60	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
65	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
70	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
75	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
80	12	12	12	12	12	12	12	12	12	12
85	11	11	11	11	11	11	11	11	11	11

(b) Risk ratio = 1.25

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
55	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
60	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6
65	3.6	3.6	3.5	3.5	3.5	3.4	3.4	3.3	3.3	3.3
70	6.0	5.9	5.8	5.8	5.7	5.6	5.6	5.5	5.5	5.4
75	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3
80	12	12	11	11	11	11	11	11	11	11
85	11	11	11	11	10	10	10	10	10	9.9

(c) Risk ratio = 1.50

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
55	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7
60	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4
65	3.6	3.5	3.4	3.3	3.3	3.2	3.1	3.1	3.0	2.9
70	5.9	5.8	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.9
75	9.1	8.9	8.7	8.5	8.3	8.2	8.0	7.8	7.7	7.5
80	12	11	11	11	11	10	10	10	9.8	9.6
85	11	11	10	10	9.9	9.7	9.5	9.3	9.2	9.0

(d) Risk ratio = 1.75

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
55	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
60	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.3
65	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.8	2.7
70	5.8	5.6	5.5	5.3	5.1	5.0	4.8	4.7	4.6	4.4
75	9.0	8.7	8.4	8.2	7.9	7.7	7.5	7.3	7.1	6.9
80	11	11	11	10	10	9.8	9.5	9.3	9.0	8.8
85	11	10	10	9.7	9.4	9.2	8.9	8.7	8.4	8.2

(e) Risk ratio = 2.00

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3
55	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
60	1.7	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
65	3.5	3.3	3.2	3.1	2.9	2.8	2.7	2.6	2.5	2.5
70	5.8	5.5	5.3	5.1	4.9	4.7	4.5	4.4	4.2	4.1
75	8.9	8.5	8.2	7.8	7.5	7.3	7.0	6.8	6.5	6.3
80	11	11	10	10	9.6	9.3	8.9	8.6	8.4	8.1
85	11	10	9.7	9.3	9.0	8.7	8.4	8.1	7.8	7.6

(f) Risk ratio = 2.25

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
55	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5
60	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1
65	3.5	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4	2.3
70	5.7	5.4	5.1	4.9	4.6	4.4	4.3	4.1	3.9	3.8
75	8.8	8.3	7.9	7.5	7.2	6.9	6.6	6.3	6.1	5.9
80	11	11	10	9.6	9.2	8.8	8.4	8.1	7.8	7.5
85	10	9.9	9.4	9.0	8.6	8.2	7.9	7.6	7.3	7.0

(g) Risk ratio = 2.50

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
55	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5
60	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.0
65	3.4	3.2	3.0	2.8	2.7	2.5	2.4	2.3	2.2	2.1
70	5.6	5.3	5.0	4.7	4.4	4.2	4.0	3.8	3.7	3.5
75	8.7	8.2	7.7	7.3	6.9	6.5	6.2	6.0	5.7	5.5
80	11	10	9.8	9.3	8.8	8.4	8.0	7.6	7.3	7.0
85	11	9.7	9.2	8.7	8.2	7.8	7.5	7.1	6.8	6.6

(h) Risk ratio = 2.75

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
55	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.4
60	1.7	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0
65	3.4	3.1	2.9	2.7	2.6	2.4	2.3	2.2	2.1	2.0
70	5.6	5.2	4.8	4.5	4.3	4.0	3.8	3.6	3.4	3.3
75	8.6	8.0	7.5	7.0	6.6	6.2	5.9	5.6	5.3	5.1
80	11	10	9.5	8.9	8.4	8.0	7.6	7.2	6.9	6.6
85	10	9.5	8.9	8.4	7.9	7.5	7.1	6.7	6.4	6.1

(i) Risk ratio = 3.00

Age (years)	Proportion of population without the condition									
	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
50	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
55	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4
60	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9
65	3.3	3.1	2.8	2.6	2.5	2.3	2.2	2.1	2.0	1.9
70	5.5	5.1	4.7	4.4	4.1	3.8	3.6	3.4	3.2	3.1
75	8.5	7.8	7.3	6.8	6.3	6.0	5.6	5.3	5.0	4.8
80	11	10.0	9.3	8.6	8.1	7.6	7.2	6.8	6.5	6.2
85	10	9.3	8.7	8.1	7.6	7.1	6.7	6.4	6.1	5.8

## Annex 3

### Ten-year probabilities of fracture in the United Kingdom population, by bone mineral density, the number of clinical risk factors, age and sex

The following tables give the 10-year probability of fracture (%) according to BMD, the number of clinical risk factors (CRF) and age. These estimates are based on the epidemiology of the United Kingdom (1,2). Each table provides a mean estimate and a range. The range is not a confidence interval but, because the weight of different risk factors varies, it is a true range.

Table A3.1 gives the probabilities for clinical spine, hip, forearm and humerus fracture (osteoporotic fracture) in men.

Table A3.2 gives the probabilities for hip fracture in men.

Table A3.3 gives the probabilities for clinical spine, hip, forearm and humerus fracture (osteoporotic fracture) in women.

Table A3.4 gives the probabilities of hip fracture in women.

### References

1. Singer BR et al. Epidemiology of fracture in 1000 adults: the influence of age and gender. *Journal of Bone and Joint Surgery*, 1998, 80B:234–238.
2. *World population prospects: the 2002 revision and world urban prospects*. New York, United Nations Population Division, Department of Economic and Social Affairs, 2003.

**Table A3.1**

**Ten-year probability of osteoporotic fracture (%), by BMD T-score at the femoral neck, the number of clinical risk factors (CRFs) and age in men from the United Kingdom**

Age = 50 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	20	13	9.0	6.5	5.0	4.0	3.4	2.9	2.7	2.5	2.4
1	30 (26-38)	20 (18-25)	14 (12-17)	9.8 (7.9-12)	7.5 (5.6-9.4)	6.1 (4.3-7.8)	5.1 (3.5-6.8)	4.4 (2.9-6.0)	4.0 (2.6-5.5)	3.8 (2.4-5.3)	3.6 (2.3-5.1)
2	43 (34-56)	29 (23-40)	20 (16-28)	15 (10-20)	11 (7.3-17)	9.0 (5.4-14)	7.5 (4.3-12)	6.5 (3.5-11)	5.9 (3.1-10)	5.6 (2.9-9.7)	5.4 (2.8-9.4)
3	57 (44-70)	41 (30-51)	29 (21-39)	21 (14-31)	16 (9.7-26)	13 (7.2-22)	11 (5.6-19)	9.3 (4.6-17)	8.4 (4.0-16)	8.0 (3.7-15)	7.7 (3.5-15)
4	71 (56-81)	54 (39-64)	40 (28-48)	30 (20-39)	23 (15-32)	18 (12-28)	15 (9.1-24)	13 (7.4-22)	12 (6.4-20)	11 (6.0-19)	11 (5.7-19)
5	82 (74-88)	68 (57-75)	52 (42-57)	40 (31-46)	31 (24-38)	25 (19-33)	21 (16-28)	18 (14-25)	17 (12-23)	16 (11-22)	15 (10-22)
6	90	80	66	52	41	34	29	25	22	21	20

Age = 55 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	22	15	10	7.6	5.9	4.7	3.9	3.3	3.1	2.9	2.7
1	32 (29-38)	22 (20-26)	15 (13-19)	11 (9.1-14)	8.7 (6.6-11)	7.0 (5.0-9.0)	5.8 (4.0-7.7)	5.0 (3.3-6.8)	4.5 (3.0-6.3)	4.3 (2.7-6.0)	4.0 (2.6-5.7)
2	44 (36-55)	31 (25-41)	22 (18-30)	16 (12-22)	13 (8.6-19)	10 (6.4-16)	8.5 (5.0-14)	7.2 (4.0-12)	6.6 (3.6-11)	6.2 (3.3-11)	5.9 (3.1-10)
3	57 (46-67)	42 (33-52)	31 (24-41)	23 (16-34)	18 (11-28)	15 (8.4-24)	12 (6.5-21)	10 (5.3-18)	9.4 (4.6-17)	8.8 (4.2-16)	8.4 (3.9-16)
4	70 (57-78)	55 (42-63)	42 (31-51)	32 (23-42)	25 (18-35)	20 (14-30)	17 (10-26)	14 (8.4-23)	13 (7.3-22)	12 (6.7-21)	12 (6.2-20)
5	80 (74-85)	68 (59-73)	54 (46-60)	43 (35-50)	34 (27-42)	28 (22-36)	23 (18-31)	20 (15-27)	18 (13-25)	17 (12-24)	16 (11-23)
6	87	79	67	54	44	36	31	26	24	23	22

Age = 60 years

	Number of CRFs						BMD T-score (femoral neck)				
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	22	15	11	8.4	6.6	5.3	4.4	3.7	3.4	3.1	2.9
1	31 (28-35)	22 (20-26)	16 (14-19)	12 (9.8-14)	9.6 (7.3-12)	7.7 (5.6-9.9)	6.4 (4.4-8.5)	5.4 (3.6-7.3)	5.0 (3.3-6.9)	4.6 (3.0-6.5)	4.3 (2.8-6.1)
2	41 (35-51)	31 (26-39)	23 (18-29)	18 (13-24)	14 (9.5-20)	11 (7.1-17)	9.2 (5.5-14)	7.8 (4.5-13)	7.1 (4.0-12)	6.6 (3.6-11)	6.2 (3.3-10)
3	53 (44-62)	41 (33-50)	31 (24-41)	24 (17-35)	19 (13-29)	16 (9.4-25)	13 (7.3-22)	11 (5.9-19)	10 (5.1-18)	9.3 (4.6-17)	8.8 (4.3-16)
4	65 (54-71)	52 (42-60)	42 (32-50)	33 (24-43)	26 (19-36)	21 (15-31)	18 (11-27)	15 (9.2-24)	14 (8.0-23)	13 (7.2-21)	12 (6.6-20)
5	74 (69-78)	64 (57-69)	52 (45-59)	43 (36-50)	35 (29-43)	29 (23-37)	24 (19-32)	20 (16-28)	19 (14-26)	17 (12-25)	16 (11-23)
6	82	73	63	53	44	37	31	27	25	23	22

Age = 65 years

	Number of CRFs						BMD T-score (femoral neck)				
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	21	16	12	9.4	7.5	6.1	5.1	4.3	4.0	3.6	3.4
1	29 (26-33)	22 (19-25)	17 (14-20)	13 (11-16)	11 (8.1-13)	8.8 (6.3-11)	7.3 (5.1-9.7)	6.3 (4.2-8.5)	5.7 (3.8-7.9)	5.2 (3.4-7.4)	4.9 (3.1-6.9)
2	39 (33-46)	30 (25-36)	24 (19-30)	19 (14-25)	15 (10-21)	12 (8.0-18)	10 (6.3-16)	8.8 (5.2-14)	8.1 (4.6-13)	7.4 (4.1-12)	6.9 (3.7-11)
3	49 (41-57)	39 (33-49)	32 (25-41)	25 (18-36)	21 (14-31)	17 (11-27)	14 (8.3-23)	12 (6.8-21)	11 (6.0-19)	10 (5.3-18)	9.6 (4.8-17)
4	59 (51-65)	49 (41-57)	41 (32-50)	33 (26-43)	27 (21-38)	23 (16-33)	19 (13-29)	17 (10-26)	15 (9.0-24)	14 (8.0-23)	13 (7.3-21)
5	68 (63-73)	59 (53-65)	50 (44-58)	42 (36-50)	35 (30-44)	30 (25-38)	25 (20-34)	22 (17-30)	20 (15-28)	19 (13-26)	17 (12-25)
6	75	67	59	51	44	37	32	28	26	24	23

Age = 70 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	20	16	12	9.7	7.8	6.4	5.3	4.6	4.1	3.7	3.4
1	28 (23–34)	22 (18–26)	17 (14–21)	14 (11–16)	11 (8.2–13)	8.8 (6.5–11)	7.2 (5.2–8.6)	6.2 (4.4–7.4)	5.6 (3.9–6.6)	5.0 (3.5–6.1)	4.6 (3.1–5.6)
2	37 (30–46)	30 (23–38)	24 (18–31)	19 (14–25)	15 (11–20)	12 (8.3–16)	9.9 (6.6–14)	8.5 (5.5–12)	7.5 (4.8–11)	6.8 (4.2–9.5)	6.2 (3.8–8.7)
3	48 (39–57)	39 (31–49)	32 (24–41)	26 (18–34)	20 (14–28)	17 (11–24)	13 (8.7–20)	11 (7.2–17)	10 (6.3–15)	9.1 (5.5–14)	8.2 (4.9–13)
4	58 (49–66)	50 (41–58)	41 (33–50)	34 (26–42)	27 (20–36)	22 (16–30)	18 (13–25)	15 (11–22)	13 (9.2–20)	12 (8.1–18)	11 (7.2–16)
5	68 (61–73)	60 (52–66)	52 (44–59)	43 (36–51)	36 (30–43)	29 (24–36)	24 (19–30)	20 (16–26)	18 (14–23)	16 (13–21)	14 (12–19)
6	75	69	61	53	45	38	31	26	23	20	18

