Cost-benefit analysis of surveillance for surgical site infection following caesarean section

Figure 1. Change in surgical site infection (SSI) risk between consecutive 3 month surveillance periods for 7 hospitals during the multi-centre caesarean section study

Hospital	No. operations	SSI (%) Period 1	SSI (%) Period 2	OR	(95% CI)	p-value
1	459	7.93	9.48	1.22	(0.63,2.33)	0.56
2	250	26.67	15.38	0.50	(0.27,0.93)	0.03
3	269	16.15	4.32	0.23	(0.09,0.60)	<0.01
4	257	8.89	2.46	0.26	(0.07,0.94)	0.04
5	376	11.46	5.98	0.49	(0.23,1.04)	0.06
6	316	8.50	7.36	0.86	(0.38,1.94)	0.71
7	520	5.10	5.66	1.12	(0.52,2.40)	0.78
Overall	**2447**			**0.64**	**(0.48,0.85)**	**<0.01**

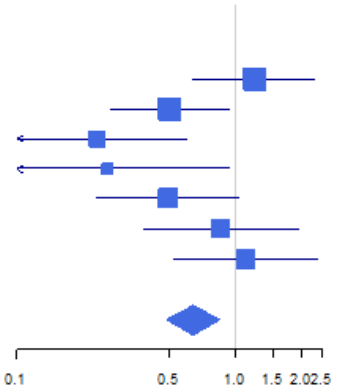
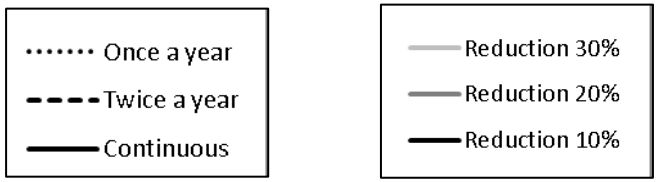


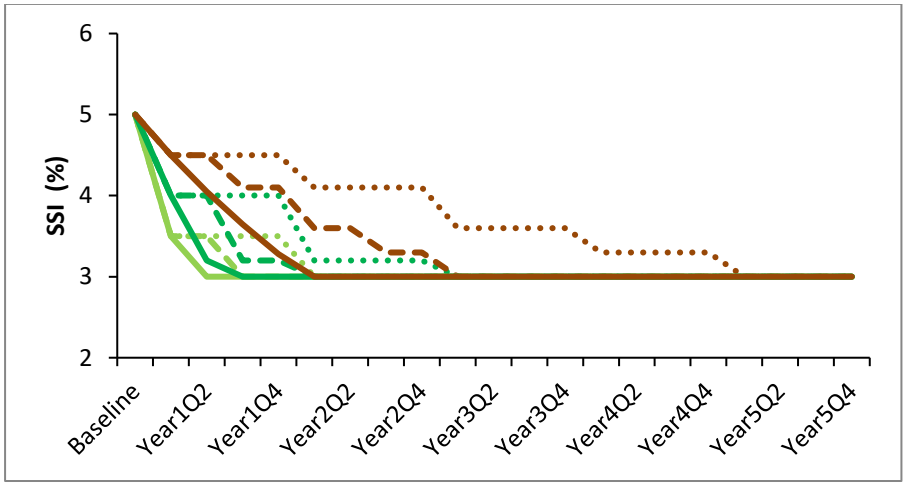
Figure 2. Balance of surveillance cost versus savings from reductions of 10, 20 and 30% per surveillance period for surveillance strategies of one quarter a year, two quarters a year and continuous surveillance for starting surgical site infection (SSI) risk of 5%

Model assumes reductions in infection risk are achieved in conjunction with improvement programmes during surveillance periods and maintained between each surveillance period. No further reductions in risk of infection were included in the model once a postulated minimum SSI risk of 3% was reached.

