How to Commission & Deliver Cost-Effective Diabetes Care
This ABCD meetings report provides information on the proceedings of the 2nd LIVE interactive national workshop held on the 6th July 2017 which was simultaneously broadcast across four locations (London, Leeds, Manchester and Bristol). The aim of the meeting was to discuss key topics related to the latest clinical news; innovations to deliver cost effectiveness; delivering and commissioning national diabetes priorities and the evaluation of structured diabetes education; this was followed by regional network workshops.

For more information on the Association of British Clinical Diabetologists (ABCD Diabetes Care) Ltd please visit www.abcd.care.

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- London: Treatment and care implementation
- Leeds: How can we use local data to understand and reduce variations in diabetes care?
- Manchester: Topics to help facilitate holistic diabetes services
- Bristol: How new models of care and technology can improve diabetes care
Professor Simon Heller stressed that glycated haemoglobin (HbA1c) levels remain far from target in many patients with type 1 diabetes (T1D) and appear to be worse in the UK than in other comparable countries.

"Technology has considerable potential to facilitate more effective self-management and outcomes but the results to date have been modest."

He discussed four areas of relevance to type 1 diabetes:

1. **Continuous Glucose Monitoring (CGM):** The evolution of sensor-augmented pumps to suspend insulin has enabled this technology that monitors interstitial glucose to enter the clinical arena. CGM is useful for patients with severely reduced awareness of hypoglycaemia, and can be linked to an alarm.

   A study confirmed that CGM with a suspend pump can reduce severe hypoglycaemia vs a standard pump\(^1\); however, there are problems with the technological itself and the way patients interact with it.
   
   - Studies with insufficient statistical power or excluding those at greatest risk.
   - Alarms irritate some individuals who switch alarms off or disconnect the device.
   - Accuracy of CGM in the low blood glucose range could still be improved.

   • Failure to integrate the technology with other aspects of diabetes self-management, particularly use of insulin and appropriate treatment of hypoglycaemia.

2. **Flash Glucose Monitoring:** A sensor-based, flash glucose-monitoring system (FreeStyle Libre\textsuperscript{®} System, Abbott) has the potential to be a ‘game changer’ allowing the patient to view their glucose profile over the last 8 hours and make appropriate adjustments in real time.

   - The system is currently sold direct to patients (costing them over £1,000/year).
   - Not reimbursable yet in the UK but reimbursed in parts of Europe (e.g. France, Belgium and Italy).
   - Considerable enthusiasm among people with diabetes who have used system.

   There are few clinical studies comparing flash monitoring to self-monitoring of capillary blood glucose, but one such study reported flash monitoring significantly reduced, by 38%, the time 241 adults with well controlled T1D patients spent in hypoglycaemia; the between group difference was −1.24 hours (standard error 0.239; p<0.0001).\(^2\)

   "Flash monitoring will lead to the end of finger pricking for type 1 diabetes in the UK".

3. **Artificial Pancreas:** These closed-loop systems use a control algorithm to adjust insulin-pump delivery in response to CGM.

   In a study in 16 pregnant women with T1D, a crossover comparison found a 15% improvement in the time in the target overnight blood glucose range (p= 0.002) for overnight closed loop therapy compared to a sensor-augmented pump (open loop).\(^3\) Continuous closed loop therapy was then used until after delivery for of the 14 women and maintained target glycaemic control for a high percentage of time (Table 1).\(^3\)
**Table 1** Glycaemic control during period prior and post-delivery in the 14 women receiving continuous closed loop insulin therapy

<table>
<thead>
<tr>
<th></th>
<th>24hrs Prior to Delivery</th>
<th>48hrs Post-Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>% time in target (3.5-7.8 mmol/L)</td>
<td>86.8 (59.6, 94.1)</td>
<td>73.7 (61.4, 86.0)</td>
</tr>
<tr>
<td>% time &lt; 3.5mmol/L</td>
<td>0.5 (0, 1.8)</td>
<td>0 (0, 0.5)</td>
</tr>
<tr>
<td>Number of hypoglycaemic events &gt;20mins</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean glucose</td>
<td>6.1 (5.8, 7.1)</td>
<td>6.5 (5.8, 7.6)</td>
</tr>
</tbody>
</table>

95% confidence interval (CI) shown in brackets

Interview data has shown patients perceived various advantages and disadvantages associated with closed loop insulin therapy:

- **Patient benefits:** Reassurance, improved sleep, reduced worry, ‘time off’ from diabetes, feelings of ‘normality’, empowerment (‘on top of things’), excitement.

