Costing statement: GORD in children and young people
Implementing the NICE guideline on Gastro-oesophageal reflux disease in children and young people (NG1)

Published: January 2015
1 Introduction

1.1 This costing statement considers the cost implications of implementing the recommendations made in *Gastro-oesophageal reflux disease: recognition, diagnosis and management in children and young people* (NICE clinical guideline NG1).

1.2 There is variation in clinical practice across the country. Therefore, we encourage organisations to evaluate their own practices against the recommendations in the NICE guideline and assess the resource impact locally. Some of the resource effects to be considered locally are discussed in this statement.

1.3 The commissioners are CCGs and the providers are GP practices and secondary care hospitals.

2 Background

2.1 Gastro-oesophageal reflux (GOR) is a normal physiological process that usually happens after eating in healthy infants, children, young people and adults. In contrast, gastro-oesophageal reflux disease (GORD) occurs when the effect of GOR leads to symptoms severe enough to merit medical treatment. GOR is more common in infants than in older children and young people, and it is noticeable by the effortless regurgitation of feeds in young babies.

2.2 There is no simple, reliable and accurate diagnostic test to confirm whether the condition is GOR or GORD. This makes it difficult to identify the person who genuinely has GORD, and to estimate the real prevalence and burden of the problem.

2.3 Clinical experience shows that GOR presenting as overt reflux is a common condition in infants, to the extent that it is to be considered a normal physiological phenomenon. GORD is most common in infants, with
at least 40% of infants affected during the first 6 months. However, less than 10% of these infants are still affected after 12 months. Figure 1 shows how in 6 studies the number of infants with regurgitation decreases over time, and significantly after 12 months of age.

Figure 1 Reduction over time in the number of infants with regurgitation

2.4 The guideline covers infants (under 1 year), children (1 to under 12 years) and young people (12 to under 18 years). Children who continue to regurgitate frequently after 1 year are more likely to have GORD and need treatment. Therefore the infant population is where the most significant impact of this guidance is likely to occur.

3 Recommendations with potential resource impact

Recommendations

- Recognise regurgitation of feeds as a common and normal occurrence in infants that:
  - is due to gastro-oesophageal reflux (GOR) – a normal physiological process in infancy
  - does not usually need any investigation or treatment
  - is managed by advising and reassuring parents and carers
    (Recommendation 1.1.1).

Costing statement: GORD in children and young people (January 2015)
Do not routinely investigate or treat for GOR if an infant or child without overt regurgitation presents with only 1 of the following:
- unexplained feeding difficulties
- distressed behaviour
- faltering growth
- chronic cough
- hoarseness
- a single episode of pneumonia (Recommendation 1.1.6).

In formula-fed infants with frequent regurgitation associated with marked distress, use the following stepped-care approach:
- review the feeding history, then
- reduce the feed volumes only if excessive for the infant's weight, then
- offer a trial of smaller, more frequent feeds (while maintaining an appropriate total daily amount of milk) unless the feeds are already small and frequent, then
- offer a trial of thickened formula (Recommendation 1.2.3).

In formula-fed infants, if the stepped-care approach is unsuccessful (see recommendation 1.2.3), stop the thickened formula and offer alginate therapy for a trial period of 1–2 weeks. If the alginate therapy is successful continue with it, but try stopping it at intervals to see if the infant has recovered (Recommendation 1.2.5).

In breast-fed infants with frequent regurgitation associated with marked distress that continues despite a breastfeeding assessment and advice, consider alginate therapy for a trial period of 1–2 weeks. If the alginate therapy is successful continue with it, but try stopping it at intervals to see if the infant has recovered (Recommendation 1.2.4).

Do not offer acid-suppressing drugs, such as proton pump inhibitors (PPIs) or H₂ receptor antagonists (H₂RAs) to treat overt regurgitation in infants and children occurring as an isolated symptom (Recommendation 1.3.1).
• Do not offer metoclopramide, domperidone or erythromycin to treat GOR or GORD without seeking specialist advice and taking into account their potential to cause adverse events (Recommendation 1.3.7).

**Resource impact**

3.1 According to the Office for National Statistics, in 2013 there were around 657,000 live births in England. If at least 40% of infants are affected by GOR during the first 6 months of their life, there could be around 262,800 infants with GOR in England each year.

3.2 According to expert clinical opinion, a common scenario is that infants with frequent regurgitation are taken to see the GP. A prescription may then be given for medication to alleviate parents’ concerns that the regurgitation is abnormal. The medication may be unnecessary if the regurgitation is not causing any problems, for example if the infant is otherwise well, and is still gaining weight. Instead of medication, advice and reassurance that GOR is normal and will resolve in time is often all that is needed.

3.3 As reflux usually improves over time, it is important medication is reviewed at appropriate intervals so that infants are not treated for longer than necessary.