Age = 75 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	18	14	11	9.1	7.4	6.0	4.9	4.3	3.8	3.4	3.1
1	26 (20–41)	21 (16–34)	17 (12–27)	13 (9.7–21)	11 (7.6–16)	8.6 (6.1–12)	7.0 (4.9–9.7)	6.0 (4.1–7.9)	5.2 (3.6–6.5)	4.6 (3.2–5.4)	4.1 (2.8–4.8)
2	36 (26–51)	30 (21–43)	24 (16–36)	19 (13–29)	16 (10–23)	12 (8.0–18)	9.9 (6.3–14)	8.3 (5.3–12)	7.1 (4.6–9.7)	6.2 (3.9–8.2)	5.4 (3.5–7.1)
3	48 (34–61)	40 (27–53)	34 (22–45)	27 (17–38)	22 (13–31)	18 (11–25)	14 (8.4–20)	12 (7.1–17)	9.9 (6.0–14)	8.4 (5.2–12)	7.3 (4.5–10)
4	59 (42–69)	52 (35–62)	44 (29–54)	37 (23–47)	31 (19–39)	25 (15–32)	20 (12–26)	16 (10–22)	14 (8.5–18)	11 (7.4–16)	9.8 (6.5–13)
5	69 (52–75)	62 (44–69)	55 (37–62)	48 (31–55)	41 (26–47)	34 (21–40)	27 (17–33)	23 (15–28)	19 (13–23)	16 (11–20)	13 (9.8–17)
6	77	72	66	59	52	44	37	31	26	21	18

Age = 80 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	16	13	11	8.7	7.2	5.9	4.9	4.3	3.8	3.4	3.0
1	23 (17–37)	19 (14–31)	16 (11–25)	13 (9.0–21)	10 (7.3–17)	8.5 (5.9–13)	7.0 (4.8–11)	6.1 (4.1–8.8)	5.3 (3.6–7.3)	4.6 (3.1–6.2)	4.0 (2.7–5.2)
2	32 (22–47)	27 (18–40)	22 (15–33)	18 (12–28)	15 (9.7–23)	12 (7.9–18)	10 (6.4–15)	8.5 (5.4–12)	7.3 (4.6–10)	6.3 (4.0–8.8)	5.5 (3.5–7.4)
3	42 (29–55)	36 (24–49)	31 (20–42)	26 (16–36)	21 (13–30)	17 (11–24)	14 (8.6–20)	12 (7.3–17)	10 (6.2–14)	8.7 (5.3–12)	7.5 (4.6–10)
4	52 (36–63)	46 (30–57)	40 (26–50)	34 (21–44)	29 (17–37)	24 (14–31)	20 (12–26)	17 (9.9–22)	14 (8.5–19)	12 (7.3–16)	10 (6.3–14)
5	63 (44–69)	57 (38–63)	51 (32–57)	44 (27–51)	38 (23–45)	32 (19–38)	27 (16–32)	23 (14–28)	19 (12–24)	16 (10–21)	14 (9.0–18)
6	71	67	61	55	48	42	36	31	26	22	19

Age = 85 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	14	12	10	8.4	7.0	5.8	5.0	4.4	3.9	3.4	3.1
1	21 (15–34)	17 (13–29)	15 (10–24)	12 (8.6–20)	10 (7.1–17)	8.5 (5.8–14)	7.3 (4.9–12)	6.3 (4.3–9.9)	5.5 (3.7–8.5)	4.8 (3.2–7.2)	4.3 (2.8–6.2)
2	29 (20–43)	25 (17–37)	21 (14–32)	18 (11–27)	15 (9.5–23)	12 (7.8–19)	10 (6.6–16)	9.1 (5.7–14)	7.9 (4.9–12)	6.8 (4.3–9.9)	5.9 (3.7–8.5)
3	38 (25–51)	33 (22–45)	29 (18–40)	25 (15–34)	21 (13–29)	17 (11–25)	15 (8.9–21)	13 (7.6–18)	11 (6.6–16)	9.6 (5.7–13)	8.3 (4.9–12)
4	48 (32–59)	43 (28–53)	38 (24–48)	33 (20–42)	28 (17–37)	24 (14–32)	21 (12–27)	18 (10–24)	16 (8.9–21)	13 (7.7–18)	12 (6.7–15)
5	58 (40–65)	54 (35–60)	48 (30–55)	43 (26–50)	38 (22–44)	33 (19–39)	28 (16–34)	25 (14–30)	21 (12–26)	19 (11–23)	16 (9.3–20)
6	67	63	59	54	48	43	37	33	29	25	22

Age = 90 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	13	11	9.1	7.7	6.5	5.5	4.8	4.2	3.7	3.3	2.9	
1	19 (14–31)	16 (12–27)	14 (9.8–23)	12 (8.2–20)	9.8 (6.9–17)	8.3 (5.8–14)	7.2 (5.0–12)	6.3 (4.4–11)	5.5 (3.8–9.1)	4.9 (3.3–7.9)	4.3 (2.9–6.8)	
2	26 (18–40)	23 (15–35)	20 (13–31)	17 (11–27)	15 (9.3–23)	12 (7.8–19)	11 (6.8–17)	9.4 (5.9–15)	8.2 (5.2–13)	7.2 (4.5–11)	6.3 (3.9–9.8)	
3	36 (23–48)	32 (20–44)	28 (17–39)	24 (15–35)	21 (13–30)	18 (11–26)	16 (9.2–23)	14 (8.1–20)	12 (7.0–18)	11 (6.1–16)	9.2 (5.4–14)	
4	45 (30–56)	41 (26–52)	37 (23–47)	33 (20–42)	29 (17–38)	25 (14–33)	22 (12–30)	20 (11–26)	17 (9.6–23)	15 (8.4–21)	13 (7.4–18)	
5	55 (37–61)	51 (33–58)	47 (29–54)	43 (26–49)	39 (22–45)	34 (19–40)	31 (17–36)	28 (15–33)	25 (13–29)	22 (12–26)	19 (10–23)	
6	63	60	57	53	49	45	41	37	33	30	27	

**TableA3.2**

**Ten-year probability of hip fracture (%), by BMD, the number of clinical risk factors (CRFs) and age in men from the United Kingdom**

Age = 50 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	16	8.6	4.6	2.4	1.3	0.7	0.4	0.2	0.1	0.1	0.0	
1	24 (17–31)	13 (9.0–18)	7.3 (4.8–9.6)	3.9 (2.6–5.1)	2.1 (1.4–2.7)	1.1 (0.7–1.4)	0.6 (0.4–0.8)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.0 (0.0–0.1)	
2	35 (23–48)	21 (13–30)	11 (6.8–17)	6.2 (3.6–9.3)	3.3 (1.9–5.0)	1.7 (1.0–2.6)	0.9 (0.5–1.4)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	
3	48 (32–66)	30 (19–44)	17 (10–27)	9.6 (5.5–15)	5.1 (2.9–8.3)	2.7 (1.5–4.4)	1.4 (0.8–2.4)	0.8 (0.4–1.2)	0.4 (0.2–0.7)	0.2 (0.1–0.4)	0.1 (0.1–0.2)	
4	63 (48–78)	42 (29–58)	26 (17–38)	15 (9.2–22)	7.9 (4.9–12)	4.2 (2.6–6.7)	2.2 (1.4–3.6)	1.2 (0.7–1.9)	0.6 (0.4–1.0)	0.3 (0.2–0.6)	0.2 (0.1–0.3)	
5	77 (68–86)	57 (46–70)	37 (28–48)	22 (16–30)	12 (8.8–17)	6.5 (4.7–9.4)	3.5 (2.5–5.0)	1.8 (1.3–2.7)	1.0 (0.7–1.4)	0.5 (0.4–0.8)	0.3 (0.2–0.4)	
6	87	71	50	31	18	9.8	5.3	2.8	1.5	0.8	0.4	

Age = 55 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	16	9.3	5.2	2.9	1.6	0.9	0.5	0.3	0.1	0.1	0.0	
1	24 (17–30)	14 (9.8–18)	8.1 (5.5–10)	4.5 (3.0–5.6)	2.5 (1.7–3.1)	1.4 (0.9–1.7)	0.7 (0.5–0.9)	0.4 (0.3–0.5)	0.2 (0.2–0.3)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	
2	35 (23–46)	21 (14–29)	12 (7.7–17)	6.9 (4.3–10)	3.8 (2.3–5.6)	2.1 (1.3–3.1)	1.2 (0.7–1.7)	0.6 (0.4–0.9)	0.4 (0.2–0.5)	0.2 (0.1–0.3)	0.1 (0.1–0.2)	
3	47 (33–62)	31 (20–43)	18 (11–27)	11 (6.4–16)	5.9 (3.6–9.1)	3.3 (2.0–5.1)	1.8 (1.1–2.8)	1.0 (0.6–1.5)	0.6 (0.3–0.9)	0.3 (0.2–0.5)	0.2 (0.1–0.3)	
4	61 (48–75)	42 (31–56)	27 (18–38)	16 (11–23)	9.0 (5.9–13)	5.0 (3.3–7.6)	2.8 (1.8–4.3)	1.5 (1.0–2.3)	0.9 (0.6–1.3)	0.5 (0.3–0.8)	0.3 (0.2–0.4)	
5	74 (67–83)	55 (47–68)	37 (30–48)	23 (18–31)	13 (10–19)	7.5 (5.9–11)	4.2 (3.2–6.0)	2.3 (1.8–3.3)	1.3 (1.0–1.9)	0.7 (0.6–1.1)	0.4 (0.3–0.6)	
6	84	69	50	32	19	11	6.3	3.5	2.0	1.1	0.6	

Age = 60 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	15	9.2	5.5	3.2	1.9	1.1	0.6	0.4	0.2	0.1	0.1	
1	22 (16–26)	14 (9.6–16)	8.2 (5.7–9.7)	4.9 (3.4–5.7)	2.9 (2.0–3.4)	1.7 (1.1–2.0)	1.0 (0.7–1.1)	0.6 (0.4–0.7)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	
2	31 (22–40)	20 (13–26)	12 (8.0–16)	7.4 (4.7–10)	4.3 (2.8–6.0)	2.5 (1.6–3.5)	1.5 (0.9–2.0)	0.9 (0.5–1.2)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.2 (0.1–0.3)	
3	42 (31–53)	28 (20–38)	18 (12–25)	11 (7.1–16)	6.5 (4.2–9.4)	3.8 (2.5–5.6)	2.3 (1.4–3.3)	1.3 (0.8–1.9)	0.8 (0.5–1.2)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	
4	54 (44–66)	38 (30–50)	25 (19–35)	16 (11–22)	9.6 (6.8–14)	5.7 (4.0–8.4)	3.4 (2.4–5.0)	2.0 (1.4–3.0)	1.2 (0.8–1.8)	0.7 (0.5–1.1)	0.4 (0.3–0.7)	
5	66 (60–75)	50 (44–61)	35 (30–45)	23 (19–30)	14 (12–19)	8.5 (7.0–12)	5.0 (4.1–7.0)	3.0 (2.4–4.2)	1.8 (1.5–2.5)	1.1 (0.9–1.5)	0.6 (0.5–0.9)	
6	76	62	46	31	20	12	7.4	4.4	2.7	1.6	1.0	

Age = 65 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	14	8.8	5.6	3.5	2.1	1.3	0.8	0.5	0.3	0.2	0.1	
1	20 (14–22)	13 (9.3–15)	8.2 (5.8–9.4)	5.1 (3.6–5.9)	3.2 (2.3–3.7)	2.0 (1.4–2.3)	1.2 (0.9–1.4)	0.8 (0.5–0.9)	0.5 (0.3–0.6)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	
2	27 (20–34)	18 (13–23)	12 (8.2–15)	7.5 (5.1–9.7)	4.7 (3.2–6.1)	3.0 (2.0–3.8)	1.8 (1.2–2.4)	1.1 (0.8–1.5)	0.7 (0.5–1.0)	0.5 (0.3–0.6)	0.3 (0.2–0.4)	
3	36 (28–45)	25 (19–32)	17 (12–22)	11 (7.7–14)	6.9 (4.8–9.3)	4.3 (3.0–5.9)	2.7 (1.9–3.7)	1.7 (1.2–2.3)	1.1 (0.7–1.5)	0.7 (0.5–1.0)	0.4 (0.3–0.6)	
4	46 (39–56)	34 (27–43)	23 (18–31)	15 (12–21)	10 (7.6–14)	6.3 (4.7–8.8)	4.0 (3.0–5.6)	2.5 (1.9–3.6)	1.6 (1.2–2.3)	1.0 (0.8–1.5)	0.7 (0.5–0.9)	
5	57 (53–65)	44 (40–53)	31 (28–40)	21 (19–28)	14 (12–19)	9.1 (7.8–12)	5.7 (4.9–7.9)	3.6 (3.1–5.0)	2.3 (2.0–3.2)	1.5 (1.3–2.1)	1.0 (0.8–1.3)	
6	66	54	41	29	20	13	8.2	5.3	3.4	2.2	1.4	