- **Patient burdens:** Technological glitches (connectivity, sensor problems, erroneous readouts), alarms, disturbed sleep, reduced trust levels, lifestyle limits (concerns around visibility/aesthetics), obsessiveness, concern over deskilling.

4. **Use of pumps in the ‘Real World’**: In the UK, it is estimated around 6% of adults with T1D use insulin pumps compared with 40% in the USA. Some of the benefit of pumps may derive from the training on insulin use; few trials have compared pump vs multiple daily insulin injections (MDI) with comparable training in insulin adjustment.

In the **REPOSE** study (Relative Effectiveness of Pumps Over Structured Education), following attendance of a DAFNE course (Dose Adjustment For Normal Eating), 235 patients were randomised to continuous subcutaneous insulin infusion (CSII) or MDI. Glycaemic control and rates of severe hypoglycaemia improved in both groups, with no statistically significant difference in HbA1c change from baseline to 24 months between the groups (-0.24% in favour of CSII; p=0.098). **REPOSE** conclusions were:

- Structured education reduces the risk of severe hypoglycaemia and leads to modest, but long-lasting, benefits in HbA1c and should be delivered widely.
- Pumps can be offered later to those in whom the limitations of MDI interfere with effective self-management. This is consistent with NICE Guidelines.

**Technology reflections**:

- Technology is one component of care and is expensive.
- People must learn to integrate CSII and CGM with self-management skills if technology is to transform their ability to maintain glucose targets and reduce risks of hypoglycaemia.
- Some forms of technology appear to be of greatest benefit to those who are already ‘engaged’ with their diabetes.
- Only a standalone artificial pancreas will remove the need for patient input.

**References**


4. REPOSE Study Group. Relative effectiveness of insulin pump treatment over multiple daily injections and structured education during flexible intensive insulin treatment for type 1 diabetes: cluster randomised trial (REPOSE). *BMJ* 2017;356:j1285. [http://dx.doi.org/10.1136/bmj.j1285](http://dx.doi.org/10.1136/bmj.j1285)

5. Integrated sensor-augmented pump therapy for managing blood glucose levels in type 1 diabetes. [www.nice.org.uk/guidance/dg21](http://www.nice.org.uk/guidance/dg21)
Recent ADA News in Type 2 Diabetes: Mostly CV Outcome Trials

A detailed overview of recent major studies in patients with type 2 diabetes (T2D) was presented by Professor Bailey.

**Professor Cliff Bailey (CB)**
*Aston University, Birmingham*

**ODESSEY-DM**: This randomised controlled study investigated the proprotein convertase subtilisin-kexin type 9 (PCSK9) inhibitor, alirocumab, in patients with non-insulin (n=413) and insulin-treated (n=441) T2D with cardiovascular disease (CVD), mixed dyslipidaemia and ≥ 1 other CV risk factor. Patients in the active treatment groups received the maximum tolerated statin dose plus alirocumab (75-150 mg subcutaneously every 2 weeks) and were compared with usual care for their dyslipidaemia.

Alirocumab significantly reduced low density lipoprotein cholesterol by 43.3% in the non-insulin treated patients and by 42.0% in insulin-treated T2D (both p=0.0001 vs. usual care). The PCSK9 inhibitor improved other lipid parameters but did not affect HbA1c; no major safety issues were reported.1,2

**Cardiovascular (CV) Outcome Trials**: At the ADA these trials were a popular topic for discussion. It is important to note that the baseline characteristics of the T2D patient populations studied in the major CV outcome trials were different, particularly with regard to the incidence of prior CV disease.3

There are also wide variations across studies in the definition for prior CV disease,3 making direct comparisons of these outcome studies difficult.

