

**The clinical effectiveness and cost effectiveness of  
technologies for the primary prevention of osteoporotic  
fragility fractures in postmenopausal women**

*Addendum to Assessment Report*

**Original Report commissioned by:** NHS R & D HTA Programme

**On behalf of:** The National Institute for Health and  
Clinical Excellence

**Produced by:** The University of Sheffield, School of Health  
and Related Research (SchARR)

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**Expiry Date:**

At the Appraisal Committee meeting on 12 April 2005 the Assessment Group updated the analyses presented in the original DSU/ Assessment Report that had been prepared for this appraisal. The Appraisal Committee requested further analysis, and more documentation about the methodology underpinning this new updated economic modelling.

Furthermore, in order to enable the Appraisal Committee to consider the extent to which the published Technology appraisal No 87 requires updating in the light of the updated economic model, this new model has also been used to establish the cost effectiveness for alendronate, risedronate, etidronate, raloxifene and teriparatide for secondary prevention.

The Assessment Report for strontium ranelate (primary and secondary prevention) and this Addendum should be read in conjunction with each other, as the methodology to the economic modelling is explained in detail in the strontium ranelate Assessment Report. Similarly, the modelling of the identification approaches is detailed in the strontium ranelate Assessment Report.

### Clinical Effectiveness

The following Relative Risks were used in the economic modelling:

**Table 1: RR of fracture for women with severe osteoporosis, osteoporosis or osteopenia. Assumes efficacy seen in women with osteoporosis, severe osteoporosis and osteopenia.**

Drug	Vertebral	Hip, pelvis and other femoral fractures	Wrist	Proximal Humerus, rib, sternum, scapula, tibia and fibula fractures
Alendronate	0.56 (0.46 – 0.68)	0.62 (0.40 – 0.98)	0.81 (0.68 – 0.97)	0.81 (0.68 – 0.97)
Risedronate	0.61 (0.50 – 0.75)	0.74 (0.59 – 0.93)	0.76 (0.64 – 0.91)	0.76 (0.64 – 0.91)
Etidronate	0.40 (0.20 – 0.83)	Assumed no effect	Assumed no effect	Assumed no effect
Raloxifene	0.65 (0.53 – 0.79)	Assumed no effect	Assumed no effect	Assumed no effect
Teriparatide	0.35 (0.22 – 0.55)	0.50 (0.09 – 2.73)	0.65 (0.43 – 0.98)	0.65 (0.43 – 0.98)
Teriparatide	0.35 (0.22 – 0.55)	Assumed no effect	0.65 (0.43 – 0.98)	0.65 (0.43 – 0.98)

## Update of primary prevention modelling using the WHO data

The interventions included in this analysis are alendronate, risedronate, etidronate, raloxifene and strontium ranelate. The analysis for raloxifene was carried out both including and excluding its effect on breast cancer risk. The results presented use the modelling methodology described in the strontium ranelate technology assessment report. This methodology uses the WHO algorithm for fracture risk and the WHO data on the prevalence of risk factors for osteoporosis.

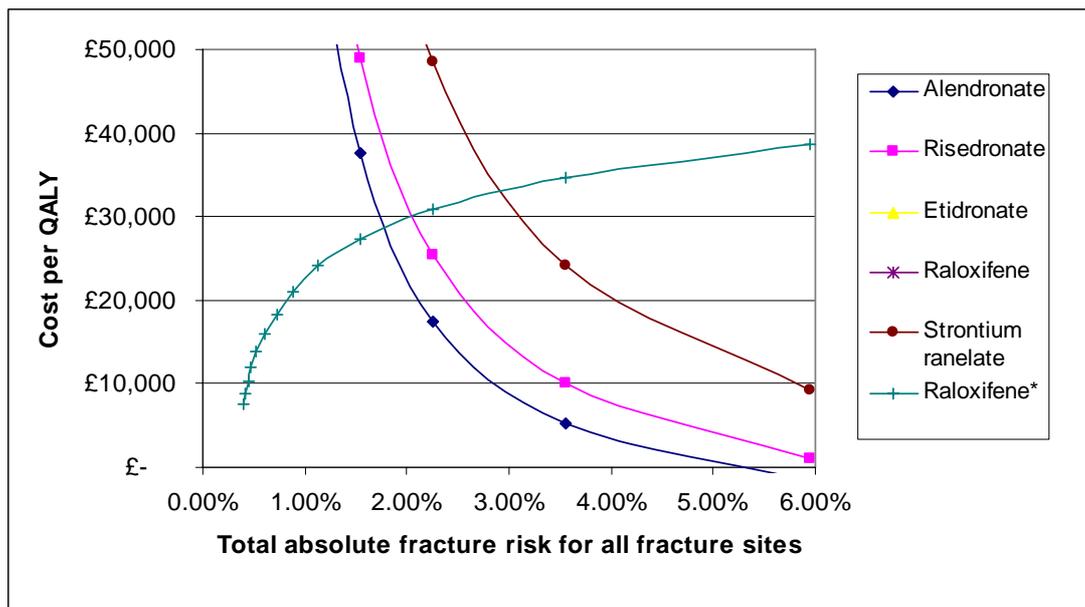
### 1. Cost-effectiveness for women with no clinical risk factors

The figures below show the cost-effectiveness of the interventions by absolute annual risk of fracture for women with no clinical risk factors. Not all interventions appear on all figures as their cost-effectiveness is greater than £50,000 at the levels of absolute annual risks shown.

It is seen that for all drugs, bar Raloxifene when breast cancer effects are included, cost per QALY ratios become more favourable as the absolute risk levels increase. When the breast cancer effects of raloxifene are included the cost per QALY becomes less favourable as absolute risk increases due to the assumed inverse relationship between breast cancer incidence and BMD.

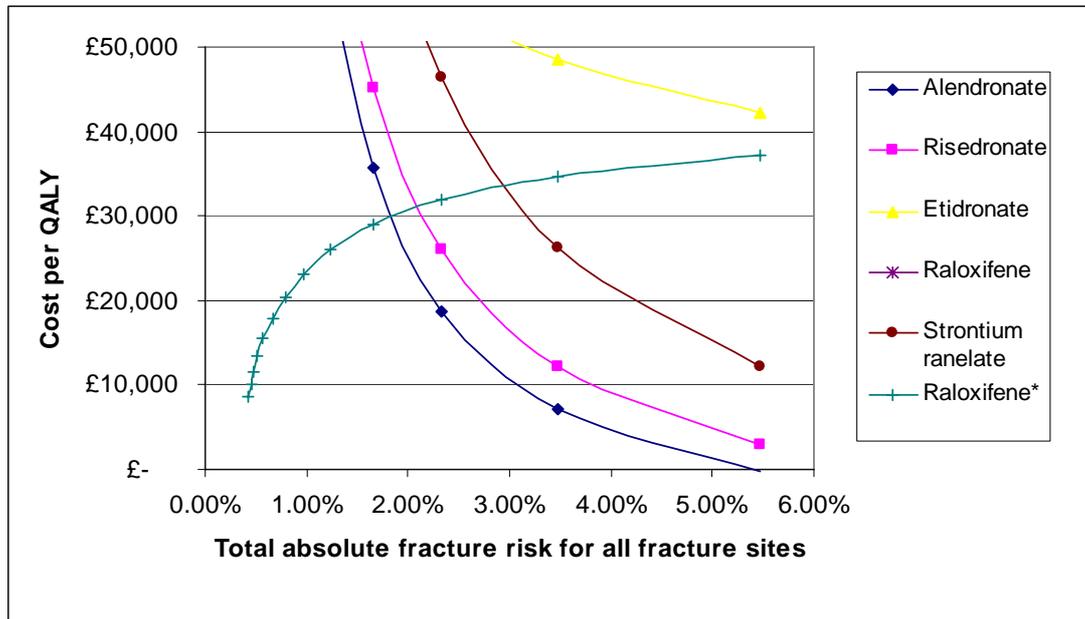
Cost per QALY values have only been provided for women with no clinical risk factors. Whilst these values will change depending on the clinical risk factors present they will be broadly similar. These graphs can be seen in the strontium ranelate assessment report.

**Figure 1 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 50-54 with no clinical risk factors**



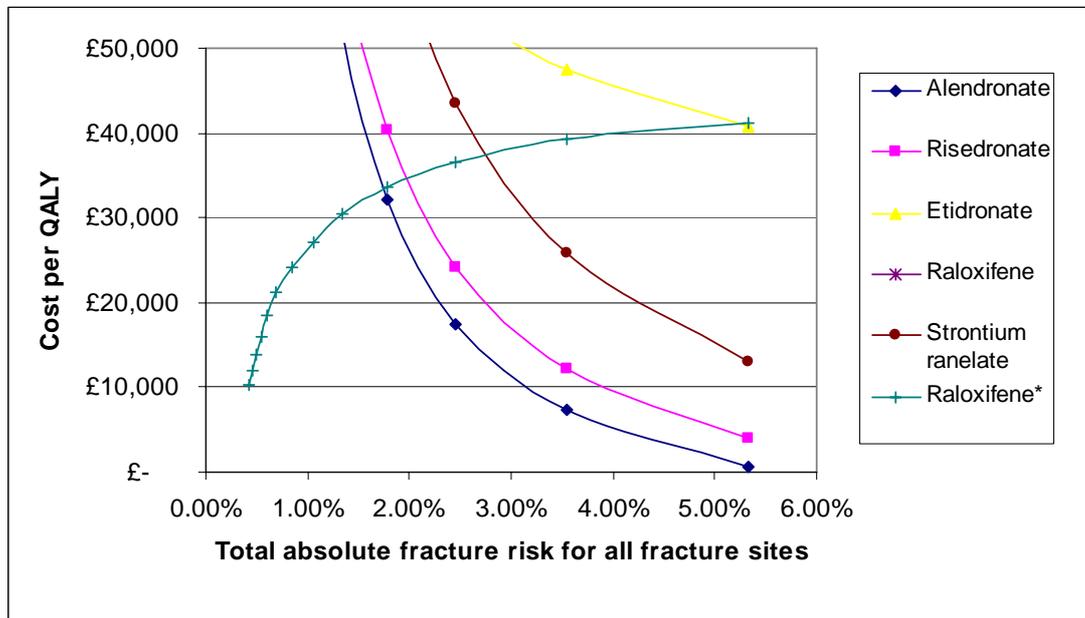
\* indicates that breast cancer effects were included