Age = 70 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	12	8.4	5.6	3.7	2.5	1.6	1.1	0.7	0.5	0.3	0.2	
1	19 (17–24)	13 (12–17)	9.0 (7.9–12)	6.0 (5.3–7.8)	4.0 (3.5–5.2)	2.6 (2.3–3.4)	1.7 (1.5–2.3)	1.2 (1.0–1.5)	0.8 (0.7–1.0)	0.5 (0.5–0.7)	0.4 (0.3–0.5)	
2	28 (24–35)	20 (17–25)	14 (11–18)	9.5 (7.8–12)	6.4 (5.2–8.5)	4.3 (3.5–5.7)	2.8 (2.3–3.8)	1.9 (1.5–2.5)	1.3 (1.0–1.7)	0.9 (0.7–1.2)	0.6 (0.5–0.8)	
3	39 (33–46)	29 (24–35)	21 (17–26)	15 (12–18)	10 (7.8–13)	6.8 (5.2–8.6)	4.5 (3.5–5.8)	3.1 (2.4–3.9)	2.1 (1.6–2.7)	1.4 (1.1–1.8)	1.0 (0.7–1.2)	
4	51 (43–57)	40 (33–46)	30 (24–35)	22 (17–26)	15 (12–18)	11 (8.0–13)	7.1 (5.3–8.6)	4.9 (3.6–5.9)	3.3 (2.5–4.0)	2.3 (1.7–2.8)	1.6 (1.1–1.9)	
5	62 (54–66)	52 (44–56)	41 (34–45)	31 (25–34)	23 (18–25)	16 (12–18)	11 (8.5–12)	7.7 (5.8–8.6)	5.3 (4.0–6.0)	3.7 (2.8–4.1)	2.5 (1.9–2.8)	
6	71	63	53	43	33	24	17	12	8.3	5.8	4.0	

Age = 75 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	11	8.1	5.8	4.1	2.9	2.0	1.4	1.0	0.7	0.5	0.4
1	19 (15–37)	14 (11–29)	11 (8.0–22)	7.6 (5.7–16)	5.4 (4.0–12)	3.8 (2.8–8.3)	2.7 (2.0–5.9)	1.9 (1.4–4.3)	1.4 (1.0–3.1)	1.0 (0.7–2.2)	0.7 (0.5–1.6)
2	30 (20–48)	23 (15–39)	18 (11–30)	13 (8.0–23)	9.5 (5.7–17)	6.8 (4.0–13)	4.9 (2.8–9.1)	3.5 (2.0–6.7)	2.6 (1.4–4.9)	1.8 (1.0–3.6)	1.3 (0.7–2.6)
3	42 (27–58)	34 (20–49)	27 (15–40)	21 (11–32)	16 (8.0–25)	11 (5.7–18)	8.3 (4.0–13)	6.1 (2.9–10)	4.5 (2.1–7.3)	3.2 (1.5–5.4)	2.4 (1.1–3.9)
4	55 (35–66)	47 (28–58)	39 (21–49)	31 (16–40)	24 (12–32)	18 (8.5–25)	14 (6.0–18)	10 (4.4–14)	7.5 (3.2–10)	5.5 (2.3–7.5)	4.0 (1.7–5.5)
5	66 (45–72)	59 (37–66)	51 (29–58)	43 (23–49)	35 (17–40)	27 (12–32)	21 (9.0–24)	16 (6.7–19)	12 (4.9–14)	9.0 (3.6–10)	6.6 (2.6–7.7)
6	76	71	64	56	47	39	31	24	19	14	11

Age = 80 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	10	7.7	5.8	4.3	3.2	2.4	1.8	1.3	1.0	0.8	0.6
1	17 (13–33)	13 (9.9–27)	10 (7.5–21)	7.8 (5.6–17)	5.9 (4.2–13)	4.4 (3.1–9.7)	3.3 (2.3–7.4)	2.5 (1.8–5.7)	1.9 (1.3–4.3)	1.5 (1.0–3.3)	1.1 (0.8–2.5)
2	26 (17–43)	21 (13–36)	17 (9.8–30)	13 (7.5–24)	10 (5.6–18)	7.6 (4.2–14)	5.8 (3.2–11)	4.5 (2.4–8.4)	3.4 (1.9–6.5)	2.6 (1.4–5.0)	2.0 (1.1–3.9)
3	37 (22–52)	31 (17–45)	25 (13–38)	20 (10–31)	16 (7.8–25)	12 (5.9–20)	9.5 (4.4–16)	7.4 (3.4–12)	5.8 (2.6–9.7)	4.5 (2.0–7.5)	3.4 (1.5–5.8)
4	49 (29–61)	42 (23–54)	35 (18–47)	29 (14–39)	24 (11–33)	19 (8.5–26)	15 (6.4–21)	12 (5.0–17)	9.3 (3.9–13)	7.3 (3.0–10)	5.6 (2.3–8.1)
5	60 (38–66)	54 (32–60)	47 (26–53)	40 (20–46)	34 (16–39)	28 (12–32)	22 (9.5–26)	18 (7.5–21)	14 (5.8–17)	11 (4.5–14)	8.9 (3.5–11)
6	70	65	59	52	45	38	32	26	21	17	14

Age = 85 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	8.9	7.1	5.6	4.4	3.5	2.7	2.2	1.7	1.4	1.1	0.9
1	15 (11–30)	12 (9.0–25)	9.9 (7.2–21)	7.9 (5.7–17)	6.3 (4.5–14)	5.0 (3.5–11)	4.0 (2.8–8.8)	3.2 (2.3–7.2)	2.6 (1.8–5.8)	2.1 (1.5–4.7)	1.7 (1.2–3.8)
2	23 (14–39)	19 (12–34)	16 (9.3–28)	13 (7.4–24)	10 (5.8–19)	8.4 (4.6–16)	6.8 (3.7–13)	5.5 (3.0–11)	4.5 (2.4–8.7)	3.7 (1.9–7.1)	3.0 (1.6–5.7)
3	33 (19–48)	28 (16–42)	24 (13–36)	20 (10–31)	16 (8.1–26)	13 (6.4–21)	11 (5.2–18)	9.0 (4.2–15)	7.4 (3.4–12)	6.0 (2.7–10)	4.9 (2.2–8.2)
4	45 (26–56)	39 (21–51)	34 (17–45)	29 (14–39)	24 (11–33)	20 (9.0–28)	17 (7.3–23)	14 (6.0–20)	12 (4.8–17)	9.6 (3.9–14)	7.9 (3.2–11)
5	56 (34–62)	51 (29–57)	45 (24–51)	39 (20–45)	34 (16–39)	29 (13–34)	24 (11–29)	21 (8.8–25)	17 (7.2–21)	15 (5.9–17)	12 (4.8–14)
6	66	62	57	51	45	40	34	30	25	21	18

Age = 90 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	7.9	6.5	5.3	4.3	3.5	2.9	2.4	2.0	1.7	1.4	1.2
1	14 (10–28)	11 (8.4–24)	9.5 (6.9–20)	7.9 (5.7–17)	6.5 (4.6–14)	5.3 (3.8–12)	4.5 (3.2–9.9)	3.8 (2.6–8.3)	3.2 (2.2–7.0)	2.7 (1.9–5.9)	2.2 (1.5–5.0)
2	21 (13–37)	18 (11–32)	16 (9.1–28)	13 (7.5–24)	11 (6.2–20)	9.1 (5.1–17)	7.7 (4.3–14)	6.5 (3.6–12)	5.5 (3.0–10)	4.7 (2.5–8.8)	3.9 (2.1–7.5)
3	31 (18–46)	27 (15–41)	24 (12–36)	20 (10–32)	17 (8.6–27)	15 (7.1–23)	12 (6.0–20)	11 (5.0–18)	9.1 (4.2–15)	7.8 (3.6–13)	6.6 (3.0–11)
4	42 (24–54)	38 (20–49)	34 (17–44)	29 (15–40)	26 (12–35)	22 (10–30)	19 (8.6–27)	17 (7.3–23)	14 (6.2–20)	12 (5.3–17)	11 (4.4–15)
5	53 (32–59)	49 (28–55)	45 (24–51)	40 (21–46)	36 (18–41)	32 (15–36)	28 (13–32)	25 (11–29)	22 (9.2–25)	19 (7.8–22)	16 (6.6–19)
6	62	59	56	52	47	43	38	35	31	27	24

**TableA3.3**

**Ten-year probability of osteoporotic fractures (%), by BMD T-score at the femoral neck, the number of clinical risk factors (CRFs) and age in women from the United Kingdom**

Age = 50 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	17	12	8.3	6.3	5.1	4.2	3.6	3.3	3.2	3.1	2.9
1	26 (23–32)	18 (15–22)	13 (10–16)	9.5 (7.2–12)	7.6 (5.4–9.7)	6.4 (4.4–8.4)	5.5 (3.6–7.4)	5.0 (3.3–6.9)	4.8 (3.1–6.6)	4.6 (2.9–6.4)	4.4 (2.8–6.2)
2	37 (30–50)	26 (20–35)	19 (14–25)	14 (9.3–21)	11 (6.8–18)	9.4 (5.4–15)	8.1 (4.4–14)	7.4 (3.9–13)	7.0 (3.7–12)	6.7 (3.5–12)	6.5 (3.3–11)
3	51 (39–64)	37 (27–48)	27 (18–39)	20 (12–32)	16 (9.0–27)	14 (7.0–24)	12 (5.7–21)	11 (5.1–20)	10 (4.7–19)	9.7 (4.5–18)	9.3 (4.3–18)
4	66 (50–77)	50 (35–58)	37 (26–48)	28 (19–40)	23 (15–34)	19 (12–30)	16 (9.3–27)	15 (8.2–25)	14 (7.6–24)	14 (7.2–23)	13 (6.9–22)
5	80 (71–87)	64 (53–69)	50 (40–56)	39 (31–47)	31 (25–40)	26 (20–35)	23 (17–31)	21 (15–29)	20 (14–27)	19 (13–27)	18 (13–26)
6	90	78	63	51	42	35	31	28	27	26	25

Age = 55 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	20	14	10	7.9	6.3	5.3	4.5	4.2	3.9	3.7	3.5
1	29 (26–34)	20 (18–24)	15 (12–18)	12 (8.9–14)	9.4 (6.8–12)	7.8 (5.4–10)	6.7 (4.5–9.1)	6.2 (4.1–8.5)	5.8 (3.8–8.1)	5.5 (3.6–7.7)	5.2 (3.4–7.3)
2	40 (34–52)	29 (23–39)	22 (16–29)	17 (11–25)	14 (8.6–21)	11 (6.7–18)	9.7 (5.5–16)	9.0 (4.9–15)	8.5 (4.5–14)	8.0 (4.2–14)	7.6 (4.0–13)
3	54 (43–65)	41 (31–53)	31 (21–44)	24 (15–37)	20 (11–32)	16 (8.8–28)	14 (7.1–25)	13 (6.3–23)	12 (5.8–22)	11 (5.4–21)	11 (5.1–20)
4	68 (54–77)	54 (40–63)	42 (30–54)	33 (24–46)	27 (18–40)	23 (14–35)	19 (12–31)	18 (10–29)	17 (9.4–28)	16 (8.7–26)	15 (8.2–25)
5	81 (74–86)	68 (59–73)	55 (46–62)	44 (37–53)	36 (30–46)	31 (25–40)	26 (20–35)	24 (18–33)	23 (16–32)	22 (15–30)	21 (14–29)
6	90	80	68	57	48	41	35	33	31	29	28