Key: Surveillance strategy Reductions in SSI risk



i) SSI risk (%)



ii) balance of discounted cost versus savings

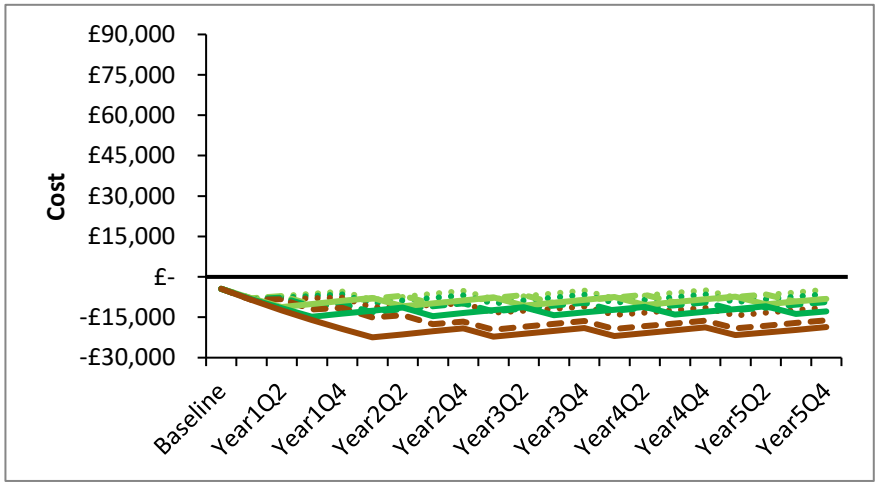
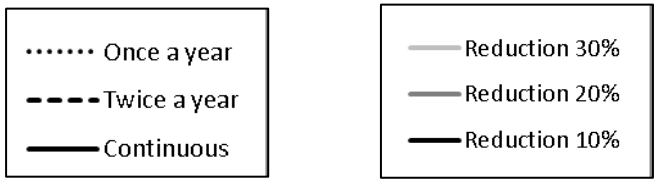


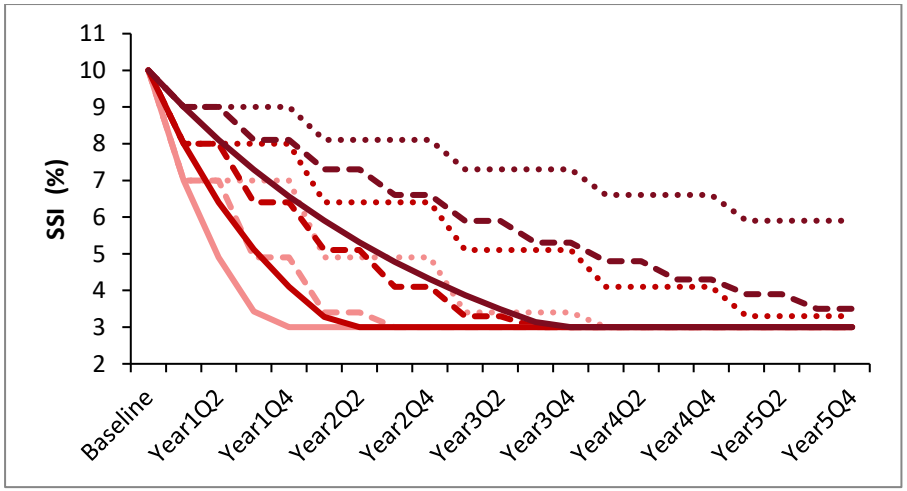
Figure 3. Balance of surveillance cost versus savings from reductions of 10, 20 and 30% per surveillance period for surveillance strategies of one quarter a year, two quarters a year and continuous surveillance for starting surgical site infection (SSI) risk of 10%

Model assumes reductions in infection risk are achieved in conjunction with improvement programmes during surveillance periods and maintained between each surveillance period. No further reductions in risk of infection were included in the model once a postulated minimum SSI risk of 3% was reached.

Key: Surveillance strategy Reductions in SSI risk



i) SSI risk (%)