**Figure 2 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 55-59 with no clinical risk factors**



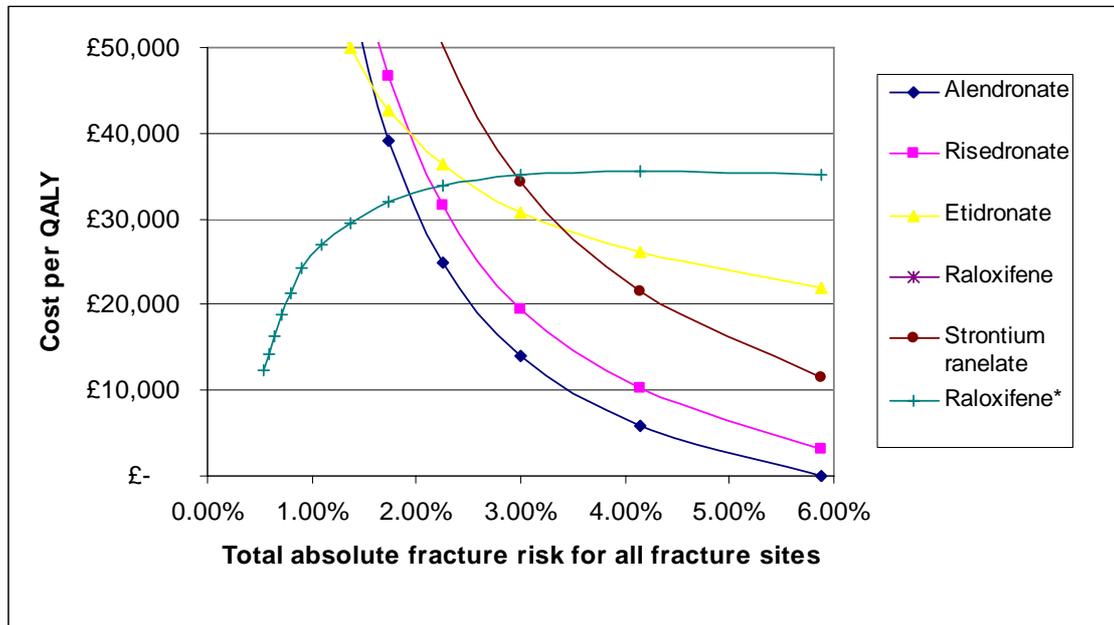
\* indicates that breast cancer effects were included

**Figure 3 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 60-64 with no clinical risk factors**



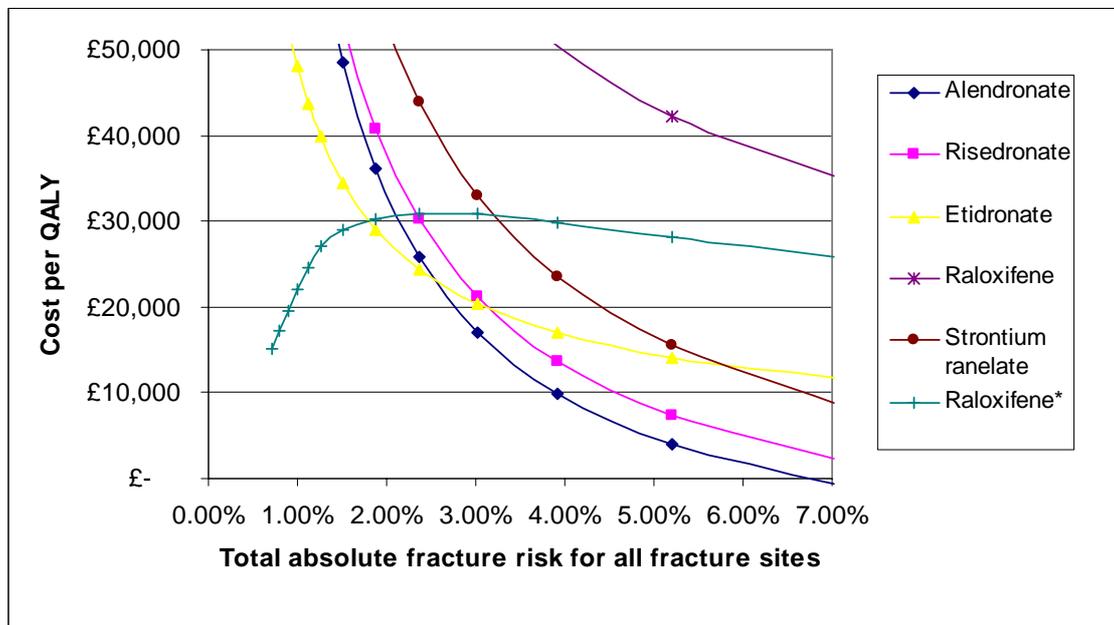
\* indicates that breast cancer effects were included

**Figure 4 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 65-69 with no clinical risk factors**



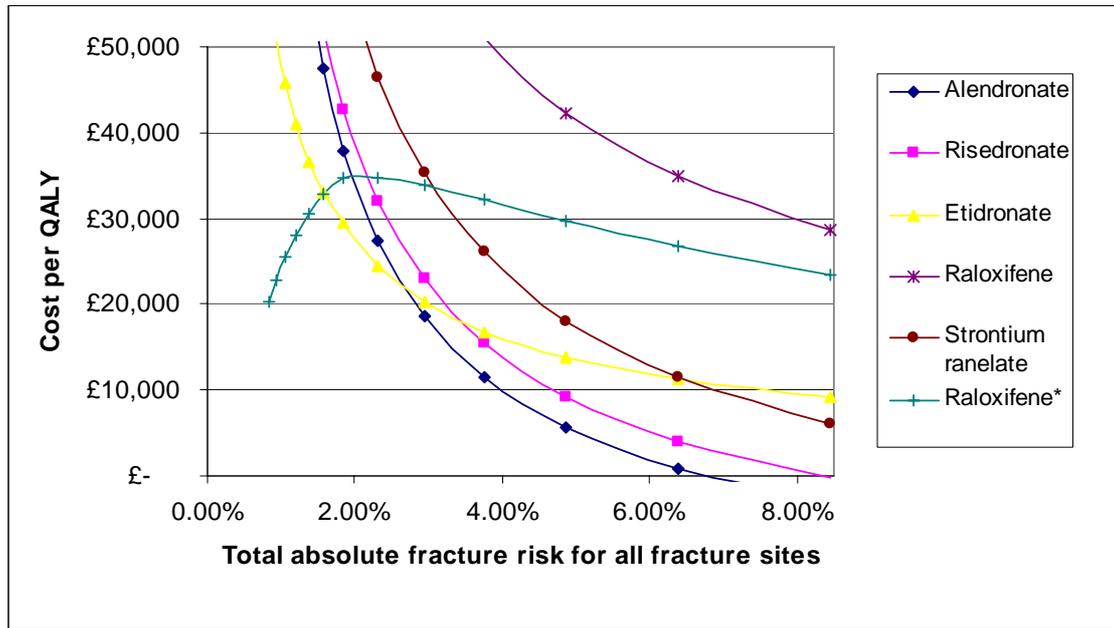
\* indicates that breast cancer effects were included

**Figure 5 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 70-74 with no clinical risk factors**



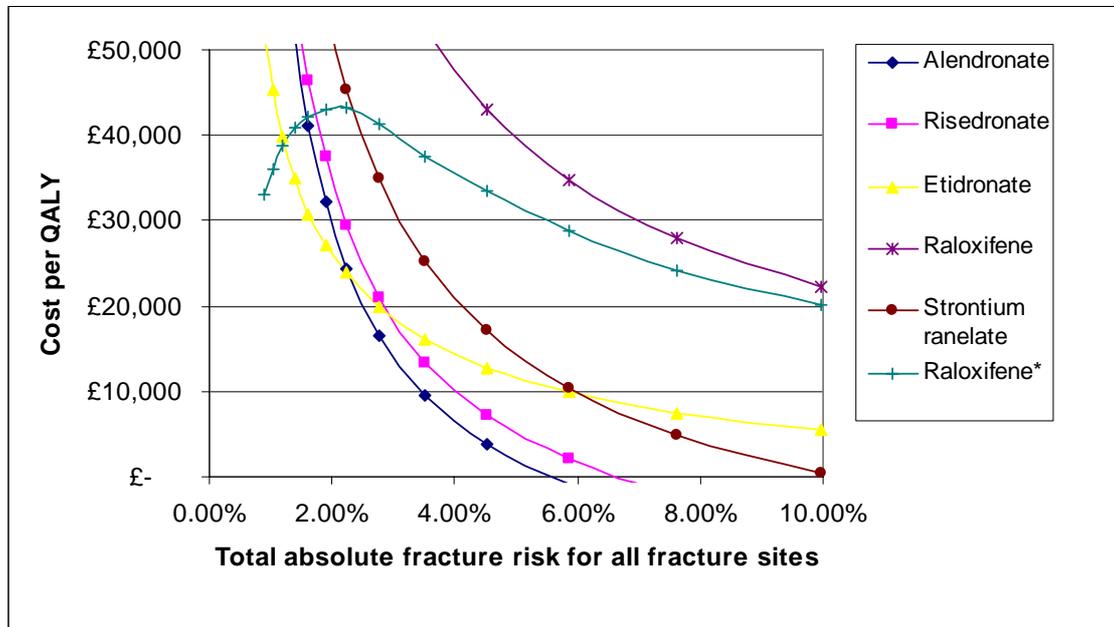
\* indicates that breast cancer effects were included

**Figure 6 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 75-79 with no clinical risk factors**



\* indicates that breast cancer effects were included

**Figure 7 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 80-84 with no clinical risk factors**



\* indicates that breast cancer effects were included

## 2. Incremental analysis for women with no clinical risk factors

Tables 1 to 7 show the hierarchical order of interventions for women with no clinical risk factors. These indicate which interventions have the highest net benefit at various absolute fracture risks. The net benefits of treating with each intervention were assessed at T-Score intervals of 0.1SD meaning that the point at which the hierarchical order changes as absolute risk increases is only correct to the nearest 0.1SD in T-Score. “NT” indicates the no treatment intervention option. This incremental analysis assumes a cost-effectiveness threshold of £20,000 per QALY.