Age = 60 years

	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	23	16	12	9.5	7.7	6.3	5.5	5.0	4.6	4.3	4.1
1	32 (29–37)	24 (20–27)	18 (15–21)	14 (11–17)	11 (8.2–14)	9.3 (6.5–12)	8.0 (5.5–11)	7.4 (4.9–10)	6.8 (4.5–9.5)	6.4 (4.2–8.9)	6.0 (3.9–8.4)
2	44 (38–54)	33 (27–42)	25 (19–34)	20 (14–28)	16 (10–24)	13 (8.1–21)	12 (6.7–18)	11 (5.9–17)	9.8 (5.4–16)	9.2 (4.9–15)	8.6 (4.6–14)
3	58 (48–68)	45 (35–58)	35 (25–49)	28 (18–42)	23 (14–36)	19 (11–31)	16 (8.7–28)	15 (7.7–26)	14 (6.9–25)	13 (6.4–23)	12 (5.9–22)
4	71 (59–78)	58 (45–68)	46 (35–59)	38 (28–51)	31 (22–44)	26 (17–39)	22 (14–35)	21 (12–33)	19 (11–31)	18 (10–29)	17 (9.4–28)
5	82 (77–85)	71 (64–76)	59 (52–67)	49 (42–58)	41 (34–51)	34 (28–44)	30 (23–40)	28 (21–38)	26 (19–35)	24 (17–33)	23 (16–32)
6	90	82	72	61	52	45	40	37	34	32	30

Age = 65 years

	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	27	20	15	12	9.7	8.0	7.1	6.4	5.9	5.4	5.0
1	37 (33–41)	28 (24–31)	22 (18–26)	17 (13–22)	14 (10–18)	12 (8.2–15)	10 (7.1–14)	9.3 (6.3–13)	8.5 (5.7–12)	7.9 (5.2–11)	7.3 (4.8–10)
2	49 (42–58)	38 (31–47)	30 (23–40)	24 (17–34)	20 (13–29)	16 (10–25)	15 (8.6–23)	13 (7.6–21)	12 (6.8–19)	11 (6.1–18)	10 (5.6–17)
3	62 (53–72)	50 (40–64)	41 (30–55)	33 (22–48)	27 (17–42)	23 (13–37)	20 (11–34)	18 (9.8–31)	17 (8.7–29)	16 (7.9–27)	15 (7.2–26)
4	73 (63–81)	62 (52–73)	52 (42–65)	43 (34–57)	36 (26–51)	30 (21–44)	27 (18–41)	25 (15–39)	23 (14–36)	21 (12–34)	20 (11–32)
5	83 (79–87)	74 (69–80)	64 (58–72)	55 (49–65)	47 (40–57)	40 (32–51)	36 (28–47)	33 (25–44)	31 (22–41)	28 (20–39)	27 (19–36)
6	89	83	75	66	58	50	46	42	40	37	35

Age = 70 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	30	23	18	14	11	9.3	8.2	7.3	6.6	5.9	5.4
1	41 (36–47)	32 (27–37)	25 (20–29)	19 (15–23)	15 (12–18)	13 (9.5–15)	11 (8.2–13)	10 (7.2–12)	8.9 (6.3–11)	8.1 (5.7–9.6)	7.3 (5.1–8.8)
2	54 (45–64)	43 (34–53)	34 (26–42)	27 (20–34)	21 (15–27)	18 (12–23)	15 (10–20)	13 (8.6–18)	12 (7.6–16)	11 (6.8–15)	9.9 (6.1–14)
3	67 (56–77)	55 (43–68)	45 (33–58)	36 (25–48)	29 (19–40)	24 (15–34)	20 (13–30)	18 (11–27)	16 (9.8–25)	14 (8.7–23)	13 (7.8–21)
4	78 (70–84)	68 (58–77)	57 (47–67)	47 (37–58)	38 (29–49)	31 (24–42)	27 (20–38)	24 (17–34)	21 (15–31)	19 (14–28)	17 (12–26)
5	86 (81–89)	79 (73–83)	70 (63–76)	59 (52–67)	49 (43–57)	41 (35–49)	35 (30–44)	31 (27–39)	28 (24–36)	25 (21–33)	22 (19–30)
6	89	86	80	71	61	52	45	40	35	32	29

Age = 75 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	31	24	19	15	12	10	8.6	7.5	6.6	5.9	5.3
1	44 (37–62)	35 (28–49)	27 (22–38)	21 (16–29)	17 (13–22)	14 (10–17)	12 (8.7–14)	10 (7.4–12)	8.8 (6.5–10)	7.8 (5.7–9.3)	6.9 (5.0–8.3)
2	58 (46–75)	48 (36–65)	38 (28–53)	30 (21–42)	23 (16–33)	19 (13–26)	16 (11–21)	14 (9.2–18)	12 (7.9–16)	10 (6.8–14)	9.0 (6.0–13)
3	71 (56–82)	61 (45–75)	51 (35–65)	41 (27–55)	33 (21–44)	27 (17–36)	22 (14–30)	18 (12–25)	16 (10–22)	13 (8.8–19)	12 (7.7–16)
4	80 (68–86)	73 (57–82)	65 (47–75)	54 (38–65)	44 (30–54)	36 (25–45)	30 (21–38)	25 (18–32)	21 (15–27)	18 (13–24)	15 (11–21)
5	86 (77–89)	82 (70–86)	76 (61–81)	67 (51–74)	57 (42–64)	48 (36–55)	40 (31–46)	33 (26–39)	28 (23–33)	23 (20–29)	20 (17–25)
6	89	87	84	78	70	61	52	44	37	31	26

Age = 80 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	33	26	21	16	13	11	9.6	8.3	7.2	6.3	5.5
1	45 (37–62)	37 (29–52)	29 (23–42)	23 (18–33)	19 (14–26)	16 (12–21)	13 (9.7–17)	11 (8.2–13)	9.6 (7.0–11)	8.3 (6.0–9.5)	7.2 (5.2–8.4)
2	57 (45–72)	48 (37–64)	40 (29–55)	32 (23–45)	26 (18–37)	22 (15–30)	18 (12–25)	15 (10–20)	13 (8.7–17)	11 (7.4–14)	9.5 (6.4–13)
3	67 (55–79)	60 (46–73)	51 (37–65)	43 (30–55)	35 (24–46)	30 (19–39)	25 (16–33)	21 (13–28)	17 (11–24)	15 (9.6–20)	12 (8.3–17)
4	76 (64–83)	70 (55–79)	63 (47–72)	55 (38–64)	46 (31–56)	39 (26–48)	33 (22–41)	28 (19–35)	23 (16–30)	19 (14–25)	16 (12–22)
5	82 (72–86)	78 (65–83)	73 (58–78)	66 (50–72)	58 (42–65)	51 (36–57)	43 (31–50)	37 (27–43)	31 (23–37)	26 (20–31)	22 (18–27)
6	86	84	80	75	69	62	55	47	40	34	28

Age = 85 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	34	28	22	18	15	13	11	9.3	8.0	6.9	6.0
1	44 (36–60)	37 (29–52)	31 (24–44)	25 (19–36)	21 (16–30)	18 (13–25)	15 (11–20)	13 (9.2–17)	11 (7.8–14)	9.3 (6.6–11)	7.9 (5.7–9.4)
2	55 (44–69)	48 (37–62)	41 (30–54)	34 (24–47)	29 (20–40)	24 (17–34)	21 (14–29)	17 (12–24)	15 (9.9–20)	13 (8.3–17)	11 (7.0–14)
3	64 (52–75)	58 (45–70)	51 (38–63)	44 (31–56)	38 (26–49)	33 (22–43)	28 (18–37)	24 (15–32)	20 (13–27)	17 (11–23)	14 (9.2–20)
4	73 (60–80)	67 (54–76)	61 (46–70)	54 (39–64)	48 (34–58)	43 (29–52)	37 (25–46)	32 (21–40)	27 (18–34)	23 (16–29)	19 (13–25)
5	79 (68–83)	75 (62–80)	70 (55–76)	64 (48–71)	59 (43–66)	53 (38–60)	47 (33–54)	41 (29–48)	35 (25–42)	30 (22–36)	26 (19–31)
6	82	81	78	73	69	63	58	51	45	39	34

Age = 90 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	29	24	19	16	13	11	9.4	8.0	6.8	5.7	4.9	
1	39 (31–55)	33 (26–48)	27 (21–40)	22 (17–33)	19 (14–28)	16 (12–24)	14 (9.9–20)	11 (8.3–16)	9.6 (7.0–13)	8.1 (5.8–11)	6.8 (4.9–9.0)	
2	50 (39–65)	43 (33–58)	37 (27–51)	31 (22–45)	27 (19–39)	23 (16–33)	19 (13–28)	16 (11–24)	14 (9.1–20)	11 (7.6–17)	9.6 (6.3–14)	
3	61 (48–72)	54 (41–67)	48 (34–61)	42 (28–55)	36 (24–49)	31 (20–42)	27 (17–37)	23 (14–31)	19 (12–26)	16 (10–22)	14 (8.4–19)	
4	69 (56–77)	64 (50–73)	59 (43–69)	53 (36–63)	47 (32–58)	42 (27–52)	37 (23–45)	31 (20–39)	27 (17–34)	23 (14–29)	19 (12–24)	
5	75 (64–80)	73 (59–78)	68 (52–74)	64 (46–70)	59 (41–65)	53 (36–60)	48 (32–54)	42 (27–48)	36 (23–42)	31 (20–36)	26 (17–31)	
6	78	78	76	73	69	64	59	54	48	42	36	

**Table A3.4**

**Ten-year probability of hip fracture (%), by BMD T-score at the femoral neck, the number of clinical risk factors (CRFs) and age in women from the United Kingdom**

Age = 50 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	12	6.1	3.1	1.6	0.8	0.4	0.2	0.1	0.1	0.0	0.0	
1	18 (12–23)	9.7 (6.4–13)	5.1 (3.3–6.6)	2.6 (1.7–3.4)	1.3 (0.9–1.8)	0.7 (0.4–0.9)	0.3 (0.2–0.5)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.1 (0.0–0.1)	0.0 (0.0–0.0)	
2	27 (17–39)	15 (9.0–22)	8.0 (4.7–12)	4.2 (2.4–6.3)	2.1 (1.2–3.3)	1.1 (0.6–1.7)	0.6 (0.3–0.9)	0.3 (0.2–0.5)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.0 (0.0–0.1)	
3	39 (25–57)	23 (13–35)	12 (7.0–20)	6.5 (3.6–11)	3.4 (1.9–5.6)	1.7 (1.0–2.9)	0.9 (0.5–1.5)	0.5 (0.3–0.8)	0.2 (0.1–0.4)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	
4	54 (38–72)	33 (22–48)	19 (12–29)	10 (6.3–16)	5.3 (3.2–8.4)	2.7 (1.7–4.4)	1.4 (0.9–2.3)	0.7 (0.4–1.2)	0.4 (0.2–0.6)	0.2 (0.1–0.3)	0.1 (0.1–0.2)	
5	70 (59–83)	47 (37–61)	28 (21–38)	15 (11–22)	8.2 (6.0–12)	4.3 (3.1–6.2)	2.2 (1.6–3.2)	1.1 (0.8–1.7)	0.6 (0.4–0.9)	0.3 (0.2–0.5)	0.2 (0.1–0.3)	
6	84	62	40	23	12	6.5	3.4	1.8	0.9	0.5	0.3	

Age = 55 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	12	6.8	3.7	2.0	1.1	0.6	0.3	0.2	0.1	0.1	0.0	
1	19 (13–23)	11 (7.1–13)	5.8 (3.9–7.1)	3.2 (2.1–3.9)	1.7 (1.1–2.1)	0.9 (0.6–1.1)	0.5 (0.3–0.6)	0.3 (0.2–0.3)	0.2 (0.1–0.2)	0.1 (0.1–0.1)	0.0 (0.0–0.1)	
2	28 (18–38)	16 (9.9–23)	9.0 (5.5–13)	4.9 (3.0–7.2)	2.7 (1.6–3.9)	1.4 (0.9–2.1)	0.8 (0.5–1.1)	0.4 (0.3–0.6)	0.2 (0.1–0.4)	0.1 (0.1–0.2)	0.1 (0.0–0.1)	
3	39 (26–56)	24 (15–36)	14 (8.2–21)	7.6 (4.5–12)	4.2 (2.4–6.6)	2.3 (1.3–3.6)	1.2 (0.7–2.0)	0.7 (0.4–1.1)	0.4 (0.2–0.6)	0.2 (0.1–0.3)	0.1 (0.1–0.2)	
4	54 (40–70)	34 (24–49)	20 (14–30)	12 (7.6–18)	6.4 (4.2–10)	3.5 (2.3–5.5)	1.9 (1.2–3.0)	1.1 (0.7–1.7)	0.6 (0.4–0.9)	0.3 (0.2–0.5)	0.2 (0.1–0.3)	
5	69 (61–81)	48 (40–61)	30 (24–40)	17 (14–24)	9.7 (7.7–14)	5.4 (4.2–7.7)	2.9 (2.3–4.2)	1.6 (1.3–2.4)	0.9 (0.7–1.3)	0.5 (0.4–0.7)	0.3 (0.2–0.4)	
6	82	63	42	25	15	8.1	4.4	2.5	1.4	0.8	0.4	