ii) balance of discounted cost versus savings

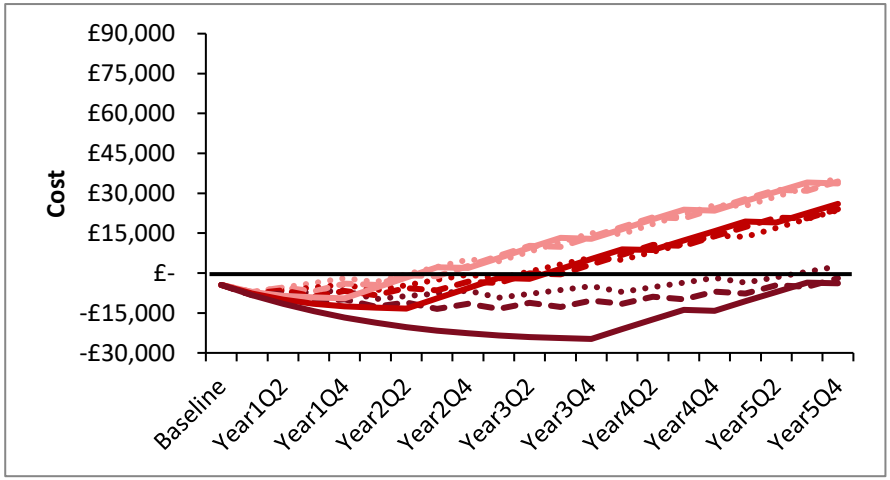
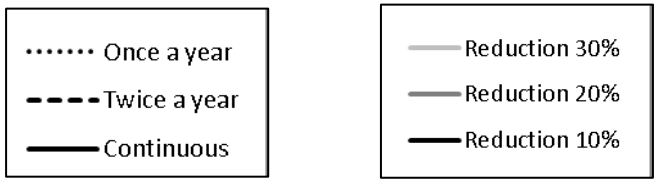


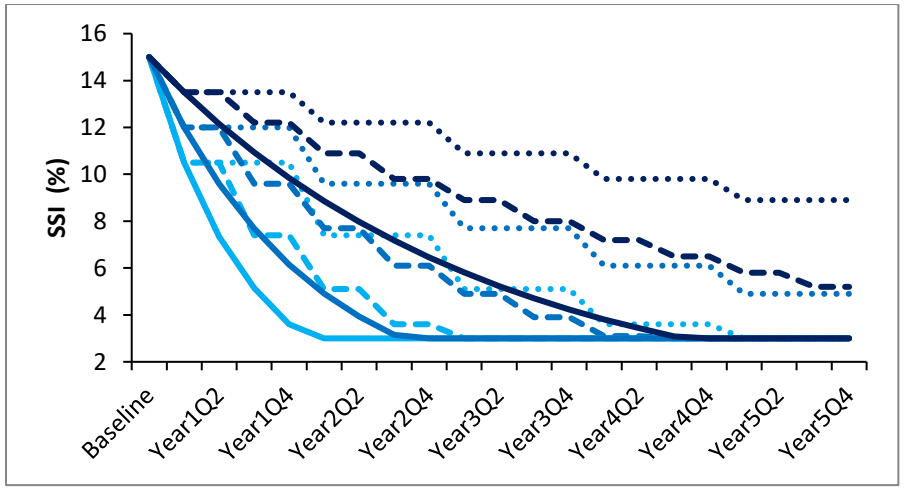
Figure 4. Balance of surveillance cost versus savings from reductions of 10, 20 and 30% per surveillance period for surveillance strategies of one quarter a year, two quarters a year and continuous surveillance for starting surgical site infection (SSI) risk of 15%

Model assumes reductions in infection risk are achieved in conjunction with improvement programmes during surveillance periods and maintained between each surveillance period. No further reductions in risk of infection were included in the model once a postulated minimum SSI risk of 3% was reached.

Key: Surveillance strategy Reductions in SSI risk



i) SSI risk (%)