**Table 2: The hierarchical order of interventions at age 50 –54 years, assuming no clinical risk factors.**

Annual all fracture risk	<0.85%	>=0.85% and <2.26%	>=2.26% and <2.68%	>=2.68% and <4.34%	>=4.34%
Annual hip fracture risk	<0.12%	>=0.12% and <0.97%	>=0.97% and <1.26%	>=1.26% and <2.46%	>=2.46%
T-score (SD) to reach this risk	> -2.4	<= -2.4 and >-4.0	<= -4.0 and >-4.2	<=-4.2 and >-4.7	<=-4.7
Incremental ranking of interventions	Ralox	NT	Alend	Alend	Alend
	NT		NT	Rised	Rised
				NT	Stront
					NT

**Table 3: The hierarchical order of interventions at age 55 –59 years, assuming no clinical risk factors.**

Annual all fracture risk	<0.79%	>=0,79% and <2.33%	>=2.33% and <2.72%	>=2.72% and <4.14%	>=4.14%
Annual hip fracture risk	<0.08%	>=0.08% and <0.92%	>=0.92% and <1.18%	>=1.18% and <2.17%	>=2.17%
T-score (SD) to reach this risk	>-2.0	<= -2.0 and >-4.0	<= -4.0 and >-4.2	<=-4.2 and >-4.7	<=-4.7
Incremental ranking of interventions	Ralox	NT	Alend	Alend	Alend
	NT		NT	Rised	Rised
				NT	Stront
					NT

**Table 4: The hierarchical order of interventions at age 60 –64 years, assuming no clinical risk factors.**

Annual all fracture risk	<0.65%	>=0.65% and <2.46%	>=2.46% and <2.83%	>=2.83% and <4.50%	>=4.50%
Annual hip fracture risk	<0.04%	>=0.04% and <0.94%	>=0.94% and <1.18%	>=1.18% and <2.33%	>=2.33%
T-score (SD) to reach this risk	> -1.3	<= -1.3 and >-4.0	<= -4.0 and >-4.2	<= -4.2 and >-4.8	<= -4.8
	Ralox	NT	Alend	Alend	Alend
	NT		NT	Rised	Rised
				NT	Stront
					NT

**Table 5: The hierarchical order of interventions at age 65 –69 years, assuming no clinical risk factors.**

Annual all fracture risk	<0.76%	>=0.76% and <2.67%	>=2.67% and <3.01%	>=3.01% and <4.43%	>=4.43%
Annual hip fracture risk	<0.04%	>=0.04% and <0.83%	>=0.83% and <1.01%	>=1.01% and <1.88%	>=1.88%
T-score (SD) to reach this risk	>-0.8	<= -0.8 and >-3.8	<= -3.8 and > -4.0	<= -4.0 and >-4.6	<= -4.6
Incremental ranking of interventions	Ralox	NT	Alend	Alend	Alend
	NT		NT	Rised	Rised
				NT	Stront
					NT

**Table 6: The hierarchical order of interventions at age 70 –74 years, assuming no clinical risk factors.**

Annual all fracture risk	<0.91%	>=0.91% and <2.73%	>=2.73% and <3.81%	>=3.81% and <4.64%	>=4.64%
Annual hip	<0.03%	>=0.03%	>=0.63%	>=0.76%	>=1.46%

fracture risk		and <0.63%	and <0.76%	and <1.46%	
T-score (SD) to reach this risk	>-0.1	<=-0.1 and >-3.4	<= -3.4 and >-3.6	<= -3.6 and >-4.3	<= -4.3
Incremental ranking of interventions	Ralox	NT	Alend	Alend	Alend
	NT		NT	Rised	Rised
				Etid	Etid
				NT	Stront
					NT

**Table 7: The hierarchical order of interventions at age 75 –79 years, assuming no clinical risk factors.**

Annual all fracture risk	<2.94%	>=2.94% and <3.09%	>=3.09% and <3.24%	>=3.24% and <3.41%	>=3.41% and <4.62%	>4.62% and <5.72%	>5.72%
Annual hip fracture risk	<0.61%	>=0.61% and <0.66%	>=0.66% and <0.72%	>=0.72% and <0.78%	>=0.78% and <1.29%	>1.29% and <1.80%	>1.80%
T-score (SD) to reach this risk	>-3.0	<= -3.0 and >-3.1	<= -3.1 and >-3.2	<= -3.2 and >-3.3	<= -3.3 and >-3.9	<= -3.9 and >-4.3	<= -4.3
Incremental ranking of interventions	NT	Alend	Alend	Alend	Alend	Alend	Alend
		NT	Etid	Etid	Rised	Rised	Rised
			NT	Rised	Etid	Etid	Stront
				NT	NT	Stront	Etid
						NT	NT

\* excluding breast cancer effect

**Table 8: The hierarchical order of interventions at age 80 –84 years, assuming no clinical risk factors.**

Annual all fracture risk	<2.50%	>=2.50% and <2.76%	>=2.76% and <2.89%	>=2.89% and <3.04%	>=3.04% and <4.30%	>=4.30% and <5.56%	>=5.56%
Annual hip fracture risk	<0.54%	>=0.54% and <0.62%	>=0.62% and <0.67%	>=0.67% and <0.72%	>=0.72% and <1.20%	>=1.20% and <1.72%	>=1.72%
T-score (SD) to reach this risk	> -2.3	<= -2.3 and >-2.5	<= -2.5 and >-2.6	<= -2.6 and >-2.7	<= -2.7 and >-3.4	<= -3.4 and >-3.9	<= -3.9
Incremental ranking of interventions	NT	Alend	Alend	Alend	Alend	Alend	Alend
		NT	Etid	Etid	Rised	Rised	Rised
			NT	Rised	Etid	Etid	Stront
				NT	NT	Stront	Etid
						NT	NT

\* excluding breast cancer effects

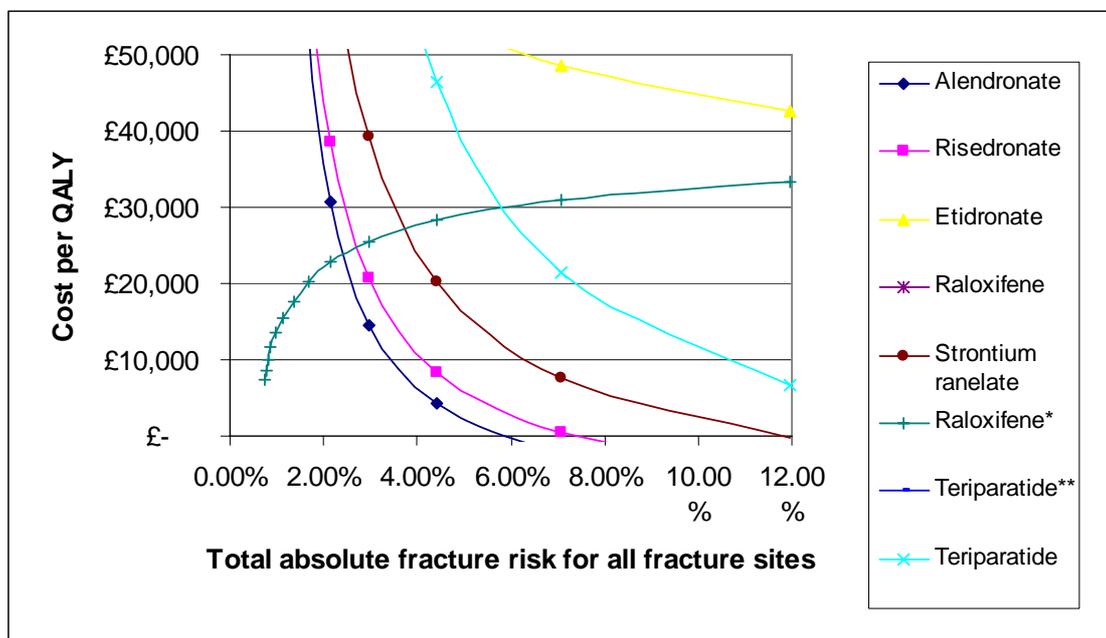
### Update of secondary prevention work using the WHO data

The interventions included in this analysis are alendronate, risedronate, etidronate, raloxifene, strontium ranelate and teriparatide. The analysis for raloxifene was carried out both including and excluding its effect on breast cancer risk. The analysis for teriparatide was carried out both including and excluding its effect on hip fracture risk. The results presented use the modelling methodology described in the strontium ranelate technology assessment report. This methodology uses the WHO algorithm for fracture risk and the WHO data on the prevalence of risk factors for osteoporosis.