**CANVAS Programme**: This CV outcome trial with canagliflozin used the primary CV composite endpoint, the 3-point MACE (major adverse cardiac events – composite of CV death, non-fatal myocardial infarction or non-fatal stroke). The study reported a significant reduction in the hazard ratio (HR) of 0.86 (95% CI, 0.75-0.97; p=0.02 for superiority over placebo).5

These results were similar to those reported for empagliflozin in EMPA-REG: HR 0.86 (95% CI, 0.74-0.99; p=0.04 for superiority over placebo).5

**Renal Observations**: CANVAS also suggested a benefit for renal protection with the potential reversal of renal decline (regression of albuminuria: HR 1.70 (95% CI, 1.51-1.91).4

**Amputations**: CANVAS reported an increased risk of amputation with canagliflozin over placebo (affecting 6.3 vs. 3.4 participants per 1000 patient-years; HR 1.97; 95% CI, 1.41-2.75). The amputations were primarily at the level of the toe or metatarsal joint, with the highest risk among patients who had a history of amputation or peripheral vascular disease.4

**CVD-REAL World DATA**: This study assessed the relative risk of hospitalisation for heart failure or all-cause death for T2D patients using different SGLT-2 inhibitors (N=154,523) versus propensity-matched T2D patients (N=154,523) starting another oral glucose-lowering agent.6 Data were collected from the USA, Norway, Denmark, Sweden, Germany, and the UK:

### Table 1 Relative rates of prior CV disease in major outcome studies

<table>
<thead>
<tr>
<th>Anti-diabetic Agent</th>
<th>Prior CV Disease (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium glucose cotransporter 2 (SGLT-2) inhibitors (empagliflozin, EMPA-REG, canagliflozin, CANVAS)</td>
<td>99% - 65%</td>
</tr>
<tr>
<td>Glucagon-like peptide-1 GLP-1 receptor agonists (lixisenatide, liraglutide, semaglutide)</td>
<td>100% - 81%</td>
</tr>
<tr>
<td>Dipeptidyl peptidase 4 (DPP-4) inhibitors (saxagliptin, alogliptin or sitagliptin)</td>
<td>100% - 78%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Database</th>
<th>Number of Patients</th>
<th>Number of Events</th>
<th>HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>10,462</td>
<td>96</td>
<td>0.66 (0.44-1.00)</td>
</tr>
<tr>
<td>Total (6 countries)</td>
<td>215,622</td>
<td>1983</td>
<td>0.54 (0.48-0.60 p&lt;0.001)</td>
</tr>
</tbody>
</table>
This real world data confirmed treatment with SGLT-2 inhibitors was associated with a lower risk of either hospitalisation for heart failure or death compared with other glucose-lowering drugs.6

**ABCD Nationwide Audit:** Audit data has confirmed that dapagliflozin reduced HbA1c, weight, systolic blood pressure and alanine aminotransferase at an estimated glomerular filtration rate (eGFR) above 60 ml/min/1.73m². However, at eGFR of 30-59, efficacy of dapagliflozin on HbA1c was reduced, and treatment did not lower blood pressure.7

**DEVOTE:** This study compared insulin degludec (N=3818) versus insulin glargine (N=3819) in T2D patients. The risk of 3-point MACE was similar: HR 0.91 (95% CI, 0.78-1.06). However, there was a significant reduction in hypoglycaemia with degludec: a 40% reduction in severe hypoglycaemia (p<0.001) and a 53% reduction in nocturnal severe hypoglycaemia (p<0.001), compared to glargine.7

**References**


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**ABCD Type 1 Diabetes Clinical Collaborative UK**

**Dr Rob Gregory (RG), Immediate Past Chair, ABCD**

The Association of British Clinical Diabetologists has launched the T1D Clinical Collaborative to bring together HCPs working in multi-disciplinary teams providing care for adults with T1D across the UK. The committee will be made up of individual healthcare professionals (HCPs) from all the disciplines who are passionate about raising the standards of care for people with T1D.