ii) balance of discounted cost versus savings

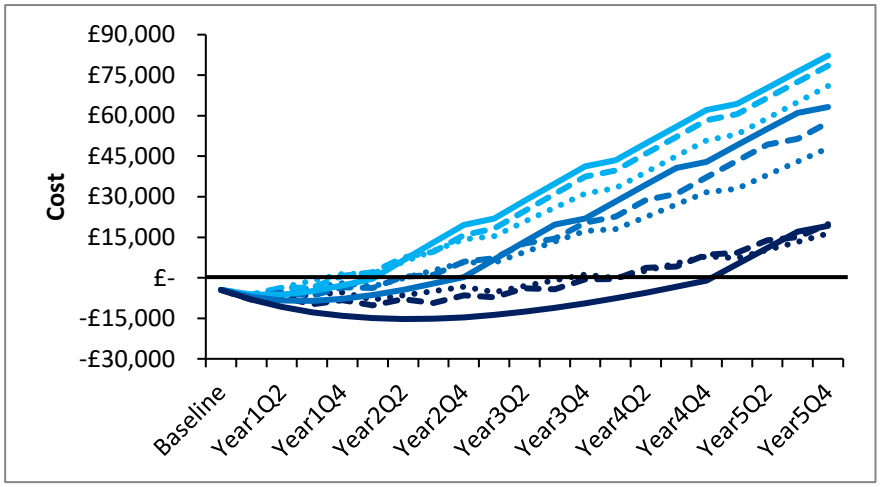


Figure 5. Balance of surveillance cost versus savings from reductions in surgical site infection risk of 10, 20 and 30% per surveillance period for baseline surgical site infection (SSI) risk of 10 or 15% using a variable surveillance strategy (continuous surveillance when the infection risk is above 10%, two quarters per year surveillance for infection risk between 5 and 10% and one quarter per year surveillance for infection risk below 5%)

Model assumes reductions in risk of infection are achieved in conjunction with improvement programmes during surveillance periods and maintained between each surveillance period. No further reductions in risk of infection were included once a postulated minimum SSI risk of 3% was reached.

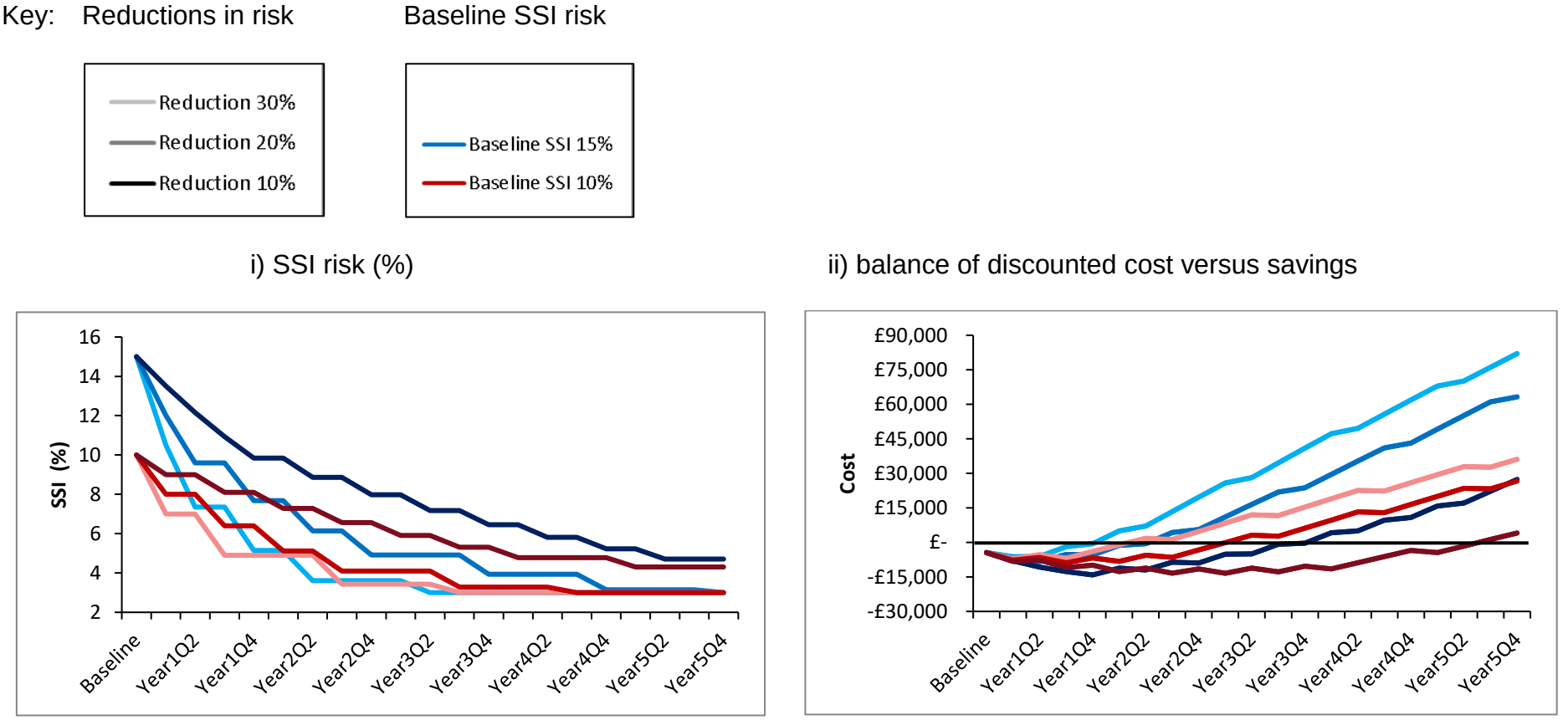


Figure 6 Cumulative discounted prevented costs against costs of surveillance after 5-year surveillance programme - 15% Baseline surgical site infection risk