1. Cost-effectiveness for women with a previous fracture but no other clinical risk factors

The figures below show the cost-effectiveness of the interventions by absolute annual risk of fracture for women with a previous fracture but no other clinical risk factors. Not all interventions appear on all figures as their cost-effectiveness falls outside of the range shown. The effect of raloxifene on breast cancer risk has been excluded except where indicated. The effect of teriparatide on hip fracture risk has been included except where indicated.

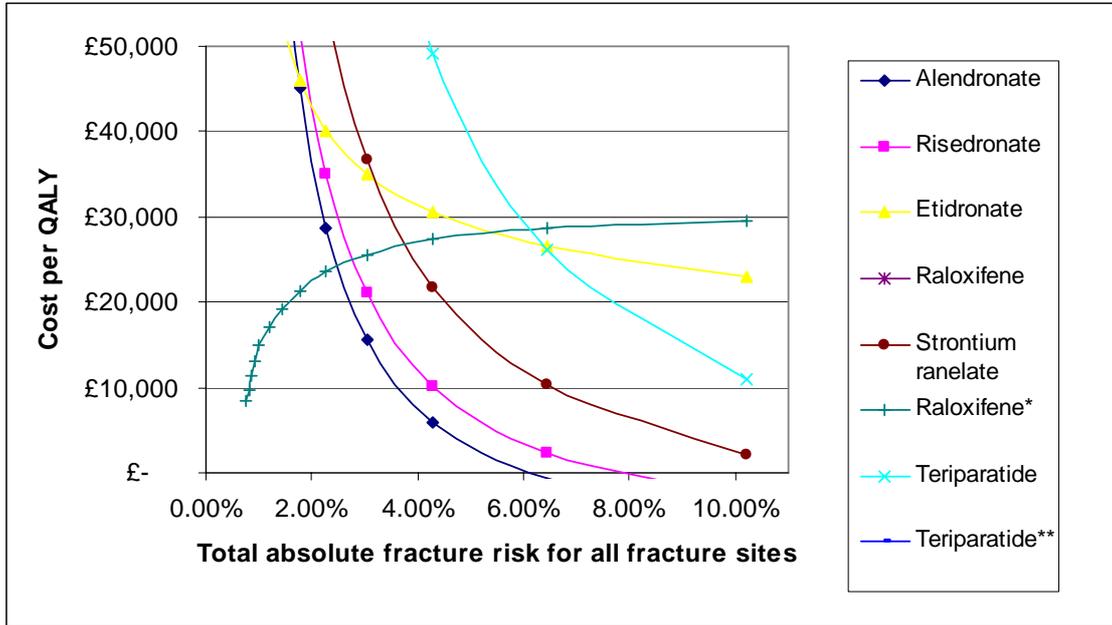
**Figure 8 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 50-54 with a previous fracture but no other clinical risk factors**



\* indicates that breast cancer effects were included

\*\* indicates that the effect on hip fracture was excluded

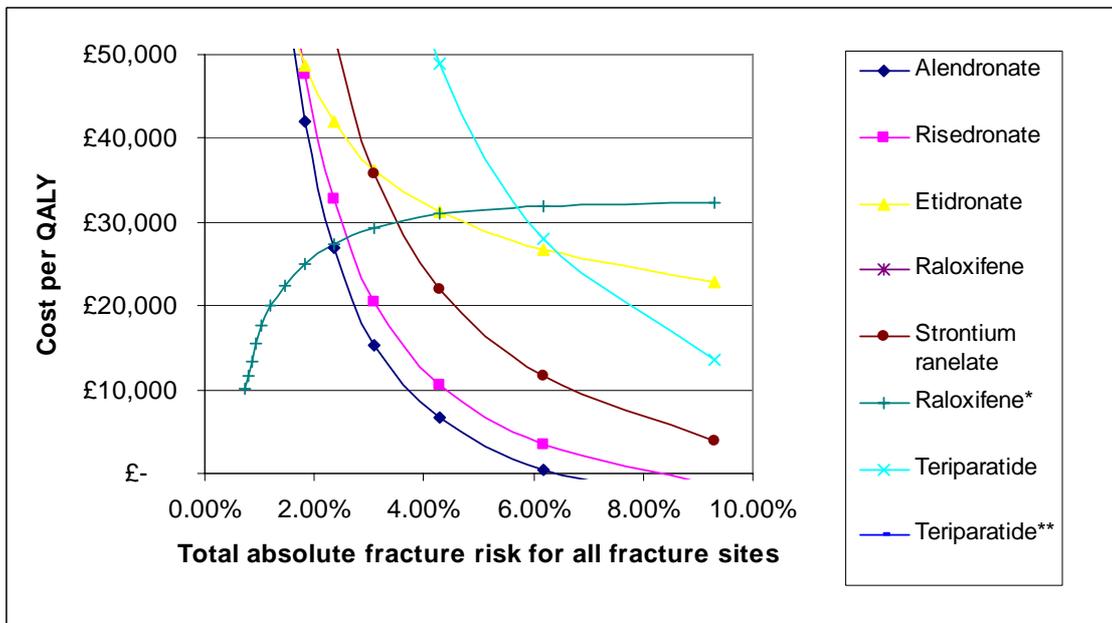
**Figure 9 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 55-59 with a previous fracture but no other clinical risk factors**



\* indicates that breast cancer effects were included

\*\* indicates that the effect on hip fracture was excluded

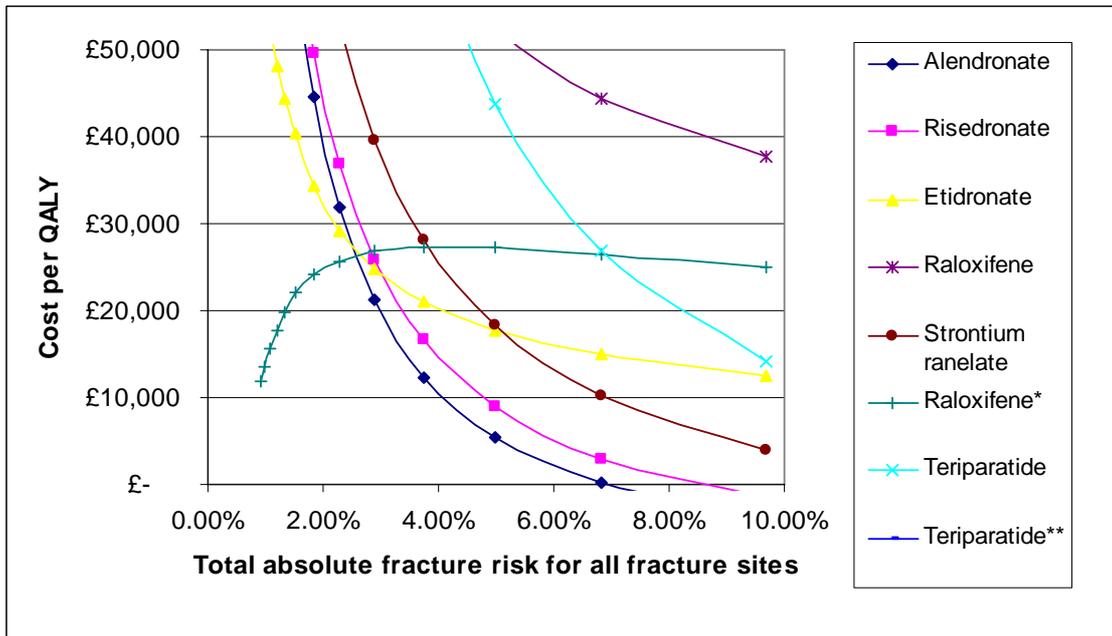
**Figure 10 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 60-64 with a previous fracture but no other clinical risk factors**



\* indicates that breast cancer effects were included

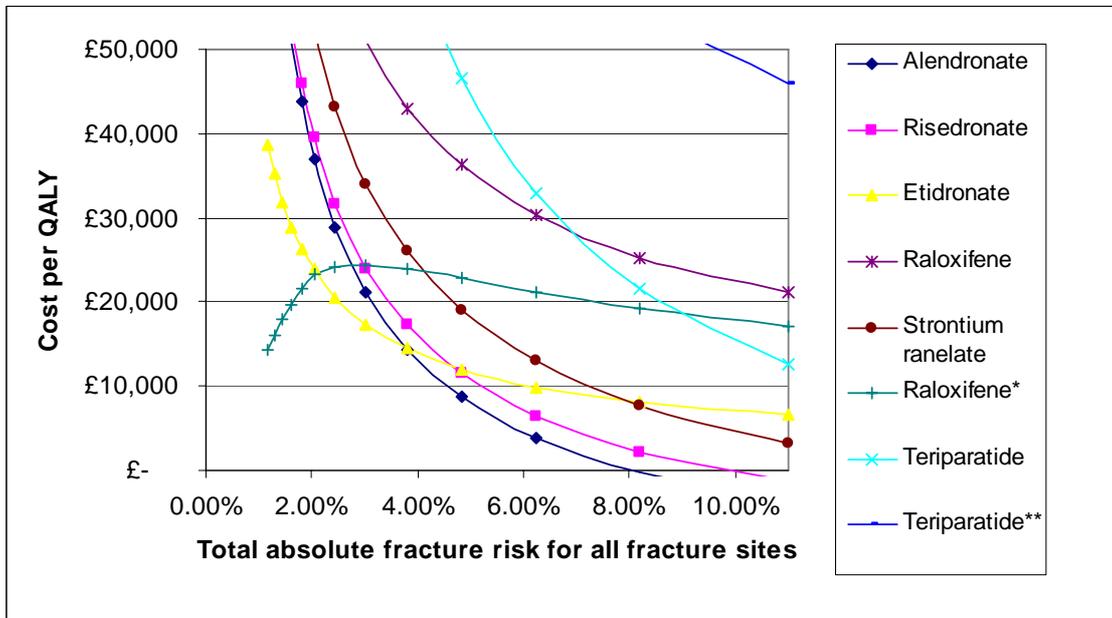
\*\* indicates that the effect on hip fracture was excluded

