ERG (School of Health and Related Research [ScHARR] University of Sheffield) additional analyses on the technology appraisal of degarelix for treating advanced hormone-dependent prostate cancer – corrections on the manufacturer's economic model and incorporation of Committee's preferred assumptions 16 December 2013

Corrections made to Degarelix economic model

- The Docetaxel -> Docetaxel transition probability formulae have been changed so they both are '1-sum(abiraterone, palliative care, CV death, other death)'
- The transition probability formulae for CV death and other death have been changed so that they all use adverse event risk and mortality risks from the same row.
- Transition probability formulae which did just subtract other death have been changed so that both 'CV death' and 'Other death' are subtracted.

Prior to the correction running the model with (1)equal efficacy and (2)excluding costs and disutilities for SCC and MSEs and (3) the same CV risk with Degarelix and LHRH agonists; resulted in different QALY gains for Degarelix and LHRH agonists.

Following the correction the model predicted QALY gains are the same for Degarelix and LHRH agonists.

The inclusion of CV events only results in the model only results in a very small decrease in QALYs (0.00026).

ERG base case

- 3-monthly triptorelin (decapeptyl)
- LHRH agonists and degarelix administered until death
- One year duration for which the hazard ratio for differential efficacy applied
- The proportion of patients receiving chemotherapy after PSA progression was 70% and the proportion of patients receiving abiraterone was 70%

For the ERG base case the ICER for the comparator Triptorelin 3 monthly (Decapeptyl) is £15,751. The ICER value when other LHRH agonists are considered as comparators range from £8,129 (Triptorelin monthly gonapeptyl) to £16,252 (Triptorelin 6 monthly decapeptyl).

Treatment Arm	Totals			Incrementals			Cost per QALY	Cost per Life Year	Incremental Net Benefit (Threshold £20,000 per
	Costs	QALYs Gained	Life Years Gained	Costs	QALYs Gained	Life Years Gained			
Triptorelin 3 Monthly (Decapeptyl)	£22,837	5.597	9.44	£3,465	0.220	0.10	**£15,751**	£33,298	£935
Degarelix	£26,302	5.817	9.55						

Post AC analysis

- LHRH agonists and degarelix administered until death
- Effect of treatment on PSA progression assumed equal between degarelix and LHRH agonists
- The proportion of patients receiving chemotherapy after PSA progression was 70% and the proportion of patients
- receiving abiraterone was 70%
- Assume the rate of fractures is the same for both the degarelix and LHRH agonist arms. (The Weibull curve in the MS for LHRH agonists was used for both arms.)
- Assume rate of CV is the same for both the degarelix and LHRH agonists arms. (The exponential curve in MS for LHRH agonists was used for both arms).

For the Post AC analysis the ICER for the comparator Triptorelin 3 monthly (Decapeptyl) is £103,179. The ICER value when other LHRH agonists are considered as comparators range from £70,637 (Triptorelin monthly gonapeptyl) to £105,412 (Triptorelin 6 monthly decapeptyl).

Treatment Arm	Totals			Incrementals			Cost per QALY	Cost per Life Year	Incremental Net Benefit (Threshold £20,000 per
	Costs	QALYs Gained	Life Years Gained	Costs	QALYs Gained	Life Years Gained			
Triptorelin 3 Monthly (Decapeptyl)	£22,313	5.725	9.55	£5,453	0.053	0.00	**£103,179**	Dominated	-£4,396
Degarelix	£27,766	5.778	9.55						