Age = 60 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	13	7.7	4.4	2.4	1.4	0.8	0.4	0.3	0.1	0.1	0.1	
1	20 (14–23)	12 (8.1–14)	6.7 (4.6–7.9)	3.8 (2.6–4.5)	2.1 (1.4–2.5)	1.2 (0.8–1.4)	0.7 (0.5–0.8)	0.4 (0.3–0.5)	0.2 (0.2–0.3)	0.1 (0.1–0.2)	0.1 (0.1–0.1)	
2	29 (19–38)	18 (11–24)	10 (6.4–14)	5.8 (3.6–8.0)	3.3 (2.0–4.6)	1.9 (1.1–2.6)	1.1 (0.7–1.5)	0.6 (0.4–0.9)	0.4 (0.2–0.5)	0.2 (0.1–0.3)	0.1 (0.1–0.2)	
3	41 (28–55)	26 (17–36)	15 (9.6–23)	8.9 (5.5–13)	5.1 (3.1–7.7)	2.8 (1.7–4.4)	1.6 (1.0–2.5)	0.9 (0.6–1.5)	0.5 (0.3–0.8)	0.3 (0.2–0.5)	0.2 (0.1–0.3)	
4	54 (42–69)	36 (27–49)	22 (16–32)	13 (9.2–20)	7.6 (5.3–11)	4.3 (3.0–6.6)	2.5 (1.7–3.8)	1.4 (1.0–2.2)	0.8 (0.6–1.3)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	
5	68 (63–80)	49 (43–62)	32 (27–42)	19 (16–27)	11 (9.4–16)	6.5 (5.3–9.2)	3.7 (3.1–5.3)	2.2 (1.8–3.1)	1.3 (1.0–1.8)	0.7 (0.6–1.1)	0.4 (0.3–0.6)	
6	81	63	44	28	17	9.7	5.6	3.3	1.9	1.1	0.6	

Age = 65 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	14	8.6	5.1	3.0	1.7	1.0	0.6	0.4	0.2	0.1	0.1	
1	21 (15–25)	13 (9.1–15)	7.7 (5.4–9.2)	4.5 (3.1–5.4)	2.7 (1.8–3.2)	1.5 (1.1–1.9)	0.9 (0.6–1.1)	0.6 (0.4–0.7)	0.3 (0.2–0.4)	0.2 (0.1–0.2)	0.1 (0.1–0.2)	
2	30 (21–37)	19 (13–24)	11 (7.5–15)	6.8 (4.4–9.0)	4.0 (2.6–5.3)	2.4 (1.5–3.1)	1.4 (0.9–1.9)	0.9 (0.6–1.1)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	0.2 (0.1–0.3)	
3	41 (30–53)	27 (19–37)	17 (11–24)	10 (6.7–15)	6.1 (3.9–8.7)	3.6 (2.3–5.2)	2.2 (1.4–3.2)	1.3 (0.8–1.9)	0.8 (0.5–1.2)	0.5 (0.3–0.7)	0.3 (0.2–0.4)	
4	54 (44–67)	37 (29–49)	24 (18–33)	15 (11–21)	9.0 (6.5–13)	5.3 (3.8–7.8)	3.2 (2.3–4.8)	2.0 (1.4–2.9)	1.2 (0.8–1.8)	0.7 (0.5–1.1)	0.4 (0.3–0.6)	
5	67 (61–77)	49 (43–61)	33 (29–43)	21 (18–29)	13 (11–18)	7.8 (6.4–11)	4.8 (3.9–6.7)	2.9 (2.4–4.1)	1.8 (1.4–2.5)	1.1 (0.9–1.5)	0.6 (0.5–0.9)	
6	79	63	45	30	19	11	7.0	4.3	2.6	1.6	1.0	

Age = 70 years

	Number of CRFs						BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0	
0	16	10	6.2	3.8	2.3	1.4	0.9	0.6	0.4	0.2	0.1	
1	25 (22–31)	16 (14–20)	10 (8.7–13)	6.3 (5.3–7.9)	3.9 (3.3–4.9)	2.4 (2.0–3.0)	1.5 (1.3–1.9)	0.9 (0.8–1.2)	0.6 (0.5–0.8)	0.4 (0.3–0.5)	0.2 (0.2–0.3)	
2	37 (31–47)	25 (20–33)	16 (13–22)	10 (8.0–14)	6.4 (4.9–8.6)	4.0 (3.1–5.4)	2.5 (1.9–3.5)	1.6 (1.2–2.2)	1.0 (0.8–1.4)	0.6 (0.5–0.9)	0.4 (0.3–0.5)	
3	53 (43–61)	38 (29–46)	25 (19–32)	16 (12–21)	10 (7.5–14)	6.5 (4.7–8.8)	4.2 (3.0–5.6)	2.6 (1.9–3.6)	1.7 (1.2–2.3)	1.1 (0.7–1.4)	0.7 (0.5–0.9)	
4	68 (59–74)	53 (43–60)	38 (29–44)	26 (19–31)	17 (12–20)	11 (7.7–13)	6.9 (4.9–8.6)	4.4 (3.1–5.5)	2.8 (2.0–3.5)	1.8 (1.3–2.2)	1.1 (0.8–1.4)	
5	80 (74–82)	68 (60–72)	53 (45–58)	38 (31–42)	26 (21–29)	17 (13–19)	11 (8.7–13)	7.1 (5.6–8.3)	4.6 (3.6–5.3)	2.9 (2.3–3.4)	1.8 (1.4–2.1)	
6	87	80	68	53	38	26	18	12	7.4	4.8	3.0	

Age = 75 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	18	12	7.6	4.9	3.1	2.1	1.4	0.9	0.6	0.4	0.3
1	30 (24–54)	21 (16–41)	14 (11–29)	9.5 (6.9–20)	6.2 (4.4–13)	4.1 (2.9–8.7)	2.7 (1.9–5.9)	1.8 (1.3–3.9)	1.2 (0.8–2.6)	0.8 (0.6–1.7)	0.5 (0.4–1.1)
2	46 (32–69)	35 (22–57)	25 (15–43)	17 (9.7–31)	11 (6.3–21)	7.7 (4.2–15)	5.2 (2.8–10)	3.4 (1.8–6.8)	2.3 (1.2–4.6)	1.5 (0.8–3.0)	1.0 (0.5–2.0)
3	62 (44–79)	50 (31–69)	39 (22–56)	28 (14–43)	19 (9.4–31)	13 (6.3–22)	9.2 (4.2–16)	6.2 (2.8–11)	4.2 (1.8–7.2)	2.8 (1.2–4.8)	1.8 (0.8–3.2)
4	75 (57–84)	66 (44–77)	55 (32–67)	42 (22–55)	31 (15–42)	22 (10–31)	16 (6.7–22)	11 (4.5–16)	7.3 (3.0–11)	4.9 (2.0–7.3)	3.3 (1.3–4.9)
5	84 (70–88)	78 (58–83)	70 (46–76)	59 (34–65)	46 (24–53)	35 (16–41)	26 (11–30)	18 (7.7–21)	12 (5.2–15)	8.5 (3.5–10)	5.7 (2.3–6.9)
6	88	86	81	74	63	51	39	29	20	14	9.6

Age = 80 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	19	13	9.2	6.2	4.3	3.0	2.1	1.4	1.0	0.7	0.5
1	31 (24–55)	23 (17–44)	17 (12–33)	12 (8.1–24)	8.1 (5.6–17)	5.8 (3.9–12)	4.0 (2.7–8.7)	2.8 (1.9–6.1)	2.0 (1.3–4.3)	1.4 (0.9–3.0)	0.9 (0.6–2.1)
2	45 (32–67)	36 (23–57)	27 (16–46)	20 (11–36)	14 (7.8–27)	10 (5.5–20)	7.3 (3.9–14)	5.2 (2.7–10)	3.6 (1.9–7.3)	2.5 (1.3–5.1)	1.8 (0.9–3.6)
3	59 (42–76)	50 (32–68)	40 (23–58)	31 (17–47)	23 (12–37)	17 (8.3–28)	13 (5.8–21)	9.0 (4.1–15)	6.4 (2.8–11)	4.5 (2.0–7.8)	3.2 (1.4–5.5)
4	71 (54–81)	63 (43–75)	54 (33–67)	45 (24–57)	35 (17–47)	27 (12–38)	20 (8.9–29)	15 (6.3–22)	11 (4.4–16)	7.7 (3.1–12)	5.5 (2.2–8.3)
5	80 (64–84)	75 (55–80)	68 (45–73)	59 (35–66)	49 (26–56)	40 (19–47)	31 (14–38)	24 (10–29)	18 (7.3–22)	13 (5.2–16)	9.1 (3.7–11)
6	85	83	78	72	64	55	45	36	27	20	15

Age = 85 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	20	15	11	7.8	5.7	4.3	3.1	2.3	1.7	1.2	0.9
1	31 (25–54)	24 (19–45)	19 (14–36)	14 (10–28)	11 (7.5–22)	8.0 (5.6–17)	6.0 (4.1–13)	4.4 (3.0–9.6)	3.3 (2.2–7.1)	2.4 (1.6–5.3)	1.8 (1.2–3.9)
2	44 (32–65)	36 (25–56)	29 (19–47)	23 (14–39)	18 (10–32)	14 (7.8–25)	10 (5.8–20)	7.9 (4.3–15)	5.9 (3.1–11)	4.4 (2.3–8.6)	3.2 (1.7–6.4)
3	56 (40–72)	49 (32–66)	41 (25–58)	34 (19–50)	27 (15–42)	22 (11–34)	17 (8.4–28)	13 (6.3–22)	10 (4.7–17)	7.5 (3.5–13)	5.6 (2.6–9.5)
4	68 (50–78)	61 (42–73)	54 (34–66)	46 (27–59)	39 (21–51)	33 (16–43)	26 (12–36)	21 (9.4–29)	16 (7.0–23)	12 (5.2–18)	9.4 (3.9–14)
5	76 (60–81)	72 (52–77)	66 (44–72)	59 (36–65)	52 (29–58)	45 (23–51)	38 (18–44)	31 (14–37)	25 (11–30)	20 (8.2–24)	15 (6.2–18)
6	82	80	76	70	65	58	51	43	36	29	23

Age = 90 years

	Number of CRFs					BMD T-score (femoral neck)					
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	16	12	9.4	7.2	5.6	4.3	3.3	2.6	2.0	1.5	1.2
1	27 (21–49)	21 (16–41)	17 (12–33)	13 (9.3–27)	10 (7.3–22)	8.1 (5.7–17)	6.4 (4.4–14)	4.9 (3.4–11)	3.8 (2.6–8.3)	3.0 (2.0–6.4)	2.3 (1.5–5.0)
2	40 (27–60)	33 (22–53)	27 (17–45)	22 (13–38)	18 (10–32)	14 (7.9–26)	11 (6.1–21)	8.8 (4.8–17)	6.9 (3.7–13)	5.4 (2.8–10)	4.2 (2.2–8.2)
3	53 (36–69)	46 (29–63)	39 (23–56)	33 (18–49)	27 (15–42)	23 (12–36)	18 (9.1–30)	15 (7.1–24)	12 (5.5–19)	9.2 (4.3–15)	7.2 (3.3–12)
4	65 (46–75)	59 (39–71)	52 (32–65)	46 (26–58)	40 (21–52)	34 (17–45)	28 (13–38)	23 (11–32)	19 (8.3–27)	15 (6.4–22)	12 (5.0–17)
5	73 (57–78)	70 (50–75)	65 (42–71)	59 (36–65)	53 (30–60)	47 (25–54)	41 (20–47)	35 (16–41)	29 (13–35)	24 (10–29)	19 (8.0–23)
6	78	77	74	70	66	61	55	48	42	35	29

## Annex 4

### Ten-year probabilities of fracture in the United Kingdom population, by body mass index, the number of clinical risk factors, age and sex

The following tables give the 10-year probability of fracture (%) according to BMI, the number of clinical risk factors (CRFs) and age. Estimates are based on the epidemiology of the United Kingdom. Each table provides a mean estimate and a range. The range is not a confidence interval but, because the weight of different risk factors varies, it is a true range.

Table A4.1 gives the probabilities for clinical spine, hip, forearm and humerus fracture (osteoporotic fracture) in men.

Table A4.2 gives the probabilities for hip fracture in men.

Table A4.3 gives the probabilities for clinical spine, hip, forearm and humerus fractures (osteoporotic fracture) in women.

Table A4.4 gives the probabilities of hip fracture in women.

