Literature review
in support of the European Panel Study on

The appropriate management of glucose-lowering therapy in T2DM
Aim and scope

This literature overview was performed as part of the European RAND panel study on the management of glucose-lowering therapy in type 2 diabetes (T2D). The RAND Appropriateness Method aims at establishing appropriateness criteria at the patient-specific level by combining the best available evidence from clinical studies and the collective judgement of experts. An expert panel is asked to assess the appropriateness of particular therapeutic options for a large number of detailed hypothetical patient profiles. A treatment is considered appropriate if its expected benefits exceed its potential negative consequences by a sufficient margin. Where possible, judgements have to be based on evidence from clinical studies. If this information is lacking or is insufficiently detailed, experts may use their personal insights and real life experience as “complementary” evidence.

A literature overview forms a standard component of RAND panel studies and serves two purposes. Firstly, the results may be used to shape the research question and to determine the study design. To that aim, the results of an initial literature overview were discussed with the panel during the first meeting in Zurich (November 2012). Secondly, an overview of available data from clinical studies should allow panellists to have access to the same body of evidence during the rating process.

The review was limited to drugs that were widely used in European clinical practice at the time of the panel study. Table A provides an overview of drug classes and compounds included in the study. Clicking on a compound name will link you to (an example of) the summary of product characteristics.

Table A: Overview of the drug classes included in the literature overview

<table>
<thead>
<tr>
<th>Class</th>
<th>Abbreviation</th>
<th>Available compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biguanides</td>
<td>MET</td>
<td>Metformin</td>
</tr>
<tr>
<td>Sulfonylureas</td>
<td>SU</td>
<td>Glibenclamide, Glipizide, Gliclazide, Glimepiride</td>
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<tr>
<td>Thiazolidinediones</td>
<td>TZD</td>
<td>Pioglitazone</td>
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<tr>
<td>DPP-4 inhibitors</td>
<td>DPP-4</td>
<td>Sitagliptin, Vildagliptin, Saxagliptin, Linagliptin</td>
</tr>
<tr>
<td>GLP-1 receptor agonists</td>
<td>GLP-1</td>
<td>Exenatide, Exenatide extended release, Liraglutide</td>
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<tr>
<td>Insulins</td>
<td>INS</td>
<td>Long-acting: Glargine, Detemir, NPH</td>
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<tr>
<td></td>
<td></td>
<td>Rapid/short-acting: Lispro, Aspart, Glulisine, Human insulin</td>
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<td>Premixed</td>
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</tbody>
</table>
The following drugs were not included in this phase: α-glucosidase inhibitors, glinides, amylin agonist, sodium glucose co-transporter-2 inhibitors.

**Search**

The search terms for Medline included the MeSH terms "Diabetes Mellitus, Type 2/drug therapy", combined with the free text term "Glycaemic control" or "Glycemic control", and names of the specific drug regimens. The search was limited to articles in the English language, humans, adults (19+ years), RCTs and systematic reviews/meta-analyses.

In addition the Cochrane library was searched using the MesH term “Diabetes Mellitus, Type 2” and adding the qualifier “drug therapy”.

Bibliographies of retrieved papers were also screened for additional references.

**Inclusion criteria**

- Phase III RCT
- 1 study arm is treatment regimen under consideration
- HbA1c% results are presented
- Study-arm > 30 patients
- Study duration at least 24 weeks
- Patients were insulin-naive before start of the study
- Publications from 2002 onwards

Studies conducted exclusively in Asian patients were excluded.

**Selection and presentation of results**

The results of the search were discussed with the panel members, and complemented were needed. Subsequently, summary tables and excerpts of the articles were embedded in the electronic rating tool so that these could easily be looked up while doing the ratings. In total 69 papers were included.
References