**Figure 11 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 65-69 with a previous fracture but no other clinical risk factors**



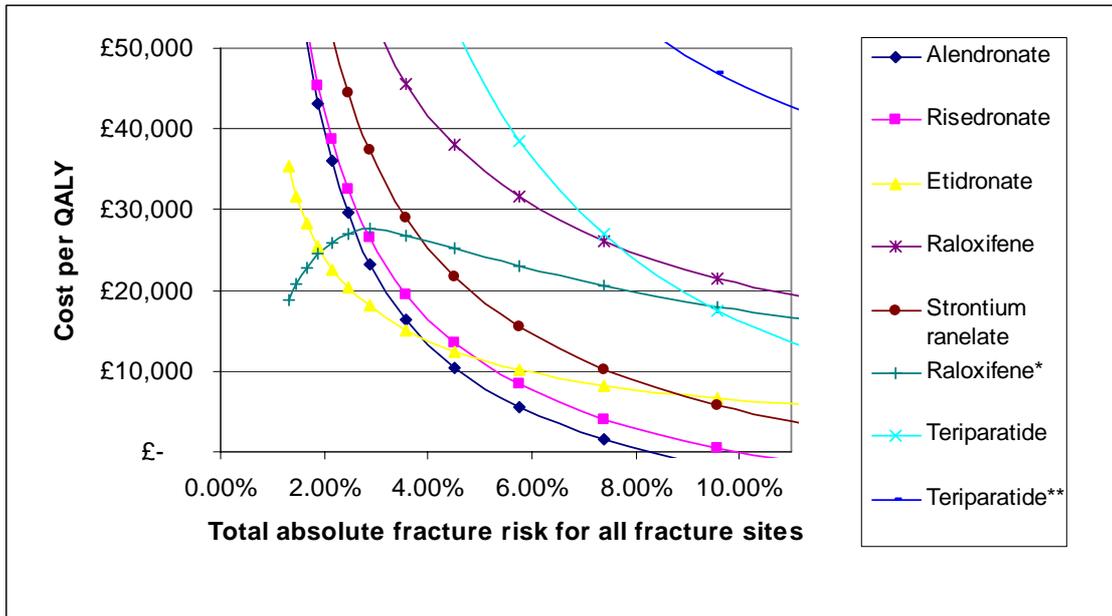
\* indicates that breast cancer effects were included  
 \*\* indicates that the effect on hip fracture was excluded

**Figure 12 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 70-74 with a previous fracture but no other clinical risk factors**



\* indicates that breast cancer effects were included  
 \*\* indicates that the effect on hip fracture was excluded

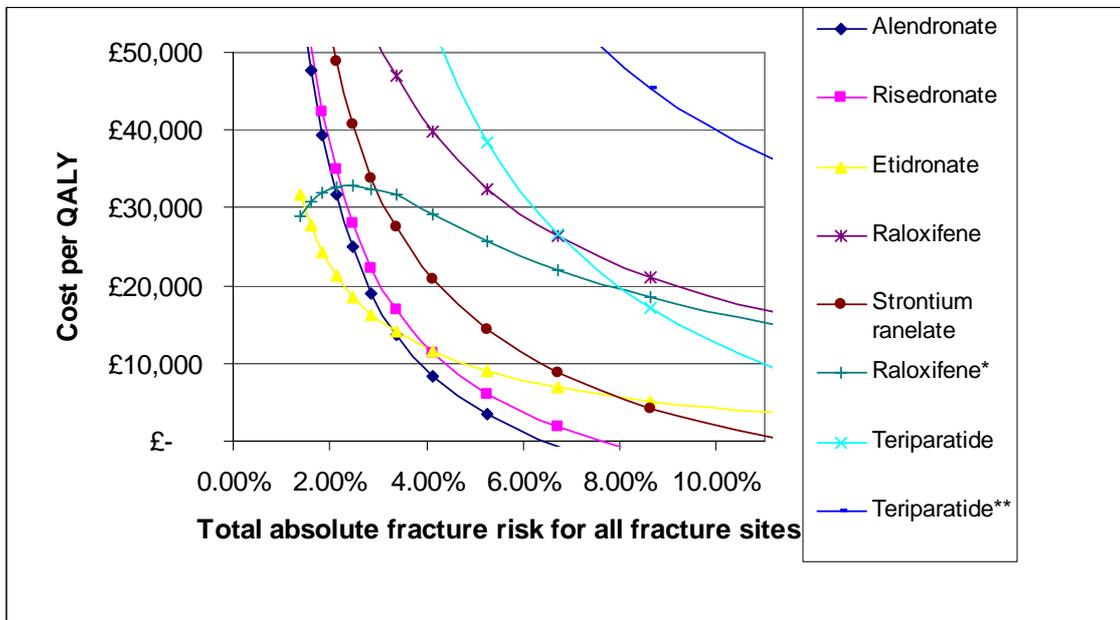
**Figure 13 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 75-79 with a previous fracture but no other clinical risk factors**



\* indicates that breast cancer effects were included

\*\* indicates that the effect on hip fracture was excluded

**Figure 14 Cost-effectiveness of interventions by absolute annual fracture risk for women aged 80-84 with a previous fracture but no other clinical risk factors**



\* indicates that breast cancer effects were included

\*\* indicates that the effect on hip fracture was excluded

### Additional information for Teriparatide

In the original appraisal, the modelling of efficacy considered both the midpoint of, and the confidence interval around the RR. This was not possible in the current modelling because of the large number of combinations of T-scores, ages, and CRF to be modelled. Generally, only the midpoint RR fed into the modelling, and the Assessment Group assumed no effect if the confidence interval spanned unity. The RR for hip fracture established for teriparatide was 0.5 (0.09-2.73). Therefore, the current analysis was done twice, (1) assuming that teriparatide has no effect on hip fracture risk and (2) including the effect of teriparatide on hip fracture risk, where the efficacy seen in the meta-analysis of randomised controlled trials were used.

The cost-effectiveness of teriparatide was considered over the T-Score range of +1SD to -5SD for women with a previous fracture and other clinical risk factors. T-Score thresholds and absolute risk thresholds for cost-effective treatment were calculated when assuming a cost-effectiveness threshold of £20,000 and £30,000 per QALY.

#### (1) Cost-effectiveness thresholds when assuming that teriparatide has no effect on hip fracture risk

Table 9 -12 show the T-Score thresholds for cost-effective treatment when the effect of teriparatide on hip fracture was included. Below 70 years of age all T-Score thresholds for women with no clinical risk factors were below -5 SD.

**Table 9 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 50-69**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	<-5	N/A	<-5	N/A
Prior fracture and parental fracture	<-5	N/A	<-5	N/A
Prior fracture and current smoking	<-5	N/A	<-5	N/A
Prior fracture and corticosteroid use	<-5	N/A	<-5	N/A
Prior fracture and alcohol > 2 units per day	<-5	N/A	<-5	N/A
Prior fracture and rheumatoid arthritis	<-5	N/A	<-5	N/A
3 risk factors including prior fracture but excluding parental fracture	<-5	N/A	<-5	N/A
3 risk factors including prior fracture and parental fracture	<-5	N/A	<-5	N/A

**Table 10 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 70-74**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	<-5	N/A	<-5	N/A
Prior fracture and parental fracture	<-5	N/A	<-5	N/A
Prior fracture and current smoking	<-5	N/A	<-5	N/A
Prior fracture and corticosteroid use	<-5	N/A	-4.8	17.07%
Prior fracture and alcohol > 2 units per day	<-5	N/A	<-5	N/A
Prior fracture and rheumatoid arthritis	<-5	N/A	<-5	N/A
3 risk factors including prior fracture but excluding parental fracture	<-5	N/A	-4.8	20.31%
3 risk factors including prior fracture and parental fracture	<-5	N/A	-4.6	29.51%