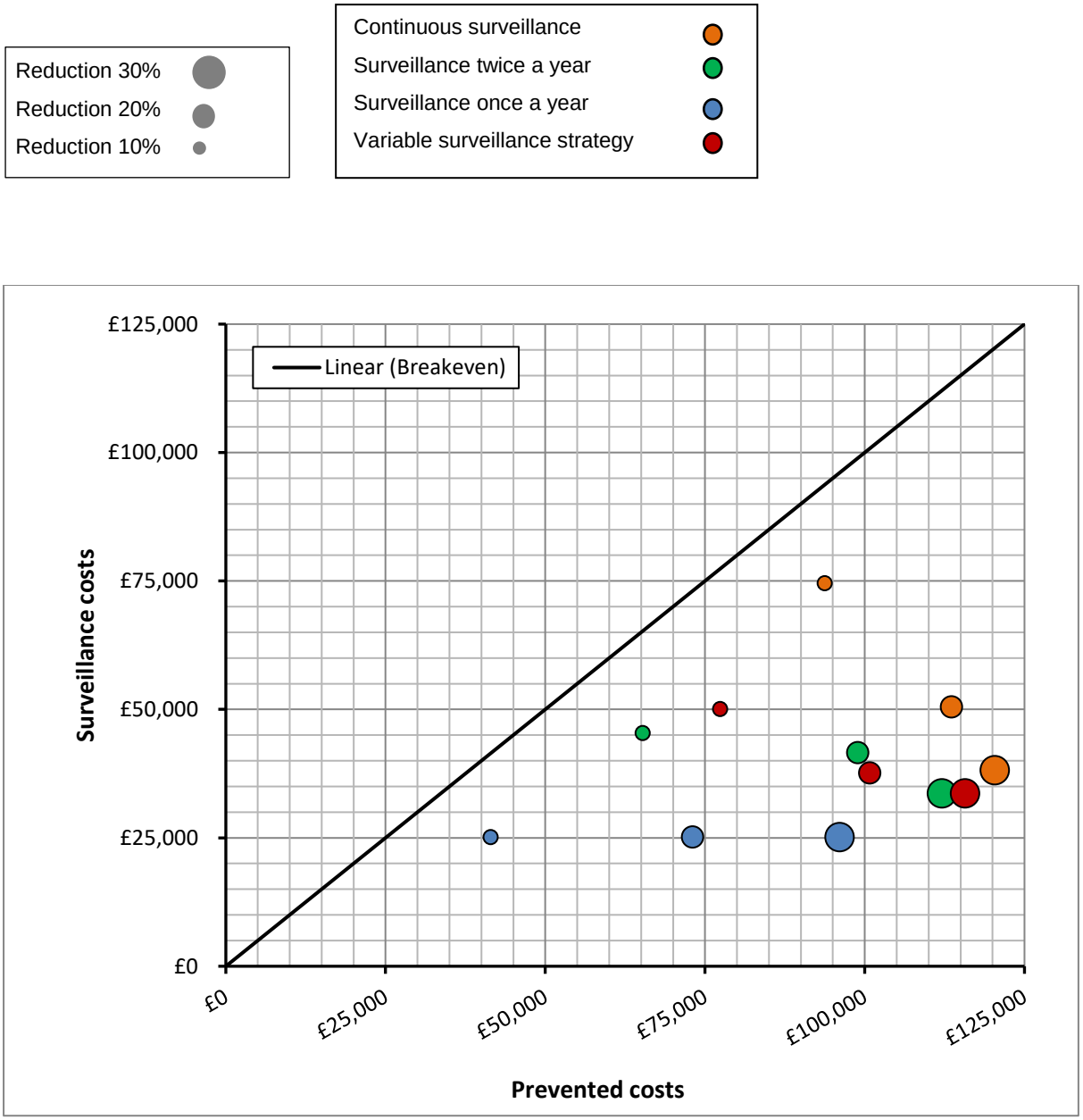


Figure 7 Cumulative discounted prevented costs against costs of surveillance after 5-year surveillance programme - 10% Baseline surgical site infection risk

