

Cheshire & Merseyside Strategic Commissioning

Modelling wet AMD capacity and budgets

Approach adopted

- ◆ Using a population based 'systems model' that reflects patient pathways;
- ◆ Capture of 'mental model' as expressed in published material and informed by local understanding and expectations;
- ◆ Required to inform key issues of spend and capacity requirements for new drugs to treat wet AMD;
- ◆ Provides an 'intelligence base' for informed commissioning decisions.

Population, incidence and uptake

- ◆ ONS 2004 based population projections for Local Authority areas – coterminous with PCTs (one current exception being no split for Cheshire);
- ◆ Time-series 2007 to 2012 used broken down to 10yr age bands consistent with incidence data;
- ◆ Combined incidence data as used in Bruce Bolam paper, 8th January 2007;
- ◆ Uptake is key model variable – baseline assumption is 35% in 2007 rising by 5% pa to 60% by 2012.

Treatment options

- ◆ Alternatives scenarios modelled:
 - 100% to Macugen (base option);
 - 100% to Lucentis;
 - 5% to PDT (classic and predominantly classic) 95% to Lucentis plus 30% (failure rate from PDT) subsequently proceeding to Lucentis;
 - 100% to Avastin.

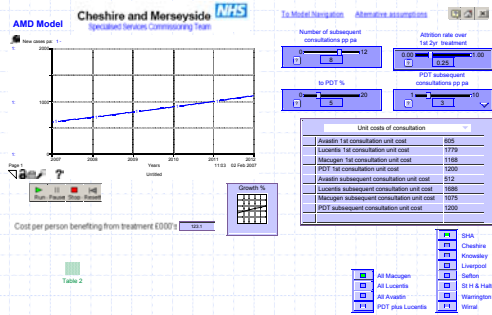
Treatment

- ◆ 2 year (with option of a certain percentage entering a second 2 year period of treatment);
- ◆ 6 month no drop out but then option to 'leak' a percentage (base rate of 25%);
- ◆ Age specific death rates added to 'drop-out' figures;
- ◆ Number needed to treat - Macugen = 6.7, Lucentis = 2.56, PDT = 6.67 & Avastin = 2.56.

Key model variables

- ◆ 'Presentation';
- ◆ Choice of treatment;
- ◆ Cost of assessment or individual treatment;
- ◆ % 'drop-out' from treatment between month 6 and 24;
- ◆ Number of treatments given pa (average).

Model interface



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Model outputs – comparison of treatment regimes

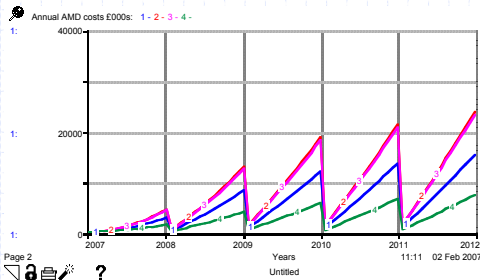
| Regime | Final annual budget for C&M SHA @60% uptake in 2012 (£M) | Cost per person benefiting |
|-------------------|--|----------------------------|
| All Macugen | £15.3M | £123,000 |
| All Lucentis | £23.9M | £73,600 |
| PDT plus Lucentis | £23.3M | £75,100 |
| All Avastin | £7.3M | £22,500 |

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Comparison of treatment regimes



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Sensitivity of model outputs to assumptions

Using PDT plus Lucentis option – illustrative options to explore sensitivity with outcomes expressed in relation to final level of budget of using baseline assumptions of £23.3M

| Area | Original assumption | Revised assumption | Impact on final budget |
|----------------------------------|---------------------|--------------------|------------------------|
| % to PDT before Lucentis | 5% | 14% | -£1.1M |
| Rate of attrition from treatment | 25% | 40% | -£1.2M |
| Uptake /presentation | 60% | 80% | +£7.6M |
| Cost of Lucentis | c.£1,700 | c.£1,200 | -£6.6M |

Note: impact of options are not cumulative but combinations can be developed to reflect a 'scenario' of a new set of assumptions.

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