**Table 11 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 75-79**

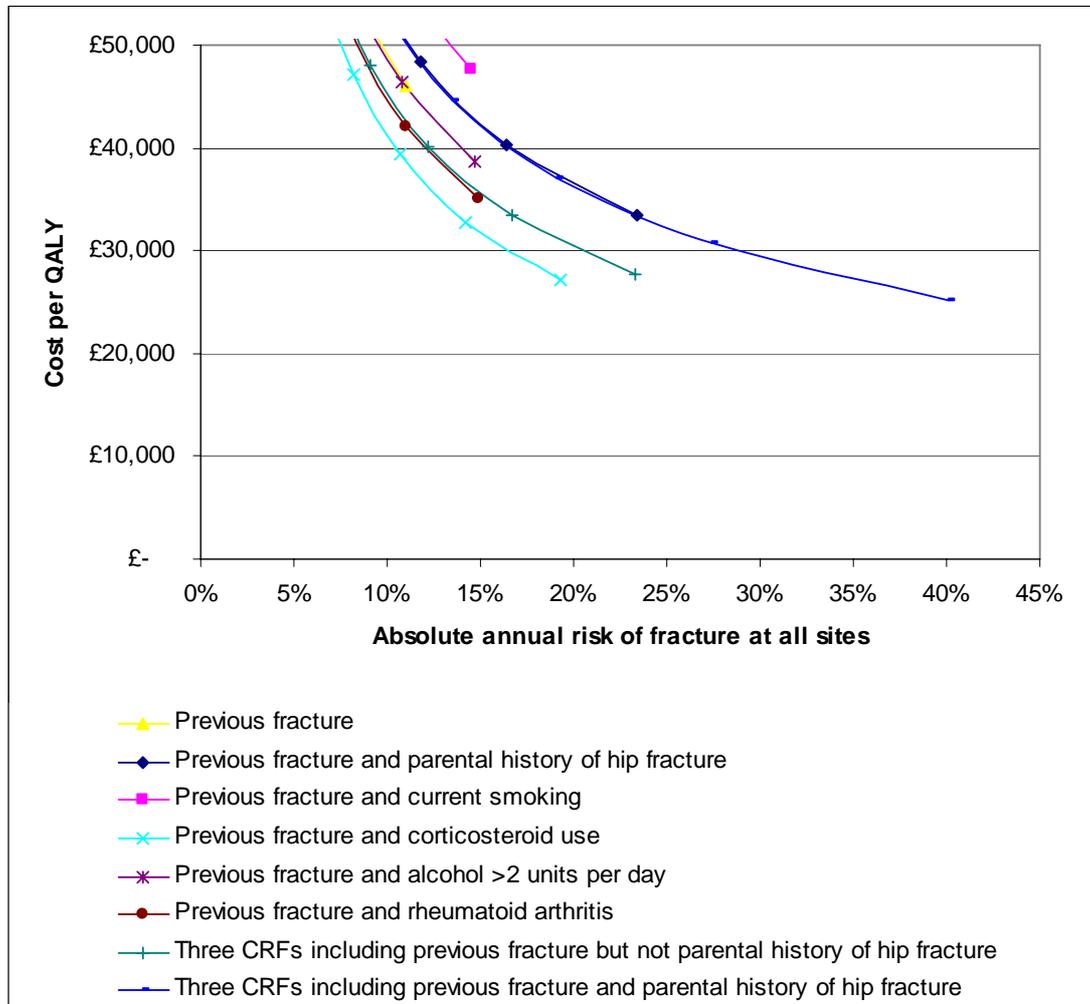
Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	<-5	N/A	<-5	N/A
Prior fracture and parental fracture	<-5	N/A	<-5	N/A
Prior fracture and current smoking	<-5	N/A	<-5	N/A
Prior fracture and corticosteroid use	<-5	N/A	-4.4	15.73%
Prior fracture and alcohol > 2 units per day	<-5	N/A	<-5	N/A
Prior fracture and rheumatoid arthritis	<-5	N/A	-5	17.01%
3 risk factors including prior fracture but excluding parental fracture	<-5	N/A	-4.4	18.16%
3 risk factors including prior fracture and parental fracture	<-5	N/A	-4.6	45.48%

**Table 12 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 80-84**

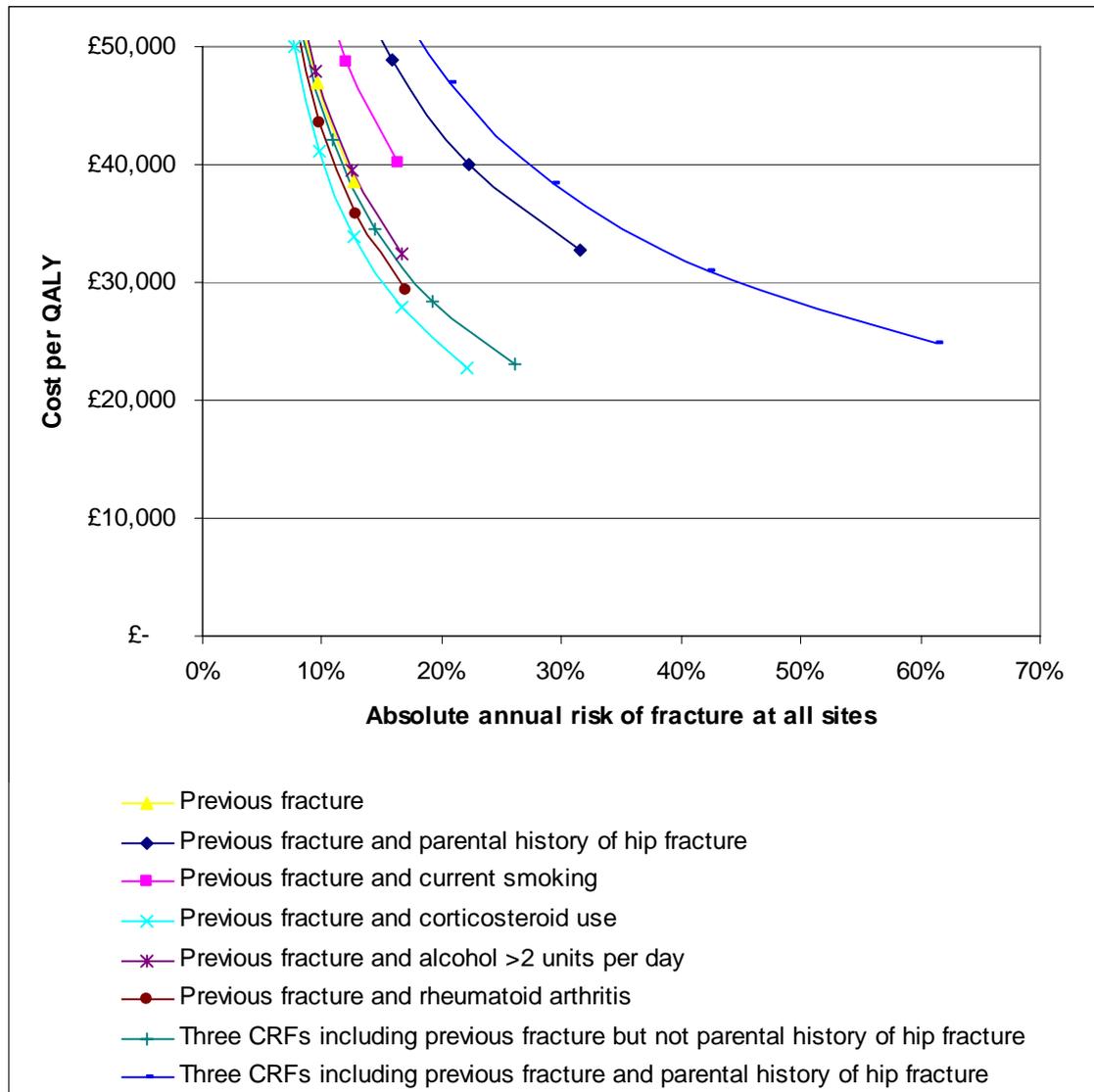
Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	<-5	N/A	-5	14.51%
Prior fracture and parental fracture	<-5	N/A	-4.6	27.98%
Prior fracture and current smoking	<-5	N/A	-5	18.65%
Prior fracture and corticosteroid use	-4.5	19.34%	-3.7	12.75%
Prior fracture and alcohol > 2 units per day	<-5	N/A	-4.5	14.58%
Prior fracture and rheumatoid arthritis	<-5	N/A	-4.3	13.47%
3 risk factors including prior fracture but excluding parental fracture	-4.6	23.84%	-3.8	15.29%
3 risk factors including prior fracture and parental fracture	-4.8	61.20%	-4	36.04%

Figure 15-17 show the relationship between CRF, absolute risk and cost per QALY ratios, when it is assumed that teriparatide has no effect on hip fracture incidence.

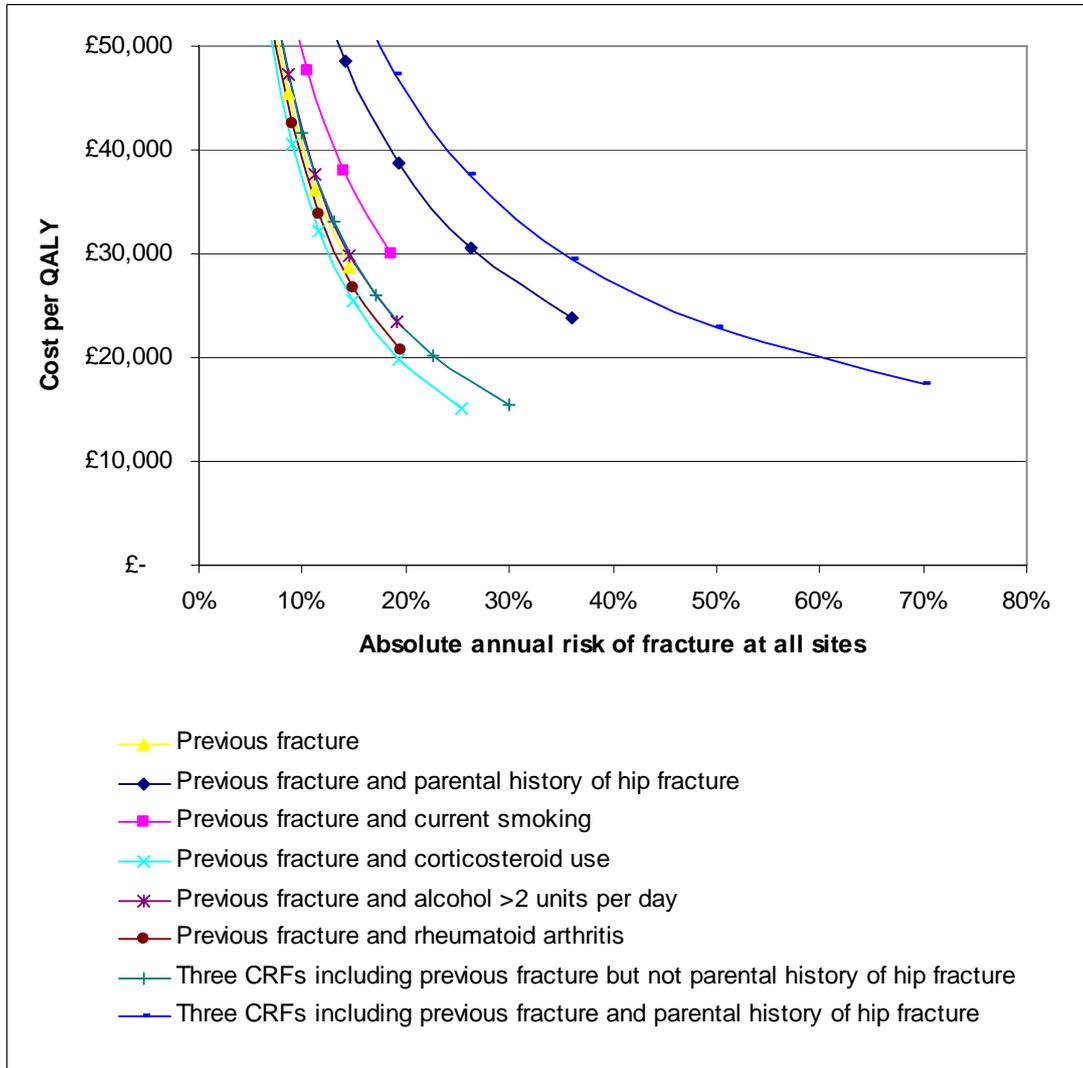
**Figure 15 Cost-effectiveness of teriparatide compared to no treatment at ages 70-74 for women with different clinical risk factors when assuming that teriparatide has no effect on hip fracture risk.**



