

**Cost-effectiveness of Aztreonam 75mg Powder and Solvent for
Nebuliser Solution for the treatment of chronic Pseudomonas
aeruginosa (PA) in Cystic Fibrosis patients in Ireland**



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1. On the 20th June 2011 the National Centre for Pharmacoeconomics received a submission from Gilead Sciences Ltd. on the cost-effectiveness of aztreonam (Cayston®) 75mg powder and solvent for nebuliser solution for the treatment of chronic Pseudomonas aeruginosa (PA) infection in cystic fibrosis patients. The comparator was 300mg of tobramycin solution for inhalation twice daily administered via the PARI LC PLUS nebuliser.
2. Economic evaluation was in the form of a cost utility analysis and was conducted from the perspective of the Health Service Executive (HSE). A decision analytic model was developed in Microsoft Excel 2003. A Markov structure was used to consider transitions between health states defined principally by levels of % predicted of forced expiratory volume in one second (FEV₁).
3. A life time perspective was adopted for basecase analysis. Data from the pivotal trial GS-US-205-0110 was used to populate the economic model. The review group noted that none of the identified clinical studies allowed the direct estimation of utilities. In the absence of such data a mapping exercise was conducted. Costs and consequences were discounted at an annual rate of 4%.
4. The incremental cost effectiveness ratio for aztreonam 75mg powder and solvent for nebuliser solution versus 300mg of tobramycin for inhalation was €3,876/QALY. A probabilistic sensitivity analysis indicated that the probabilities of aztreonam for inhalation being cost effective were 0.78% at the €20,000/QALY threshold and €71.98% at the €45,000/QALY threshold level. The gross budget impact was estimated at €152,377 in year 1 increasing to €304,755 in year 5.

5. We believe there is a role for aztreonam 75mg powder and solvent for nebuliser solution for the treatment of chronic PA in cystic fibrosis patients. However, the basecase ICER of €33,876/QALY and 0.78% probability of cost effectiveness at a threshold level of €20,000/QALY does not justify the price premium. In our view the pricing of this product should be similar to the comparator tobramycin.