Appendix B

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Proposed Health Technology Appraisal

Mepolizumab for treating severe eosinophilic asthma [ID798]

Draft scope (pre-referral)

Draft remit/appraisal objective
To appraise the clinical and cost effectiveness of mepolizumab within its marketing authorisation for treating severe eosinophilic asthma

Background
Asthma is characterised by symptoms such as breathlessness, chest tightness, sputum production and cough associated with variable airflow obstruction and airway hyperresponsiveness. People with severe asthma often have a severely impaired quality of life which can lead to fatigue, absence from school or work and psychological problems including stress, anxiety and depression. There were 1242 deaths from asthma in the UK in 2012. Estimates suggest that around 5.4 million people in England and Wales currently receive treatment for asthma.

Current British guidelines from the British Thoracic Society (BTS) and Scottish Intercollegiate Guidelines Network (SIGN) recommend a stepwise approach to treatment in adults. Control is maintained by stepping up treatment as necessary and stepping down when control is good. The guideline steps are summarised as follows:

- **Step 1.** Inhaled short-acting beta-2 agonist as required.
- **Step 2.** Add inhaled corticosteroid (200–800 micrograms per day).
- **Step 3.** Add an inhaled long-acting beta-2 agonist. If control remains inadequate, increase the dose of the inhaled corticosteroid to 800 micrograms per day. If there is no response to the inhaled long-acting beta-2 agonist, stop this drug and increasing the inhaled corticosteroid dose 800 micrograms per day. If control is still inadequate, try a leukotriene receptor antagonist or slow-release theophylline.
- **Step 4:** Consider increasing the dose of inhaled corticosteroid up to 2000 micrograms per day. Consider adding a fourth drug (for example, a leukotriene receptor antagonist, slow-release theophylline or a beta-2 agonist tablet).
- **Step 5:** Use daily steroid tablets at the lowest dose providing adequate control. Maintain high-dose inhaled corticosteroid at 2000 micrograms per day. Consider other treatments to minimise the use of steroid tablets. Refer patients to specialist care.
NICE technology appraisal guidance 278 recommends omalizumab as an option for treating severe persistent allergic IgE-mediated asthma as add-on therapy to optimised standard therapy in people aged 6 years and older who need continuous or frequent treatment with oral corticosteroids (defined as 4 or more courses in the previous year), and only if the manufacturer makes omalizumab available with the discount agreed in the patient access scheme. Optimised standard therapy is defined in the recommendations as a full trial of and, if tolerated, documented compliance with inhaled high-dose corticosteroids, long-acting beta2 agonists, leukotriene receptor antagonists, theophyllines, oral corticosteroids, and smoking cessation if clinically appropriate.

The technology
Mepolizumab (brand name unknown, GlaxoSmithKline) is an anti-interleukin-5 humanised monoclonal antibody. By reducing the effects of interleukin-5, mepolizumab causes a reduction in circulating eosinophils, a type of white blood cell involved allergic response and tissue inflammation. Mepolizumab is administered subcutaneously in addition to best standard asthma care.

Mepolizumab does not currently have a marketing authorisation in the UK for treating severe eosinophilic asthma. Mepolizumab has been studied in clinical trials in comparison with placebo in people with severe eosinophilic asthma.

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<thead>
<tr>
<th>Intervention(s)</th>
<th>Mepolizumab (in addition to best standard care)</th>
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<tr>
<td>Population(s)</td>
<td>Adults with severe eosinophilic asthma</td>
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<td>Comparators</td>
<td>Best standard care without mepolizumab</td>
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<tr>
<td>Outcomes</td>
<td>The outcome measures to be considered include:</td>
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<td></td>
<td>• asthma symptoms</td>
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<td>• incidence of clinically significant acute</td>
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<td>exacerbations, including those which require</td>
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<td>unscheduled contact with healthcare professionals or hospitalisation</td>
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<td>• use of oral corticosteroids</td>
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<td>• mortality</td>
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<td>• time to discontinuation</td>
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<td>• adverse effects of treatment</td>
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<td>• health-related quality of life.</td>
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### Economic analysis

The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.

The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared.

Costs will be considered from an NHS and Personal Social Services perspective.

The availability of any patient access schemes for the intervention or comparator technologies should be taken into account.

### Other considerations

Best standard care for this population is considered to be step 4 and/or step 5 in the stepwise approach to treatment from the SIGN/BTS guideline.

If the evidence allows, social factors affecting adherence to treatment will be considered.

Guidance will only be issued in accordance with the marketing authorisation.

Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.

### Related NICE recommendations and NICE Pathways

Related Technology Appraisals:
- Technology Appraisal No. 278, Apr 2013, ‘Omalizumab for treating severe persistent allergic asthma (review of technology appraisal guidance 133 and 201)’. Review proposal date Mar 2016.

Related Guidelines:

Related Intervventional Procedures:
- Interventional Procedure No. 419, Jan 2012, ‘Bronchial thermoplasty for severe asthma’.
### Questions for consultation

What is the overlap between populations with severe allergic asthma and severe eosinophilic asthma?

Have all relevant comparators for mepolizumab been included in the scope? Should omalizumab be included as a comparator?

Which treatments are considered to be established clinical practice in the NHS for asthma? Should best standard care for this population be step 4 and/or step 5 in the stepwise approach to treatment from the SIGN/BTS guideline?

Should the use of mepolizumab for treating adolescents with severe eosinophilic asthma be included in the scope of this appraisal?

Are there any subgroups of people in whom mepolizumab is expected to be more clinically effective and cost effective or other groups that should be examined separately? Is it appropriate to consider social factors affecting adherence to treatment?

Where do you consider mepolizumab will fit into the existing NICE pathway, ‘Asthma’?

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. Please let us know if you think that the proposed remit and scope may need changing in order to meet these aims. In particular, please tell us if the proposed remit and scope:

- could exclude from full consideration any people protected by the equality legislation who fall within the patient population for which mepolizumab will be licensed;
• could lead to recommendations that have a different impact on people protected by the equality legislation than on the wider population, e.g. by making it more difficult in practice for a specific group to access the technology;

• could have any adverse impact on people with a particular disability or disabilities.

Please tell us what evidence should be obtained to enable the Committee to identify and consider such impacts.

Do you consider mepolizumab to be innovative in its potential to make a significant and substantial impact on health-related benefits and how it might improve the way that current need is met (is this a ‘step-change’ in the management of the condition)?

Do you consider that the use of mepolizumab can result in any potential significant and substantial health-related benefits that are unlikely to be included in the QALY calculation?

Please identify the nature of the data which you understand to be available to enable the Appraisal Committee to take account of these benefits.

NICE intends to appraise this technology through its Single Technology Appraisal (STA) process. We welcome comments on the appropriateness of appraising this topic through this process.