**Table A4.1**

**Ten-year probability of osteoporotic fractures (%), by body mass index (BMI), the number of clinical risk factors (CRFs) and age in men from the United Kingdom**

Age = 50 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	2.9	2.8	2.8	2.4	2.1	1.8	1.6
1	4.5 (3.0–6.6)	4.3 (2.9–6.1)	4.3 (2.8–5.8)	3.7 (2.5–5.1)	3.3 (2.2–4.4)	2.8 (1.9–3.9)	2.5 (1.7–3.4)
2	7.1 (3.8–12)	6.7 (3.5–11)	6.5 (3.4–11)	5.7 (3.0–9.9)	4.9 (2.6–8.7)	4.3 (2.3–7.7)	3.8 (2.0–6.7)
3	11 (5.4–19)	10 (4.9–18)	9.7 (4.7–18)	8.5 (4.0–15)	7.4 (3.5–14)	6.5 (3.1–12)	5.7 (2.7–11)
4	16 (8.9–25)	15 (8.0–24)	14 (7.5–23)	12 (6.5–20)	11 (5.6–18)	9.5 (4.9–16)	8.3 (4.2–14)
5	24 (15–31)	22 (14–29)	20 (14–27)	18 (12–24)	16 (11–21)	14 (9.5–19)	12 (8.3–17)
6	34	31	29	25	22	19	17

Age = 55 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	3.5	3.4	3.3	2.9	2.5	2.2	1.9
1	5.5 (3.8–7.9)	5.2 (3.5–7.2)	5.1 (3.4–6.9)	4.4 (3.0–6.0)	3.9 (2.6–5.2)	3.4 (2.3–4.5)	2.9 (2.0–3.9)
2	8.6 (4.8–14)	8.0 (4.4–13)	7.7 (4.2–13)	6.7 (3.6–11)	5.8 (3.1–10)	5.1 (2.7–8.8)	4.4 (2.4–7.7)
3	13 (7.0–21)	12 (6.2–21)	11 (5.7–20)	10 (4.9–18)	8.7 (4.3–16)	7.6 (3.7–14)	6.6 (3.2–12)
4	19 (11–29)	18 (10–27)	17 (9.2–27)	15 (7.9–23)	13 (6.8–21)	11 (5.9–18)	9.6 (5.1–16)
5	28 (18–36)	25 (17–33)	24 (17–31)	21 (15–28)	18 (13–24)	16 (11–21)	14 (9.7–19)
6	39	35	33	29	25	22	19

## Age = 60 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	4.2	4.0	3.9	3.4	2.9	2.5	2.2
1	6.5 (4.5–9.2)	6.1 (4.2–8.4)	6.0 (4.1–7.9)	5.2 (3.5–6.8)	4.5 (3.0–5.9)	3.9 (2.6–5.1)	3.4 (2.2–4.4)
2	10 (5.9–16)	9.3 (5.3–15)	8.9 (5.0–15)	7.7 (4.3–13)	6.7 (3.7–11)	5.8 (3.2–9.9)	5.0 (2.7–8.6)
3	15 (8.9–23)	14 (7.7–22)	13 (7.0–22)	11 (6.0–20)	9.9 (5.1–17)	8.5 (4.4–15)	7.4 (3.8–13)
4	22 (14–32)	20 (12–30)	19 (11–29)	16 (9.4–26)	14 (8.0–23)	12 (6.8–20)	11 (5.8–17)
5	31 (21–39)	28 (20–36)	27 (19–35)	23 (17–31)	20 (14–27)	18 (12–24)	15 (11–21)
6	42	39	37	32	28	24	21

## Age = 65 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	5.2	5.0	4.9	4.2	3.6	3.1	2.7
1	7.9 (5.6–11)	7.5 (5.2–10)	7.4 (5.1–9.6)	6.3 (4.3–8.3)	5.5 (3.7–7.1)	4.7 (3.2–6.1)	4.0 (2.7–5.3)
2	12 (7.4–18)	11 (6.7–17)	11 (6.3–18)	9.4 (5.4–15)	8.1 (4.6–13)	6.9 (3.9–12)	6.0 (3.3–10)
3	17 (11–25)	16 (9.9–25)	16 (9.0–25)	14 (7.6–22)	12 (6.4–19)	10 (5.5–17)	8.6 (4.6–15)
4	24 (17–34)	23 (15–33)	22 (14–33)	19 (12–29)	17 (9.8–26)	14 (8.2–22)	12 (7.0–19)
5	33 (24–41)	31 (23–40)	31 (23–39)	27 (20–35)	23 (17–30)	20 (15–27)	17 (12–23)
6	43	41	41	36	31	27	23

## Age = 70 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	6.0	5.8	5.7	4.8	4.1	3.5	3.0
1	9.0 (6.4–12)	8.5 (6.1–11)	8.2 (5.9–11)	6.9 (4.9–9.1)	5.9 (4.2–7.7)	5.0 (3.5–6.6)	4.2 (3.0–5.6)
2	13 (8.6–20)	12 (8.0–18)	12 (7.5–17)	9.9 (6.3–14)	8.4 (5.2–12)	7.1 (4.4–10)	6.0 (3.7–8.8)
3	20 (12–29)	18 (12–26)	17 (11–25)	14 (9.0–21)	12 (7.5–18)	10 (6.3–15)	8.5 (5.3–13)
4	28 (19–38)	26 (17–36)	24 (16–34)	20 (13–29)	17 (11–25)	14 (9.3–21)	12 (7.7–18)
5	38 (32–47)	35 (29–44)	33 (27–41)	28 (22–36)	24 (18–31)	20 (15–26)	17 (13–22)
6	49	47	44	38	32	27	23

## Age = 75 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	6.6	6.3	6.1	5.1	4.3	3.6	3.0
1	10 (7.1–16)	9.7 (6.7–13)	9.1 (6.4–11)	7.5 (5.3–9.2)	6.2 (4.4–7.7)	5.1 (3.6–6.5)	4.3 (3.0–5.5)
2	16 (9.8–26)	15 (9.0–22)	13 (8.4–19)	11 (6.9–16)	9.1 (5.7–13)	7.5 (4.6–11)	6.1 (3.8–8.7)
3	24 (14–37)	22 (13–33)	20 (12–28)	16 (9.9–24)	13 (8.1–19)	11 (6.6–16)	8.9 (5.4–13)
4	35 (21–47)	32 (19–43)	29 (18–40)	24 (15–33)	20 (12–28)	16 (9.8–23)	13 (7.9–19)
5	47 (33–56)	43 (31–53)	40 (29–49)	34 (24–42)	28 (20–36)	23 (17–30)	19 (14–25)
6	59	56	52	45	39	33	27

Age = 80 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	7.8	7.4	7.2	5.9	4.8	4.0	3.3
1	12 (8.3–19)	11 (7.8–17)	11 (7.5–15)	8.7 (6.1–12)	7.1 (4.9–9.4)	5.8 (4.0–7.5)	4.7 (3.2–6.0)
2	19 (12–29)	17 (11–26)	16 (10–22)	13 (8.1–18)	10 (6.5–15)	8.4 (5.3–12)	6.8 (4.3–9.7)
3	27 (16–39)	25 (15–36)	23 (14–32)	19 (11–27)	15 (9.0–22)	12 (7.2–18)	9.9 (5.8–15)
4	38 (23–49)	34 (22–45)	32 (21–42)	26 (17–36)	22 (14–30)	18 (11–25)	14 (8.8–20)
5	49 (34–58)	46 (32–55)	43 (30–52)	36 (25–45)	30 (21–38)	25 (17–32)	20 (14–27)
6	60	57	54	47	41	34	28

Age = 85 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	9.3	8.8	8.6	7.0	5.7	4.6	3.7
1	15 (10–24)	14 (9.4–21)	13 (9.0–19)	10 (7.2–15)	8.4 (5.7–12)	6.8 (4.6–9.5)	5.4 (3.7–7.5)
2	22 (14–35)	20 (13–31)	19 (12–28)	15 (9.7–23)	12 (7.7–19)	10 (6.1–15)	8.0 (4.9–12)
3	32 (20–45)	29 (18–42)	27 (16–39)	22 (13–33)	18 (10–27)	15 (8.3–22)	12 (6.6–18)
4	43 (28–55)	40 (25–51)	37 (24–48)	31 (20–41)	26 (16–35)	21 (13–29)	17 (10–24)
5	54 (39–62)	51 (36–60)	48 (34–57)	41 (29–50)	35 (24–44)	29 (19–37)	24 (16–31)
6	63	62	59	53	46	40	33

Age = 90 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	12	10	9.3	7.5	6.0	4.8	3.9
1	18 (13–29)	16 (11–25)	14 (10–22)	12 (8.1–17)	9.3 (6.4–14)	7.4 (5.1–11)	5.9 (4.0–8.6)
2	27 (18–42)	24 (16–37)	22 (14–32)	18 (11–27)	14 (8.8–21)	11 (7.0–17)	9.0 (5.5–14)
3	38 (25–52)	35 (22–48)	31 (20–44)	26 (16–37)	21 (12–31)	17 (9.9–25)	14 (7.8–20)
4	49 (33–60)	46 (31–58)	42 (28–54)	36 (23–47)	30 (19–40)	25 (15–34)	20 (12–28)
5	57 (45–64)	57 (42–64)	54 (40–63)	48 (33–56)	41 (28–50)	35 (23–43)	29 (18–36)
6	62	65	64	59	53	46	39

**Table A4.2**

**Ten-year probability of hip fracture (%), by body mass index (BMI), the number of clinical risk factors (CRFs) and age in men from the United Kingdom**

Age = 50 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	0.4	0.2	0.1	0.1	0.1	0.1	0.1
1	0.9 (0.6–1.7)	0.5 (0.3–1.0)	0.3 (0.2–0.5)	0.2 (0.1–0.4)	0.2 (0.1–0.3)	0.1 (0.1–0.3)	0.1 (0.1–0.2)
2	1.7 (0.8–3.5)	0.9 (0.5–2.0)	0.5 (0.3–1.1)	0.4 (0.2–0.9)	0.3 (0.2–0.7)	0.2 (0.1–0.5)	0.2 (0.1–0.4)
3	3.1 (1.3–6.1)	1.8 (0.7–3.5)	1.0 (0.4–2.0)	0.8 (0.3–1.5)	0.6 (0.2–1.2)	0.5 (0.2–0.9)	0.4 (0.1–0.7)
4	5.6 (2.2–9.1)	3.2 (1.3–5.3)	1.8 (0.7–3.0)	1.4 (0.5–2.3)	1.1 (0.4–1.8)	0.8 (0.3–1.4)	0.7 (0.3–1.1)
5	9.7 (4.5–13)	5.7 (2.6–7.7)	3.3 (1.5–4.4)	2.5 (1.1–3.4)	2.0 (0.9–2.7)	1.5 (0.7–2.1)	1.2 (0.5–1.6)
6	16	9.9	5.7	4.5	3.5	2.7	2.1

Age = 55 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	0.8	0.4	0.2	0.2	0.2	0.1	0.1
1	1.5 (1.0–2.6)	0.8 (0.6–1.5)	0.5 (0.3–0.8)	0.4 (0.3–0.6)	0.3 (0.2–0.5)	0.2 (0.2–0.4)	0.2 (0.1–0.3)
2	2.7 (1.4–5.1)	1.6 (0.8–3.0)	0.9 (0.5–1.7)	0.7 (0.4–1.3)	0.5 (0.3–1.0)	0.4 (0.2–0.8)	0.3 (0.2–0.6)
3	4.8 (2.2–8.8)	2.8 (1.3–5.3)	1.6 (0.7–3.0)	1.2 (0.6–2.4)	1.0 (0.4–1.8)	0.7 (0.3–1.4)	0.6 (0.3–1.1)
4	8.2 (3.8–13)	5.0 (2.3–7.9)	2.9 (1.3–4.6)	2.2 (1.0–3.6)	1.7 (0.8–2.8)	1.3 (0.6–2.2)	1.0 (0.5–1.7)
5	14 (7.3–18)	8.6 (4.5–11)	5.0 (2.6–6.6)	3.9 (2.0–5.2)	3.0 (1.6–4.0)	2.4 (1.2–3.1)	1.8 (0.9–2.4)
6	22	14	8.6	6.7	5.2	4.1	3.1

Age = 60 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	1.3	0.8	0.4	0.3	0.3	0.2	0.2
1	2.3 (1.7–3.8)	1.4 (1.0–2.2)	0.8 (0.6–1.3)	0.6 (0.5–1.0)	0.5 (0.4–0.8)	0.4 (0.3–0.6)	0.3 (0.2–0.5)
2	4.1 (2.4–7.0)	2.5 (1.5–4.4)	1.5 (0.9–2.6)	1.1 (0.7–2.0)	0.9 (0.5–1.6)	0.7 (0.4–1.2)	0.5 (0.3–0.9)
3	6.9 (3.6–12)	4.3 (2.2–7.6)	2.6 (1.3–4.6)	2.0 (1.0–3.6)	1.5 (0.8–2.7)	1.2 (0.6–2.1)	0.9 (0.5–1.6)
4	11 (6.2–17)	7.4 (3.9–11)	4.5 (2.3–6.9)	3.5 (1.8–5.4)	2.7 (1.4–4.2)	2.1 (1.1–3.2)	1.6 (0.8–2.5)
5	18 (11–22)	12 (7.3–15)	7.6 (4.5–9.7)	5.9 (3.5–7.6)	4.6 (2.7–5.9)	3.5 (2.1–4.5)	2.7 (1.6–3.5)
6	28	20	13	9.8	7.6	5.9	4.6