3.4 Table 1 shows the 3 most commonly prescribed medication highlighted by the GDG. The full list of medication reviewed by the GDG is shown in appendix 1. The length of time infants are on treatment will vary so the cost for 30 days is given. The cost of medication for 30 days ranges between £1.33 and £98.30.
Table 1 Top 3 most commonly prescribed medication for infants highlighted by the GDG

<table>
<thead>
<tr>
<th>Medication</th>
<th>Cost per month (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral alginate formulations (cost given for Gaviscon Infant(^a))</td>
<td>22.14</td>
</tr>
<tr>
<td>Ranitidine 75mg/5ml (liquid)(^a)</td>
<td>2.82</td>
</tr>
<tr>
<td>Omeprazole oral formulations (cost given for Omeprazole 10mg dispersible gastro-resistant tablets (LOSEC MUPS)(^b))</td>
<td>8.30</td>
</tr>
</tbody>
</table>

\(^a\) eMC Dictionary of Medicines (November 2014).
\(^b\) Electronic drug tariff November 2014.

3.5 Organisations should review locally that prescribing is appropriate and where medication is necessary it is reviewed at appropriate intervals. In summary this should lead to a smaller population being prescribed medication and, for that population, reviews to ensure an optimised period of treatment.

3.6 Depending on current local practice, this guidance may be cost saving. And the guidance may have the benefit that GP appointments are used more appropriately and paediatric resources are focused on those with GORD.

4 Conclusion

4.1 NHS organisations are advised to assess the resource implications of this guidance locally. Potential areas for savings and benefits locally are:

- Fewer prescriptions for medication to treat GOR.
- More frequent medication reviews leading to optimised periods of treatment.
- More appropriate use of GP appointments.
- Better concentration of paediatric resources on those with GORD.
## Appendix 1

### Commonly prescribed medication for infants (taken from the health economics analysis).

<table>
<thead>
<tr>
<th>Medication</th>
<th>Cost per month (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Feed thickener/thickened feed</strong></td>
<td></td>
</tr>
<tr>
<td>Aptamil Anti Reflux Powder(^{ab})</td>
<td>59.44</td>
</tr>
<tr>
<td>Cow &amp; Gate Anti Reflux Powder(^{ab})</td>
<td>49.37</td>
</tr>
<tr>
<td>Enfamil Anti Reflux(^{a})</td>
<td>36.65</td>
</tr>
<tr>
<td>SMA Staydown Powder(^{a})</td>
<td>32.29</td>
</tr>
<tr>
<td>Instant Carobel Powder(^{a})</td>
<td>16.80</td>
</tr>
<tr>
<td><strong>Alginate</strong></td>
<td></td>
</tr>
<tr>
<td>Gaviscon Infant(^{b})</td>
<td>22.14</td>
</tr>
<tr>
<td><strong>Proton Pump Inhibitors</strong></td>
<td></td>
</tr>
<tr>
<td>Omeprazole 10mg (LOSEC MUPS)(^{c})</td>
<td>8.30</td>
</tr>
<tr>
<td>Omeprazole 10mg capsules(^{d})</td>
<td>1.34</td>
</tr>
<tr>
<td>Sodium bicarbonate oral solution(^{d})</td>
<td>62.49</td>
</tr>
<tr>
<td>Omeprazole and sodium bicarbonate combined (2 above combined)</td>
<td>63.83</td>
</tr>
<tr>
<td>Omeprazole liquid 10mg(^{d})</td>
<td>137.24</td>
</tr>
<tr>
<td>Lansoprazole Fastab (Zoton) 15mg(^{a})</td>
<td>3.20</td>
</tr>
<tr>
<td><strong>(\text{H}_2) Receptor antagonist</strong></td>
<td></td>
</tr>
<tr>
<td>Ranitidine 75mg/5ml (liquid)(^{a})</td>
<td>2.82</td>
</tr>
</tbody>
</table>

\(^{a}\) eMC Dictionary of Medicines (November 2014).

\(^{b}\) Not approved by the Advisory Committee on Borderline Substances (ACBS). The ACBS is the committee responsible for advising approved prescribers on the prescribing of certain foodstuffs and toiletries. Borderline substances are mainly foodstuffs, such as enteral feeds and foods that are specially formulated for people with medical conditions.

\(^{c}\) Electronic drug tariff November 2014.

\(^{d}\) Health economics. These are available on special order.
About this costing statement

This costing statement accompanies Gastro-oesophageal reflux disease: recognition, diagnosis and management in children and young people (NICE clinical guideline NG1).

Issue date: January 2015

This statement is written in the following context

This statement represents the view of NICE, which was arrived at after careful consideration of the available data and through consulting healthcare professionals. It should be read in conjunction with the NICE guideline. The statement is an implementation tool and focuses on those areas that were considered to have potential impact on resource utilisation.

The cost and activity assessments in the statement are estimates based on a number of assumptions. They provide an indication of the potential impact of the principal recommendations and are not absolute figures.

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