**Figure 16 Cost-effectiveness of teriparatide compared to no treatment at ages 75-79 for women with different clinical risk factors when assuming that teriparatide has no effect on hip fracture risk.**



**Figure 17 Cost-effectiveness of teriparatide compared to no treatment at ages 80-84 for women with different clinical risk factors when assuming that teriparatide has no effect on hip fracture risk.**



**(2) Cost-effectiveness thresholds for teriparatide when including an effect on hip fracture risk.**

Table 13 -19 show the T-Score thresholds for cost-effective treatment when the effect of teriparatide on hip fracture was included (RR 0.50)

**Table 13 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 50-54**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-4.6	7.81%	-4.3	5.81%
Prior fracture and parental fracture	-4.5	9.76%	-4.2	7.74%
Prior fracture and current smoking	-4.2	7.68%	-3.9	5.65%
Prior fracture and corticosteroid use	-4.1	8.66%	-3.8	6.64%
Prior fracture and alcohol > 2 units per day	-4.3	8.16%	-4.0	6.10%
Prior fracture and rheumatoid arthritis	-4.3	8.00%	-4.1	6.63%
3 risk factors including prior fracture but excluding parental fracture	-3.8	8.18%	-3.6	6.81%
3 risk factors including prior fracture and parental fracture	-4.1	10.66%	-3.8	8.71%

**Table 14 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 55-59**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-4.7	7.71%	-4.5	6.45%
Prior fracture and parental fracture	-4.5	9.42%	-4.2	7.72%
Prior fracture and current smoking	-4.3	7.71%	-4.0	5.84%
Prior fracture and corticosteroid use	-4.1	8.24%	-3.8	6.52%
Prior fracture and alcohol > 2 units per day	-4.4	8.22%	-4.1	6.33%
Prior fracture and rheumatoid arthritis	-4.4	8.12%	-4.1	6.32%
3 risk factors including prior fracture but excluding parental fracture	-3.9	8.55%	-3.6	6.68%
3 risk factors including prior fracture and parental fracture	-4.1	10.68%	-3.7	8.46%

**Table 15 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 60-64**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-4.8	7.86%	-4.5	6.18%
Prior fracture and parental fracture	-4.6	9.96%	-4.2	7.80%
Prior fracture and current smoking	-4.3	7.35%	-4.0	5.72%
Prior fracture and corticosteroid use	-4.2	8.74%	-3.8	6.56%
Prior fracture and alcohol > 2 units per day	-4.4	7.86%	-4.1	6.21%
Prior fracture and rheumatoid arthritis	-4.5	8.46%	-4.1	6.24%
3 risk factors including prior fracture but excluding parental fracture	-3.9	8.45%	-3.6	6.74%
3 risk factors including prior fracture and parental fracture	-4.1	10.83%	-3.6	8.28%

**Table 16 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 65-69**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-4.8	8.39%	-4.4	6.41%
Prior fracture and parental fracture	-4.2	9.52%	-3.8	7.59%
Prior fracture and current smoking	-4.3	7.89%	-4.0	6.35%
Prior fracture and corticosteroid use	-4.1	9.25%	-3.7	7.24%
Prior fracture and alcohol > 2 units per day	-4.4	8.59%	-4.0	6.57%
Prior fracture and rheumatoid arthritis	-4.4	8.67%	-4.0	6.71%
3 risk factors including prior fracture but excluding parental fracture	-3.8	8.91%	-3.4	6.89%
3 risk factors including prior fracture and parental fracture	-3.7	10.44%	-3.2	8.00%

**Table 17 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 70-74**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-4.6	8.68%	-4.2	6.94%
Prior fracture and parental fracture	-3.5	8.61%	-3.0	6.43%
Prior fracture and current smoking	-4.2	8.54%	-3.7	6.30%
Prior fracture and corticosteroid use	-3.8	9.62%	-3.3	7.44%
Prior fracture and alcohol > 2 units per day	-4.2	9.00%	-3.7	6.80%
Prior fracture and rheumatoid arthritis	-4.2	9.28%	-3.7	7.09%
3 risk factors including prior fracture but excluding parental fracture	-3.5	9.13%	-3.0	6.97%
3 risk factors including prior fracture and parental fracture	-2.8	8.68%	-2.3	6.48%

**Table 18 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 75-59**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-4.4	9.09%	-3.9	7.01%
Prior fracture and parental fracture	-2.9	7.92%	-2.5	6.24%
Prior fracture and current smoking	-3.9	8.39%	-3.5	6.71%
Prior fracture and corticosteroid use	-3.5	9.80%	-2.9	7.30%
Prior fracture and alcohol > 2 units per day	-3.9	9.00%	-3.4	6.93%
Prior fracture and rheumatoid arthritis	-3.9	9.34%	-3.4	7.25%
3 risk factors including prior fracture but excluding parental fracture	-3.2	9.29%	-2.7	7.17%
3 risk factors including prior fracture and parental fracture	-2.0	7.66%	-1.5	5.95%

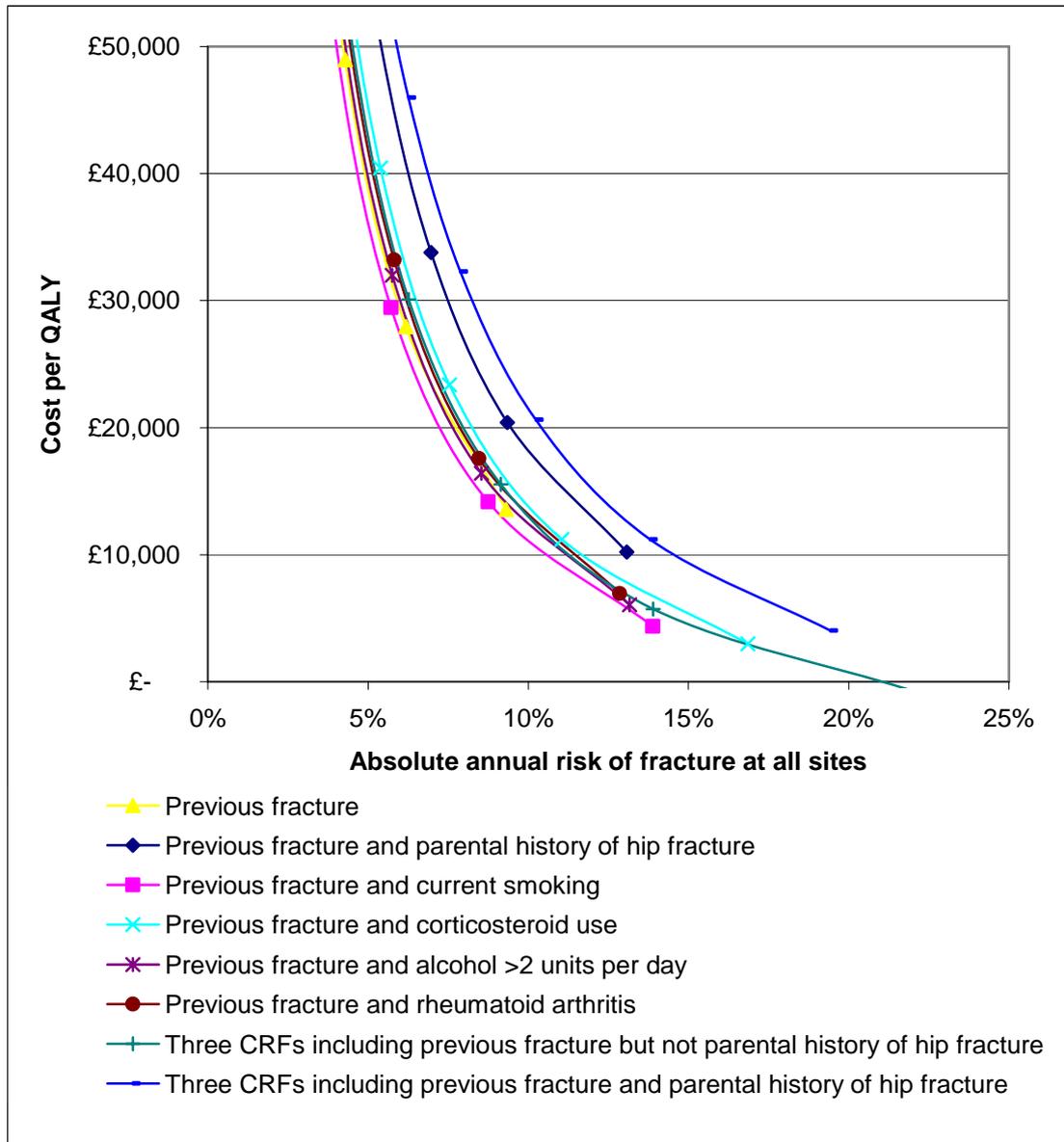
**Table 19 T-Scores and risk thresholds by clinical risk factor for teriparatide at ages 80-84**

