SHTAC ERG additional analyses

The SHTAC additional analyses are shown expanded for all possible treatments as requested by NICE at the PMB on 25th September 2013. All results should be treated with extreme caution as they compare individual arms of separate trials, without adjusting for trial populations. Furthermore there are differences in the trial designs. For these reasons, the results should not be directly compared. (See section 4.3 of the ERG report for more details of these analyses).

Table 1 shows the base case results from the manufacturer's original models.

Table 1. Base case comparison of all treatments using original economic models.

Scenario	Treatment	Total costs, £	Total QALYs	Incremental Costs vs. CTD	Incremental QALYs vs. CTD	ICER vs CTD (£/QALY)	ICER vs TD (£/QALY)
Base case results	CTD	£48,237	3.90	-	-	-	Dominates
	TD	£49,414	3.06	£1,177	-0.85	Dominated	-
	PAD	£59,632	3.84	£11,396	-0.06	Dominated	£13,026
	VD	£62,874	3.79	£14,637	-0.11	Dominated	£18,318
	VTD	£72,815	4.00	£24,579	0.10	£242,776	£24,683
Dominated treatments are more expensive and less effective than alternative treatment. Results are illustrative and should not be directly compared.							

Table 2 shows the base case results from the manufacturer's addendum model (for TD and VTD) and the manufacturer's original models (for CTD, PAD and VD).

Table 2. Base case comparison of all treatments using addendum model for TD and VTD and original economic model for CTD, PAD and VD.

Scenario	Treatment	Total costs, £	Total QALYs	Incremental Costs vs. CTD	Incremental QALYs vs. CTD	ICER vs CTD (£/QALY)	ICER vs TD (£/QALY)
Base case results	CTD	£48,237	3.90	-	-	-	Dominates
	TD	**£55,493**	**3.01**	**£7,256**	**-0.89**	**Dominated**	**-**
	PAD	£59,632	3.84	£11,396	-0.06	Dominated	£5,014
	VD	£62,874	3.79	£14,637	-0.11	Dominated	£9,512
	VTD	**£76,174**	**4.02**	**£27,938**	**0.12**	**£228,159**	**£20,468**
Dominated treatments are more expensive and less effective than alternative treatment. Results are illustrative and should not be directly compared.							

Table 3 shows results for two scenario analyses described in Section 4.3 of the ERG report for treatments containing bortezomib and comparators containing thalidomide as per the NICE scope. The first scenario examines the influence of different post-induction mortality data on model outcomes. The second scenario examines the effect of using post-SCT response rates rather than post-induction response rates as the starting point for extrapolation to overall survival. Results for a combined scenario are also given in Table 3. Again, these results should be treated with extreme caution as they compare individual arms of separate trials, without adjusting for trial populations or trial designs.

Table 3. Scenario analysis using original economic models. Assumes that VGPR qualifies as CR (as per manufacturer's models) for CTD, PAD and VD.

Scenario	Treatment	Total costs, £	Total QALYs	Incremental Costs vs. CTD	Incremental QALYs vs. CTD	ICER vs CTD (£/QALY)	ICER vs TD (£/QALY)
(a) Median overall survival follows Alvares et al (2005)	CTD	£52,138	4.59	-	-	-	Dominates
	TD	£55,076	4.07	£2,939	-0.52	Dominated	-
	PAD	£63,438	4.45	£11,300	-0.14	Dominated	£22,017
	VD	£67,678	4.54	£15,541	-0.05	Dominated	£26,495
	VTD	£76,605	4.62	£24,467	0.03	£775,597	£38,750
(b) Post-SCT response rates (with VGPR assigned to CR)	CTD	£48,306	4.74				Dominates
	TD	£50,378	3.43	£2,072	-1.31	Dominated	-
	PAD	£62,075	4.46	£13,769	-0.27	Dominated	£11,320
	VD	£63,849	4.13	£15,543	-0.60	Dominated	£19,129
	VTD	£73,716	4.08	£25,410	-0.66	Dominated	£35,915
Both (a) and (b)	CTD	£50,127	5.06				Dominates
	TD	£54,851	4.24	£4,724	-0.82	Dominated	-
	PAD	£63,993	4.77	£4,724	-0.82	Dominated	£17,414
	VD	£67,625	4.72	£13,866	-0.29	Dominated	£26,701
	VTD	£77,203	4.63	£17,498	-0.34	Dominated	£57,172

Dominated treatments are more expensive and less effective than alternative treatment. Results are illustrative and should not be directly compared.

Table 4 also shows results for the scenario analyses described in Section 4.3 of the ERG report for treatments containing bortezomib, and comparators containing thalidomide, but varies the assignment of the VGPR category in the economic model. In the original manufacturer's models VGPR is added to the CR category for the CTD, PAD and VD treatments; in Table 4 we add it to the PR category instead. This assumption is not required for TD and VTD as no VGPR category was used in the key trial (Pethema).

Table 4. Scenario analysis using original economic models. Assumes that VGPR qualifies as PR for CTD, PAD and VD.

Scenario	Treatment	Total costs, £	Total QALYs	Incremental Costs vs. CTD	Incremental QALYs vs. CTD	ICER vs CTD (£/QALY)	ICER vs TD (£/QALY)
(c) Post-SCT response rates (with VGPR assigned to PR)	CTD	£47,597	4.16				Dominates
	TD	£50,378	3.43	£2,781	-0.73	Dominated	-
	PAD	£59,772	3.86	£12,176	-0.30	Dominated	£21,755
	VD	£62,367	3.68	£14,770	-0.48	Dominated	£48,124
	VTD	£73,716	4.08	£26,119	-0.08	Dominated	£35,915
Both (a) and (c)	CTD	£51,047	4.76				Dominates
	TD	£54,851	4.24	£3,804	-0.52	Dominated	-
	PAD	£63,563	4.48	£3,804	-0.52	Dominated	£36,871
	VD	£67,528	4.50	£12,516	-0.28	Dominated	£49,040
	VTD	£77,203	4.63	£16,481	-0.26	Dominated	£57,172

Dominated treatments are more expensive and less effective than alternative treatment. Results are illustrative and should not be directly compared.

Table 5 shows results of the scenario analyses described in Section 4.3 of the ERG report when executed on the addendum economic model.

Table 5. Scenario analysis for VTD versus CTD and TD using addendum economic model.

Scenario	Treatment	Total costs, £	Total QALYs	Incremental Costs vs. CTD	Incremental QALYs vs CTD	ICER vs CTD (£/QALY)	ICER vs TD (£/QALY)
(a) Median overall survival follows Alvares et al (2005)	CTD	£58,893	4.36	-	-	-	Dominates
	TD	£60,485	4.03	£1,591	-0.33	Dominated	-
	VTD	£79,586	4.66	£20,692	0.30	£69,108	£30,368
(b) Post-SCT response rates	CTD	£55,584	3.82	-	-	-	Dominates
	TD	£56,497	3.39	£913	-0.43	Dominated	-
	VTD	£77,639	4.20	£22,055	0.37	£59,486	£26,292
Both (a) and (b)	CTD	£58,315	4.45	-	-	-	Dominates
	TD	£60,280	4.20	£1,966	-0.25	Dominated	-
	VTD	£80,402	4.72	£22,088	0.27	£81,983	£38,985

Results are illustrative and should not be directly compared
Assumes that VGPR qualifies as PR for CTD