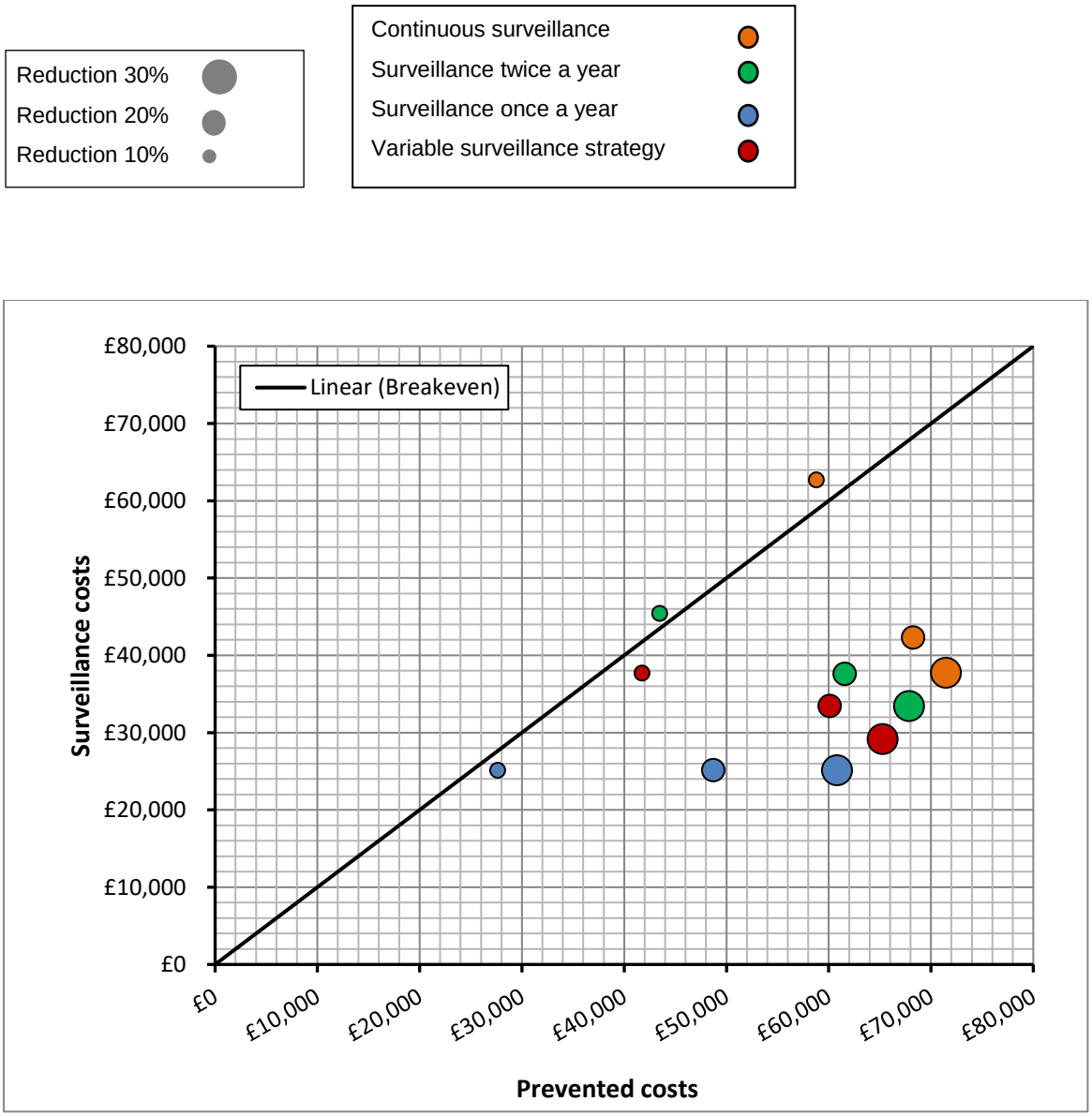
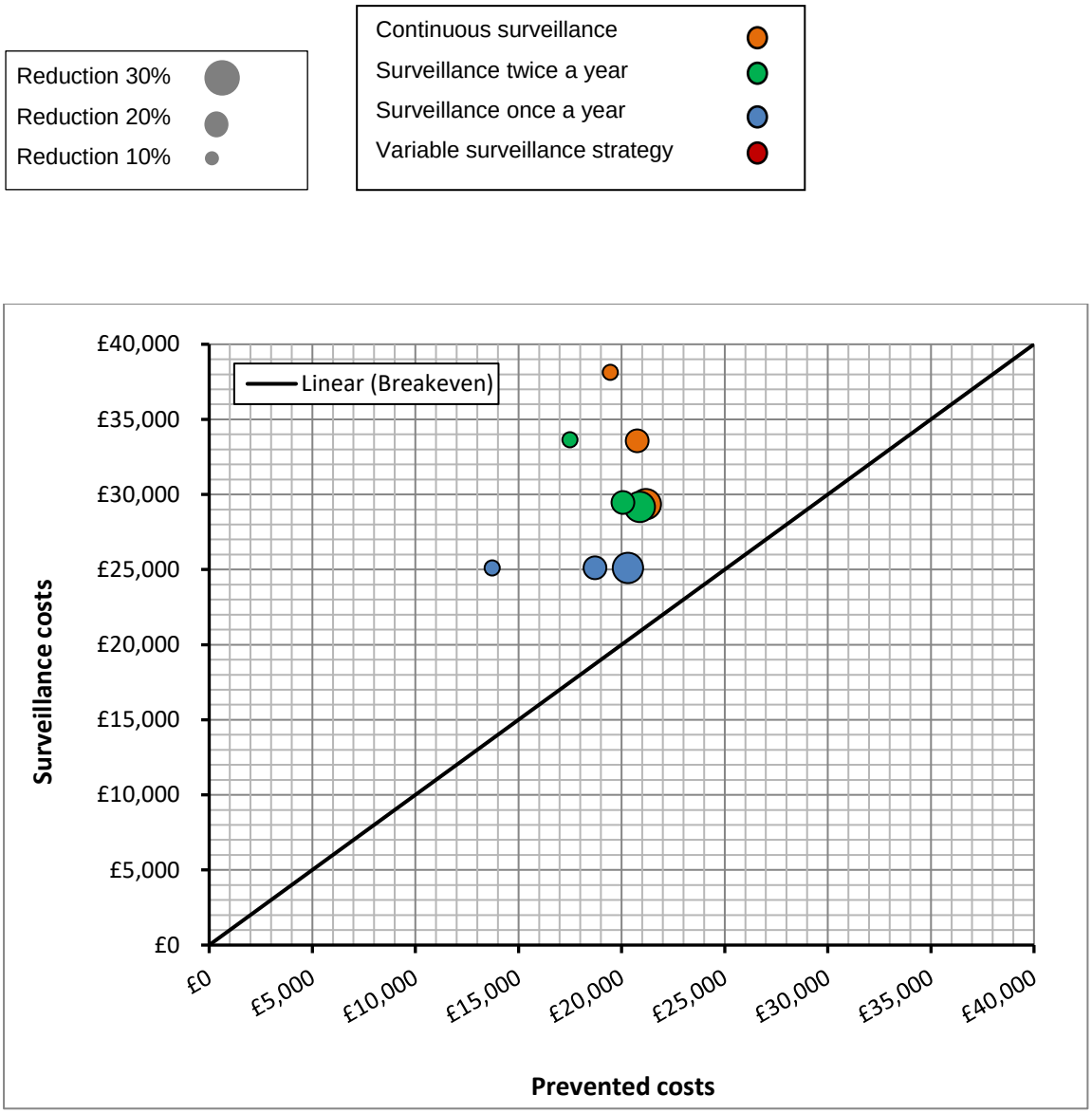


Figure 8 Cumulative discounted prevented costs against costs of surveillance after 5-year surveillance programme - 5% Baseline surgical site infection risk



*Variable surveillance strategy is equivalent to once-a-year surveillance where SSI risk is <5%