Clinical risk factors present	MAICER of £20K		MAICER of £30K	
	T-Score threshold	Absolute risk threshold	T-Score threshold	Absolute risk threshold
Prior fracture	-3.9	8.20%	-3.4	6.39%
Prior fracture and parental fracture	-2.3	7.02%	-1.8	5.54%
Prior fracture and current smoking	-3.4	7.60%	-2.9	5.82%
Prior fracture and corticosteroid use	-2.9	8.54%	-2.4	6.70%
Prior fracture and alcohol > 2 units per day	-3.4	8.17%	-2.9	6.35%
Prior fracture and rheumatoid arthritis	-3.3	8.09%	-2.8	6.32%
3 risk factors including prior fracture but excluding parental fracture	-2.6	8.12%	-2	6.16%
3 risk factors including prior fracture and parental fracture	-1.1	6.71%	-0.6	5.34%



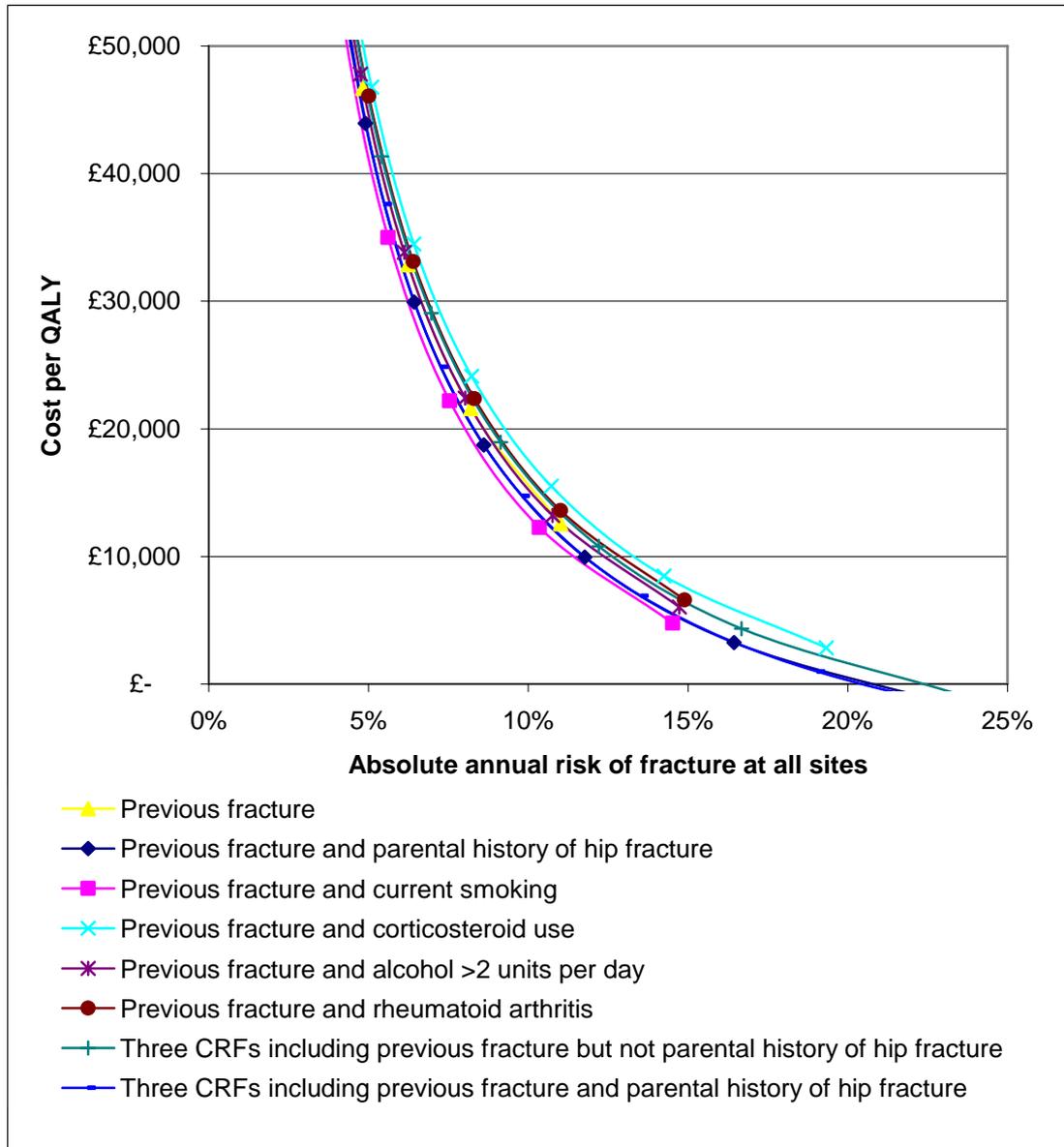


**Figure 20** Cost-effectiveness of teriparatide compared to no treatment at ages 60-64 for women with different clinical risk factors when assuming that teriparatide has an effect on hip fracture risk.

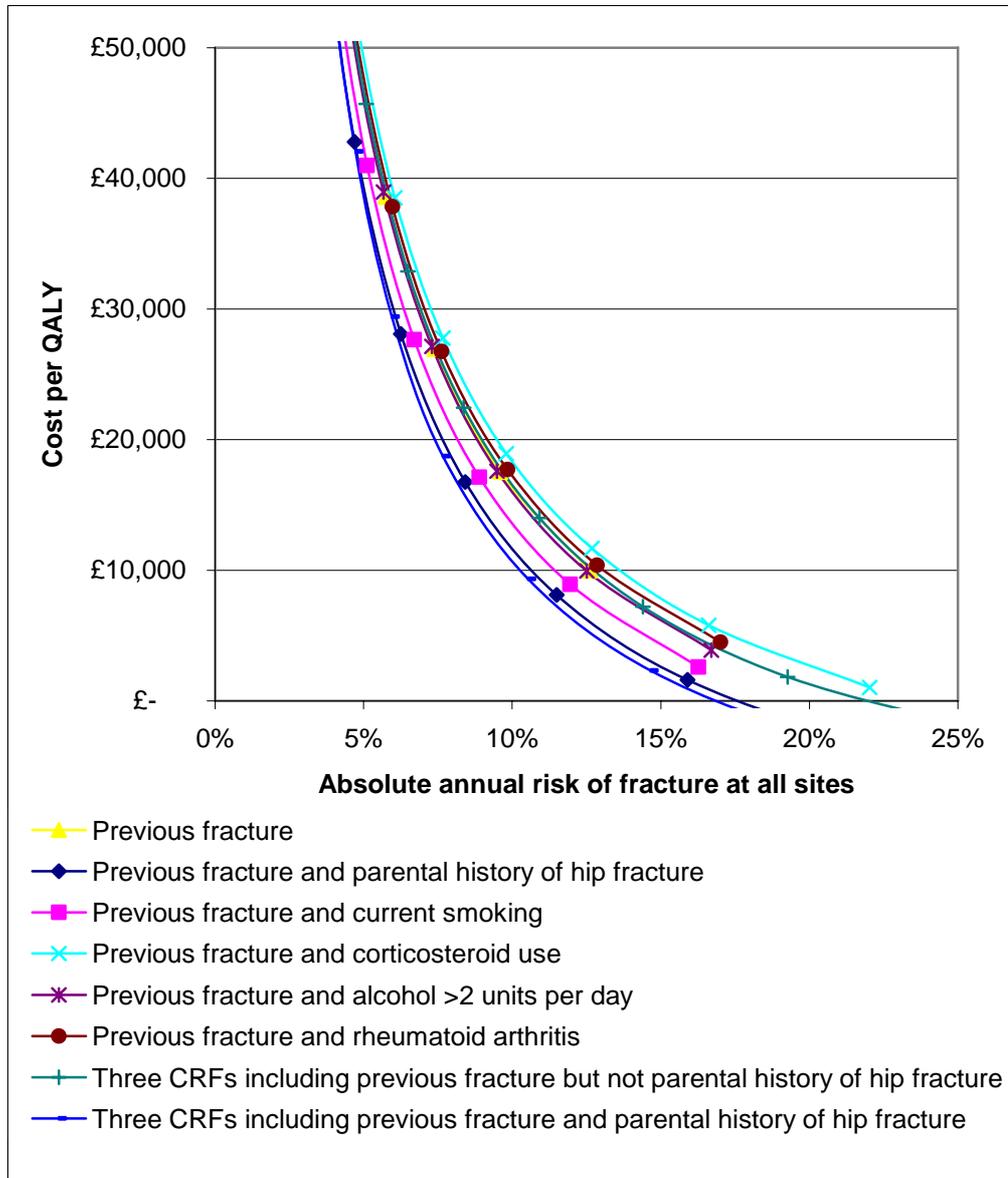




**Figure 22 Cost-effectiveness of teriparatide compared to no treatment at ages 70-74 for women with different clinical risk factors when assuming that teriparatide has an effect on hip fracture risk.**



**Figure 23 Cost-effectiveness of teriparatide compared to no treatment at ages 75-79 for women with different clinical risk factors when assuming that teriparatide has an effect on hip fracture risk.**



**Figure 24 Cost-effectiveness of teriparatide compared to no treatment at ages 80-84 for women with different clinical risk factors when assuming that teriparatide has an effect on hip fracture risk.**

