DAFNE – The only structured education programme for Type 1 Diabetes that delivers on all 5 NICE criteria.

Dose Adjustment For Normal Eating (DAFNE) is a skills-based structured education programme in intensive insulin therapy and self-management for adults with Type 1 diabetes.

Provision of the DAFNE programme as a component of diabetes services for patients with Type 1 diabetes will achieve improved patient outcomes in terms of reduced complications and extended life expectancy, fulfilment of the 5 NICE criteria for structured education, and in the medium and long-term, cost savings in budget.

On a DAFNE course adults (17+ years) with Type 1 diabetes are provided with the knowledge and skills to match their insulin dose to their chosen food intake, enabling them to manage their food choices on a meal by meal basis and in a range of different situations.

Specially trained diabetes nurses and dietitians deliver every DAFNE course, which provides 38 hours of structured group education, to groups of (up to) 8 outpatients over 5 consecutive days or one day per week over 5 consecutive weeks.

The DAFNE Collaborative comprises all healthcare professionals involved in DAFNE from all of the participating centres, steered by the elected DAFNE Executive Board.

Commissioners should note that, uniquely for Type 1 structured education, DAFNE delivered by members of the DAFNE Collaborative anywhere in the UK is currently the only programme in the UK that fulfils all 5 NICE criteria for structured education (2005). In addition DAFNE delivers Standard 1 of the NICE Diabetes in Adults Quality Standard (2011).

**DAFNE – The Numbers**

Tables 1 and 2 show current statistics, as of 5 October 2015, with regard to the delivery of DAFNE.

<table>
<thead>
<tr>
<th>DAFNE centres</th>
<th>UK &amp; Rol</th>
<th>England only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localities DAFNE delivered in</td>
<td>140</td>
<td>105</td>
</tr>
<tr>
<td>Trained DAFNE Educators</td>
<td>717</td>
<td>582</td>
</tr>
<tr>
<td>(Diabetes Specialist Nurses &amp; Diabetes Specialist Dietitians)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained DAFNE Doctors</td>
<td>472</td>
<td>376</td>
</tr>
<tr>
<td>(Consultant Diabetologist, Diabetes SpRs &amp; GPSI in diabetes)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Number of DAFNE services and DAFNE trained HCPs

<table>
<thead>
<tr>
<th>DAFNE courses delivered</th>
<th>UK &amp; Rol *</th>
<th>England only *</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAFNE Graduates</td>
<td>5,311</td>
<td>4,291</td>
</tr>
<tr>
<td>36,453</td>
<td>29,169</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Number of courses delivered and patients trained

* These numbers increase weekly

**DAFNE – Hard Evidence**

The programme has been developed over more than 25 years of rigorous research, both in Europe and the UK. Full details of all DAFNE related publications and related evidence are available on the DAFNE website [www.dafne.uk.com](http://www.dafne.uk.com).

DAFNE is included in the NHS Evidence database as a recommended publication, scoring in the top 10% of all studies published in the QIPP collection; the DAFNE case study can be found on the NHS evidence website [www.evidence.nhs.uk](http://www.evidence.nhs.uk) and searching for Quality and Productivity case study 12/0005.

A summary of the key evidence of the effectiveness of DAFNE is given overleaf.
The DAFNE Feasibility Study (results published in the BMJ in 2002) showed clinically and statistically significant improvement in:

- Blood sugar control
- treatment satisfaction
- psychological well being
- quality of life (QoL)

Follow-up of the DAFNE feasibility study cohort at 44 months post course show that the impact of a single DAFNE course on blood sugar control is still apparent and the long term. Improvements in QoL and other patient reported outcomes are well maintained over approximately 4 years.

Published Economic Evaluation of DAFNE: conducted by the York Health Economics Consortium (YHEC) showed that DAFNE:

- would save the NHS an estimated £2,237 per patient over 10 years
- Could produce an additional 5 years life expectancy
- pays for itself within 5 years due to reduced rate of development of diabetic complications
- is both cost effective and cost saving

These data were considered by NICE as part of the initial consultation for NICE Technology Appraisal 60 (April 2003) and NICE Clinical guideline NG17: Type 1 diabetes in adults: diagnosis and management (August 2015) in which DAFNE is the only programme named as an example of high quality structured education.

National and local DAFNE service clinical audit data:

- Benefits on both blood sugar control and psychological wellbeing after DAFNE remain at 1, 2, and 7 years post course.
- Severe hypoglycaemia (low blood sugar) is reduced by more than 60% producing cost savings through reduced paramedic call outs, A&E attendances and admissions.
- Restoration of hypoglycaemia awareness in 43% of individuals reporting unawareness pre-DAFNE
- Reduced insulin prescribing costs from a 16% reduction in total insulin use after the 5-day course. This equates to a saving of £60-£70 per annum for a patient weighing 70 Kg.

Costs involved in the provision of a DAFNE programme

The cost of setting up a new DAFNE centre is £7,674 in Year 1 (based on training 2 educators and 1 dr.), with annual costs reducing thereafter varies depending upon the number of trained educators at the service, 2015/16 contributions varied between £4,152 (2 educators) and £4,720 (17 educators). Full details of the costs associated with setting up and delivering a DAFNE service can be obtained from the central DAFNE team (dafne@nhct.nhs.uk).

DAFNE provides CPD approved Healthcare Professional Training

DAFNE Educators receive 105 hours of observational and structured training together with external peer review of competencies. There is a series of regional networks that meet 6-monthly to disseminate updates to the programme and share best practice. There is an annual Collaborative meeting that gives a platform for sharing the outcome of DAFNE research and audit. CPD approval has been obtained for the Educator training, Doctor training and Collaborative meeting.

The future: Further development and economic evaluation

The DAFNE Collaborative is committed to the continued development of the programme through research to understand further the many aspects of structured education. Some of these include developing alternative formats for delivery, additional structured education packages for those that continue to experience problems following structured education (e.g. continued raised blood glucose levels, recurrent hypoglycaemia) and evaluate the added benefit of new technologies for use in intensive insulin therapy. The DAFNE Research Group has secured 3 research grants funded by the NIHR and HTA, which include further economic evaluation.