## Age = 65 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	2.0	1.3	0.8	0.6	0.5	0.4	0.3
1	3.4 (2.7–5.0)	2.2 (1.7–3.2)	1.3 (1.0–1.9)	1.0 (0.8–1.5)	0.8 (0.6–1.1)	0.6 (0.5–0.9)	0.5 (0.4–0.7)
2	5.7 (3.5–8.7)	3.7 (2.3–5.9)	2.3 (1.4–3.7)	1.8 (1.1–2.9)	1.4 (0.8–2.2)	1.0 (0.7–1.7)	0.8 (0.5–1.3)
3	9.2 (5.3–15)	6.2 (3.5–10)	3.9 (2.2–6.5)	3.0 (1.7–5.0)	2.3 (1.3–3.9)	1.8 (1.0–3.0)	1.4 (0.8–2.3)
4	14 (9.0–21)	10 (6.1–15)	6.5 (3.8–9.7)	5.0 (2.9–7.5)	3.9 (2.3–5.8)	3.0 (1.7–4.5)	2.3 (1.3–3.5)
5	22 (15–26)	16 (11–19)	11 (7.2–13)	8.2 (5.5–10)	6.3 (4.3–7.9)	4.9 (3.3–6.1)	3.8 (2.5–4.7)
6	31	24	17	13	10	7.9	6.1

## Age = 70 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	3.0	2.0	1.3	1.0	0.8	0.6	0.4
1	5.1 (3.8–6.3)	3.6 (2.7–4.3)	2.3 (1.8–2.8)	1.8 (1.4–2.1)	1.4 (1.0–1.6)	1.0 (0.8–1.2)	0.8 (0.6–1.0)
2	8.6 (5.7–13)	6.2 (4.1–8.9)	4.1 (2.7–5.8)	3.2 (2.1–4.5)	2.4 (1.6–3.4)	1.8 (1.2–2.6)	1.4 (0.9–2.0)
3	14 (8.8–21)	10 (6.7–15)	7.1 (4.7–10)	5.5 (3.6–8.1)	4.2 (2.8–6.2)	3.2 (2.1–4.8)	2.5 (1.6–3.7)
4	22 (15–30)	17 (11–24)	12 (8.3–17)	9.4 (6.4–14)	7.3 (4.9–11)	5.6 (3.7–8.2)	4.3 (2.8–6.3)
5	32 (27–40)	26 (22–33)	20 (16–25)	16 (13–20)	12 (10–16)	9.4 (7.7–12)	7.3 (5.9–9.5)
6	44	38	31	25	20	15	12

## Age = 75 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	4.3	3.1	2.2	1.6	1.3	1.0	0.7
1	7.7 (5.1–14)	5.9 (3.9–10)	4.1 (2.8–7.3)	3.1 (2.1–5.6)	2.4 (1.6–4.3)	1.8 (1.2–3.3)	1.4 (0.9–2.5)
2	13 (7.6–22)	10 (5.9–18)	7.6 (4.3–13)	5.8 (3.3–9.9)	4.5 (2.5–7.6)	3.4 (1.9–5.9)	2.6 (1.4–4.5)
3	21 (11–34)	17 (9.1–28)	13 (7.0–21)	10 (5.4–17)	8.0 (4.1–13)	6.1 (3.1–10)	4.7 (2.3–7.8)
4	32 (18–44)	27 (15–39)	22 (12–32)	17 (9.2–26)	14 (7.0–21)	11 (5.4–16)	8.1 (4.1–13)
5	44 (29–54)	39 (25–49)	34 (20–43)	27 (16–35)	22 (12–29)	17 (9.4–23)	14 (7.2–18)
6	58	53	48	40	33	27	22

## Age = 80 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	5.8	4.6	3.4	2.6	1.9	1.5	1.1
1	10 (6.8–18)	8.1 (5.5–14)	6.1 (4.2–11)	4.7 (3.2–8.5)	3.6 (2.4–6.5)	2.7 (1.8–5.0)	2.0 (1.4–3.8)
2	16 (9.9–28)	14 (8.1–23)	11 (6.3–18)	8.2 (4.8–14)	6.3 (3.6–11)	4.8 (2.8–8.6)	3.6 (2.1–6.6)
3	25 (14–37)	21 (12–32)	17 (9.6–27)	14 (7.3–22)	11 (5.6–17)	8.1 (4.2–13)	6.2 (3.2–10)
4	36 (21–47)	31 (17–42)	27 (14–37)	21 (11–30)	17 (8.6–24)	13 (6.5–19)	10 (4.9–15)
5	48 (31–57)	43 (27–52)	38 (23–47)	32 (18–40)	26 (14–33)	21 (11–27)	16 (8.4–21)
6	60	56	51	44	37	30	24

Age = 85 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	7.6	6.2	4.9	3.7	2.8	2.1	1.6
1	13 (8.8–22)	11 (7.3–19)	8.7 (5.9–16)	6.7 (4.5–12)	5.1 (3.4–9.3)	3.8 (2.5–7.1)	2.9 (1.9–5.4)
2	20 (13–34)	17 (11–29)	14 (8.7–25)	11 (6.6–20)	8.7 (5.0–15)	6.6 (3.8–12)	5.0 (2.8–9.2)
3	30 (18–44)	26 (15–39)	22 (13–34)	18 (9.8–28)	14 (7.5–22)	11 (5.7–18)	8.4 (4.3–14)
4	42 (26–54)	37 (22–49)	33 (19–44)	27 (14–37)	22 (11–30)	17 (8.6–25)	13 (6.5–20)
5	53 (38–62)	49 (33–58)	45 (29–54)	38 (23–47)	32 (18–40)	26 (14–33)	21 (11–27)
6	63	61	57	51	43	37	30

Age = 90 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	10	8.0	6.0	4.6	3.5	2.7	2.0
1	17 (12–28)	14 (9.6–24)	11 (7.5–19)	8.3 (5.7–15)	6.3 (4.3–11)	4.8 (3.3–8.8)	3.7 (2.5–6.8)
2	26 (17–41)	22 (14–36)	18 (11–30)	14 (8.5–24)	11 (6.5–19)	8.4 (4.9–15)	6.4 (3.7–11)
3	37 (23–51)	32 (20–46)	28 (16–40)	22 (13–33)	18 (9.8–27)	14 (7.5–22)	11 (5.7–17)
4	48 (32–60)	44 (28–56)	39 (24–51)	33 (19–44)	27 (15–37)	22 (11–30)	17 (8.7–25)
5	57 (44–63)	56 (40–64)	52 (35–61)	45 (29–54)	38 (23–47)	32 (19–40)	26 (14–33)
6	61	64	63	58	51	44	37

**Table A4.3**

**Ten-year probability of osteoporotic fractures (%), by body mass index (BMI), the number of clinical risk factors (CRFs) and age in women from the United Kingdom**

Age = 50 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	3.9	3.6	3.5	3.0	2.6	2.3	2.0
1	6.3 (4.3–9.1)	5.7 (3.9–8.0)	5.4 (3.6–7.4)	4.7 (3.2–6.4)	4.1 (2.8–5.6)	3.6 (2.4–4.9)	3.2 (2.1–4.3)
2	9.9 (5.4–16)	8.8 (4.7–15)	8.2 (4.4–14)	7.2 (3.8–12)	6.3 (3.3–11)	5.5 (2.9–9.6)	4.8 (2.5–8.4)
3	15 (7.8–26)	13 (6.6–24)	12 (6.0–22)	11 (5.2–20)	9.5 (4.5–17)	8.3 (4.0–15)	7.3 (3.4–13)
4	23 (14–35)	20 (11–31)	18 (9.9–29)	16 (8.6–26)	14 (7.5–23)	12 (6.5–20)	11 (5.7–18)
5	34 (22–43)	29 (20–37)	26 (18–34)	23 (16–30)	20 (14–27)	18 (12–24)	16 (11–21)
6	49	41	37	33	29	25	22

Age = 55 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	5.3	4.8	4.6	4.0	3.5	3.1	2.7
1	8.5 (6.0–12)	7.6 (5.3–10)	7.1 (4.9–9.5)	6.2 (4.2–8.3)	5.4 (3.7–7.2)	4.7 (3.2–6.3)	4.1 (2.8–5.5)
2	13 (7.7–21)	12 (6.5–19)	11 (5.9–18)	9.4 (5.1–16)	8.2 (4.5–14)	7.2 (3.9–12)	6.3 (3.4–11)
3	21 (11–33)	18 (9.3–30)	16 (8.1–28)	14 (7.0–25)	12 (6.1–22)	11 (5.3–19)	9.4 (4.6–17)
4	31 (19–44)	26 (16–39)	23 (13–36)	20 (12–32)	18 (10–28)	16 (8.7–25)	14 (7.6–22)
5	44 (30–53)	37 (26–46)	33 (24–42)	29 (21–38)	26 (18–34)	23 (16–30)	20 (14–26)
6	60	51	46	41	36	32	28

Age = 60 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	7.4	6.5	6.0	5.2	4.6	4.0	3.5
1	12 (8.4–16)	10 (7.2–13)	9.3 (6.5–12)	8.1 (5.6–11)	7.0 (4.9–9.2)	6.1 (4.2–8.0)	5.3 (3.7–7.0)
2	18 (11–26)	15 (9.0–24)	14 (7.9–22)	12 (6.9–20)	11 (5.9–17)	9.2 (5.1–15)	8.1 (4.4–13)
3	27 (16–40)	23 (13–36)	20 (11–34)	18 (9.5–30)	16 (8.2–27)	14 (7.1–24)	12 (6.1–21)
4	39 (26–53)	33 (22–47)	29 (18–44)	26 (16–39)	23 (14–35)	20 (12–31)	17 (10–27)
5	54 (40–63)	46 (34–56)	41 (31–51)	36 (27–46)	32 (24–41)	28 (21–36)	25 (18–32)
6	69	61	55	49	44	39	34

Age = 65 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	11	9.3	8.6	7.4	6.5	5.6	4.9
1	16 (12–21)	14 (10–18)	13 (9.2–16)	11 (7.9–14)	9.8 (6.9–12)	8.5 (5.9–11)	7.4 (5.1–9.5)
2	24 (16–34)	21 (13–31)	19 (11–29)	17 (9.8–26)	14 (8.4–23)	13 (7.3–20)	11 (6.3–18)
3	35 (24–49)	30 (19–45)	27 (16–43)	24 (14–38)	21 (12–34)	18 (10–30)	16 (8.7–27)
4	48 (35–62)	42 (30–57)	38 (26–54)	34 (22–49)	30 (19–44)	26 (16–39)	23 (14–35)
5	62 (51–71)	56 (45–66)	51 (41–62)	46 (36–56)	41 (32–51)	36 (28–46)	32 (24–41)
6	75	70	65	59	54	48	43

Age = 70 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	14	12	11	9.5	8.2	7.1	6.2
1	21 (16–26)	18 (14–22)	16 (12–20)	14 (10–18)	12 (8.8–15)	10 (7.6–13)	8.9 (6.5–11)
2	31 (22–41)	26 (18–35)	23 (15–31)	20 (13–27)	17 (11–24)	15 (9.4–21)	13 (8.0–18)
3	44 (32–58)	37 (26–51)	32 (21–46)	28 (18–40)	24 (15–35)	21 (13–31)	18 (11–27)
4	58 (46–71)	51 (39–65)	44 (33–59)	39 (29–53)	34 (24–47)	29 (21–41)	25 (18–36)
5	72 (66–79)	66 (59–74)	59 (51–68)	52 (44–62)	46 (38–55)	40 (33–49)	35 (28–43)
6	81	78	73	67	60	54	47

Age = 75 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	18	15	13	12	9.8	8.4	7.2
1	27 (20–37)	23 (17–29)	20 (15–23)	17 (13–20)	14 (11–17)	12 (9.0–15)	10 (7.6–13)
2	40 (27–54)	34 (22–46)	28 (19–37)	24 (16–32)	21 (13–27)	17 (11–23)	15 (9.6–19)
3	54 (38–69)	47 (33–62)	40 (27–54)	35 (23–47)	29 (19–41)	25 (16–35)	21 (14–30)
4	67 (51–77)	62 (46–75)	55 (41–69)	48 (35–62)	41 (30–55)	36 (25–48)	30 (21–41)
5	77 (66–83)	74 (63–81)	69 (59–78)	63 (52–72)	56 (46–65)	49 (40–58)	42 (34–51)
6	83	83	81	76	70	63	56

Age = 80 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	22	19	17	15	12	11	8.9
1	32 (24–45)	28 (21–38)	25 (19–31)	21 (16–26)	18 (13–21)	15 (11–18)	13 (9.3–15)
2	44 (32–59)	40 (28–52)	35 (24–45)	30 (20–38)	25 (17–32)	21 (14–27)	18 (12–23)
3	56 (41–69)	52 (38–65)	47 (35–59)	41 (29–52)	35 (25–46)	30 (21–39)	25 (17–34)
4	67 (53–77)	64 (51–74)	60 (47–72)	54 (41–66)	47 (35–59)	41 (30–52)	35 (25–46)
5	76 (65–81)	74 (63–80)	72 (61–79)	66 (55–74)	60 (48–68)	53 (42–62)	46 (37–55)
6	81	81	80	76	71	65	59

Age = 85 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	25	23	22	18	15	13	11
1	35 (27–49)	33 (25–45)	31 (23–39)	26 (19–33)	22 (16–28)	18 (13–23)	15 (11–19)
2	47 (34–62)	44 (32–58)	42 (30–53)	36 (25–46)	30 (21–40)	26 (17–34)	21 (14–29)
3	58 (43–71)	55 (41–69)	53 (39–66)	47 (33–60)	41 (28–53)	35 (23–46)	30 (19–40)
4	68 (55–77)	66 (53–76)	64 (51–74)	58 (45–69)	52 (39–63)	45 (33–57)	39 (28–50)
5	75 (66–79)	75 (64–80)	73 (63–80)	68 (57–76)	63 (51–71)	57 (45–65)	50 (39–59)
6	77	80	80	77	72	67	61

Age = 90 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	26	23	21	18	15	12	10
1	37 (29–52)	34 (26–46)	30 (23–40)	26 (19–34)	21 (16–28)	18 (13–23)	15 (11–19)
2	49 (37–64)	46 (33–60)	42 (30–54)	36 (25–47)	30 (21–40)	25 (17–34)	21 (14–29)
3	60 (46–72)	57 (43–71)	54 (40–67)	48 (34–61)	41 (28–54)	35 (24–47)	30 (19–40)
4	68 (57–77)	67 (55–77)	65 (53–75)	60 (46–70)	53 (40–64)	47 (34–58)	40 (28–52)
5	71 (66–75)	74 (66–78)	74 (64–80)	70 (58–76)	64 (52–72)	58 (46–67)	52 (40–61)
6	69	76	79	77	73	69	63

**Table A4.4****Ten-year probability of hip fracture (%), by body mass index (BMI), the number of clinical risk factors (CRFs) and age in women from the United Kingdom**

Age = 50 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	0.7	0.4	0.2	0.2	0.1	0.1	0.1
1	1.5 (0.9–2.8)	0.8 (0.5–1.5)	0.4 (0.3–0.8)	0.3 (0.2–0.6)	0.3 (0.2–0.5)	0.2 (0.1–0.4)	0.2 (0.1–0.3)
2	2.8 (1.4–6.0)	1.5 (0.8–3.3)	0.8 (0.4–1.8)	0.6 (0.3–1.4)	0.5 (0.3–1.1)	0.4 (0.2–0.8)	0.3 (0.2–0.7)
3	5.3 (2.2–10)	2.9 (1.2–5.7)	1.6 (0.6–3.1)	1.2 (0.5–2.4)	1.0 (0.4–1.9)	0.7 (0.3–1.5)	0.6 (0.2–1.1)
4	9.6 (3.8–15)	5.3 (2.1–8.6)	2.9 (1.1–4.7)	2.3 (0.9–3.7)	1.8 (0.7–2.9)	1.4 (0.5–2.2)	1.1 (0.4–1.7)
5	17 (7.9–22)	9.5 (4.4–13)	5.2 (2.4–7.1)	4.1 (1.9–5.5)	3.2 (1.4–4.3)	2.5 (1.1–3.4)	1.9 (0.9–2.6)
6	28	16	9.2	7.2	5.6	4.4	3.4

Age = 55 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	1.3	0.7	0.4	0.3	0.2	0.2	0.1
1	2.5 (1.7–4.4)	1.4 (0.9–2.4)	0.8 (0.5–1.3)	0.6 (0.4–1.0)	0.5 (0.3–0.8)	0.4 (0.2–0.6)	0.3 (0.2–0.5)
2	4.7 (2.6–9.1)	2.6 (1.4–5.1)	1.4 (0.8–2.8)	1.1 (0.6–2.2)	0.9 (0.5–1.7)	0.7 (0.4–1.3)	0.5 (0.3–1.0)
3	8.5 (3.9–16)	4. (2.1–8.9)	2.6 (1.2–4.9)	2.0 (0.9–3.8)	1.6 (0.7–3.0)	1.2 (0.5–2.3)	1.0 (0.4–1.8)
4	15 (6.8–23)	8.4 (3.8–13)	4.7 (2.1–7.4)	3.6 (1.6–5.8)	2.8 (1.2–4.5)	2.2 (1.0–3.5)	1.7 (0.8–2.7)
5	25 (14–32)	15 (7.8–19)	8.2 (4.3–11)	6.4 (3.4–8.5)	5.0 (2.6–6.7)	3.9 (2.1–5.2)	3.1 (1.6–4.1)
6	39	24	14	11	8.7	6.8	5.3

Age = 60 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	2.4	1.3	0.7	0.6	0.4	0.3	0.3
1	4.4 (3.1–6.8)	2.4 (1.7–3.8)	1.3 (0.9–2.1)	1.0 (0.7–1.6)	0.8 (0.6–1.3)	0.6 (0.4–1.0)	0.5 (0.3–0.8)
2	7.8 (4.6–14)	4.4 (2.6–7.9)	2.4 (1.4–4.4)	1.9 (1.1–3.4)	1.5 (0.9–2.7)	1.1 (0.7–2.1)	0.9 (0.5–1.6)
3	13 (6.9–23)	7.7 (3.9–14)	4.3 (2.2–7.7)	3.4 (1.7–6.0)	2.6 (1.3–4.7)	2.0 (1.0–3.6)	1.6 (0.8–2.8)
4	22 (12–33)	13 (6.8–20)	7.5 (3.8–11)	5.9 (2.9–9.0)	4.6 (2.3–7.1)	3.6 (1.8–5.5)	2.8 (1.4–4.3)
5	35 (23–43)	22 (14–28)	13 (7.9–17)	10 (6.1–13)	7.9 (4.8–10)	6.2 (3.7–8.1)	4.8 (2.9–6.3)
6	52	35	21	17	13	10	8.2

Age = 65 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	4.1	2.3	1.3	1.0	0.8	0.6	0.5
1	7.2 (5.4–10)	4.1 (3.1–5.7)	2.3 (1.7–3.2)	1.8 (1.3–2.5)	1.4 (1.0–1.9)	1.1 (0.8–1.5)	0.8 (0.6–1.2)
2	12 (7.7–19)	7.1 (4.5–12)	4.0 (2.5–6.6)	3.1 (2.0–5.2)	2.4 (1.5–4.0)	1.9 (1.2–3.1)	1.5 (0.9–2.4)
3	20 (12–31)	12 (6.8–19)	6.9 (3.8–11)	5.4 (3.0–9.0)	4.2 (2.3–7.0)	3.3 (1.8–5.5)	2.5 (1.4–4.3)
4	31 (19–43)	19 (12–28)	12 (6.7–17)	9.1 (5.2–13)	7.1 (4.1–10)	5.5 (3.1–8.2)	4.3 (2.4–6.4)
5	45 (34–53)	31 (22–37)	19 (13–24)	15 (11–19)	12 (8.2–15)	9.3 (6.4–12)	7.3 (5.0–9.3)
6	62	46	30	24	19	15	12

Age = 70 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	6.9	4.1	2.3	1.8	1.4	1.1	0.8
1	12 (9.6–14)	7.4 (5.9–8.6)	4.3 (3.4–5.0)	3.3 (2.6–3.9)	2.6 (2.1–3.0)	2.0 (1.6–2.3)	1.5 (1.2–1.8)
2	21 (14–27)	13 (8.8–17)	7.7 (5.2–10)	6.0 (4.0–8.0)	4.7 (3.1–6.3)	3.6 (2.4–4.9)	2.8 (1.9–3.8)
3	33 (23–44)	22 (15–31)	14 (9.0–20)	11 (7.0–16)	8.4 (5.4–12)	6.5 (4.2–9.7)	5.1 (3.3–7.6)
4	49 (38–61)	35 (27–47)	23 (17–32)	18 (14–26)	15 (11–21)	12 (8.3–16)	9.0 (6.5–13)
5	65 (59–73)	52 (47–61)	37 (33–44)	30 (26–36)	25 (21–30)	20 (17–24)	16 (13–19)
6	77	70	55	47	39	32	26

Age = 75 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	11	7.0	4.2	3.2	2.5	1.9	1.5
1	20 (14–32)	13 (9.6–22)	8.2 (5.9–14)	6.4 (4.6–11)	4.9 (3.6–8.5)	3.8 (2.7–6.6)	3.0 (2.1–5.1)
2	32 (21–49)	23 (14–36)	15 (8.9–25)	12 (6.9–20)	9.3 (5.4–16)	7.3 (4.2–13)	5.7 (3.2–9.8)
3	48 (32–65)	38 (23–54)	26 (15–40)	21 (12–33)	17 (9.3–27)	13 (7.2–21)	10 (5.6–17)
4	63 (46–75)	54 (37–69)	42 (26–58)	35 (20–49)	29 (16–41)	23 (13–34)	18 (9.9–28)
5	75 (61–81)	70 (54–78)	61 (42–70)	53 (35–62)	45 (28–54)	37 (23–46)	30 (18–38)
6	83	81	77	70	63	55	47

Age = 80 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	16	11	7.0	5.4	4.2	3.2	2.5
1	26 (19–41)	19 (14–32)	13 (9.5–22)	10 (7.3–17)	7.8 (5.7–14)	6.1 (4.4–11)	4.7 (3.3–8.3)
2	38 (27–56)	31 (20–47)	22 (14–36)	18 (11–29)	14 (8.5–23)	11 (6.6–19)	8.5 (5.1–15)
3	52 (37–67)	45 (29–61)	35 (21–52)	29 (16–44)	23 (13–36)	19 (10–30)	15 (7.7–24)
4	64 (47–75)	59 (41–71)	51 (33–64)	43 (27–57)	36 (21–49)	30 (17–41)	24 (13–34)
5	74 (61–80)	71 (56–78)	66 (48–74)	59 (40–68)	51 (33–61)	44 (27–53)	37 (22–45)
6	81	80	77	72	66	59	51

Age = 85 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	19	15	11	8.4	6.4	4.9	3.8
1	30 (22–46)	25 (18–40)	19 (14–31)	15 (11–25)	12 (8.3–20)	9.0 (6.3–16)	6.9 (4.8–12)
2	42 (30–60)	37 (26–54)	30 (20–46)	24 (16–39)	19 (12–32)	15 (9.4–26)	12 (7.3–20)
3	55 (40–69)	50 (35–65)	44 (28–59)	37 (23–52)	30 (18–44)	25 (14–37)	20 (11–30)
4	66 (50–76)	62 (45–73)	57 (40–69)	50 (33–63)	43 (27–56)	36 (21–48)	30 (17–41)
5	74 (63–79)	73 (59–79)	69 (54–77)	63 (47–72)	57 (39–66)	50 (33–59)	43 (27–52)
6	77	79	79	74	69	63	56

Age = 90 years

Number of CRFs	BMI (kg/m <sup>2</sup> )						
	15	20	25	30	35	40	45
0	21	16	11	8.9	6.9	5.3	4.0
1	33 (25–50)	27 (20–42)	20 (15–33)	16 (11–27)	12 (8.9–21)	9.6 (6.8–17)	7.4 (5.2–13)
2	46 (34–63)	40 (28–57)	32 (21–48)	26 (17–41)	21 (13–34)	16 (10–27)	13 (7.8–22)
3	58 (44–71)	53 (38–68)	46 (30–62)	39 (24–55)	32 (19–47)	26 (15–40)	21 (12–33)
4	67 (54–76)	65 (49–75)	60 (43–72)	53 (36–66)	46 (29–59)	39 (23–51)	32 (18–44)
5	71 (65–75)	73 (62–78)	72 (57–78)	66 (50–74)	60 (43–69)	53 (36–62)	46 (29–55)
6	69	76	78	75	71	66	59