**Mission Statement:** To ensure that everyone with T1D has access to a suitably-trained multidisciplinary specialist team for expert assessment, care and support for self-management.

**Terms of Reference**

- To identify the number of organisations providing specialist T1D care, irrespective of where that care is delivered.
- To ensure that specialist multidisciplinary diabetes teams across the UK deliver care according to the current standards.
- To have a Clinical Lead for T1D in each unit, who will be responsible for:
  - Providing data annually about the service for benchmarking purposes.
  - Completing a self-assessment survey of the type 1 service, including staffing numbers and training undertaken by staff specifically in T1D competencies.
- To share and promote good and innovative practice in the field T1D.

The work streams for the Collaborative will be:

- **Pumps and technologies:** The established and successful ABCD IPN-UK will be part of the collaborative and fulfil this function.
- **Health care professional education, training and workforce issues:** This will look at the composition and training of members of the multidisciplinary team.
- **Patient Education:** This will be concerned with ensuring that approved education is available at diagnosis and at other relevant times for every adult with T1D. This will cover formal structured education programmes supplemented by easily-accessible on-line courses and material.
• **Whole of Life**: The collaborative will address care delivered from transitioning of young people from the paediatric diabetes care through to the end-of-life.

• **Enabling Success**: The collaborative will support and empower people with T1D to achieve their potential.

• **Quality Improvement**: The collaborative will facilitate a UK-wide approach to data collection, analysis and presentation in ways that will encourage continuous improvement in processes and outcomes.

**Eligibility to join the collaborative**: Any healthcare professional working in a UK-based team currently providing care to people with type 1 diabetes is eligible to register free-of-charge at: [https://abcd.care/T1Collaborative](https://abcd.care/T1Collaborative).

**Questions and Comments**

**Q**: People with T1D currently have to test blood glucose before and during driving, is there any provision for flash monitoring?

**A.** (SH) *There is some evidence that flash monitoring may not be quite as accurate, but we need to reach out to DVLA to discuss this. Currently T1D patients have to do blood glucose monitoring as well as FGM when driving. Surely it is better that patients scan rather than not test at all.*

**Q**: Will the new SGLT-2 inhibitors be effective in heart failure or renal disease in non-diabetic patients?

**A.** (CB) *There are now three agents that show there is improvement in renal and cardiovascular parameters in T2D patients. There is some evidence of benefit independent of lowering blood glucose.*

**Q**: For SGLT-2 inhibitors, how much of the CV benefit is due to glucose lowering and how much from blood pressure lowering.

**A.** (CB) *Blood pressure and blood glucose changes with these agents occur within 24 hours, weight reduces within 12 weeks and then HbA1c changes are observed, it seems to be an amalgam of factors providing primary and secondary prevention.*

**Expert Panel Discussion:**

**How can these innovations be commissioned and delivered?**

**Session Chair: Dr Rob Gregory (RG), Immediate Past Chair, ABCD**

- **Professor Jonathan Valabhji (JV)** - Centre NHS England, National Clinical Director Diabetes
- **Dr Kathy Hoffman (KH)** - Left Bucks CCG, Diabetes Clinical Lead
- **Dr Rachel Anthwal (RA)** - Right Bristol CCG, STP Diabetes Programme Lead

**(JV)** The technological developments in this field are exciting, and there has been some implementation in the clinical setting. Are we behind the game e.g. in the US, a higher proportion T1D patients are initiated on pumps? We could be achieving more delivery in the UK.

Most of diabetes care, including the technologies that we want to utilise, fall to local commissioning.

With regard to CGM, NICE has provided guidance on the clinical scenarios for their use and that should allow us to action funding. As ever, before implementation, there needs to be a maturation of commissioning pathways before one sees the required access.

How can local economies move on this? T1D specialists need to be more proactive to support local commissioning efforts. In NW London, to support commissioners, the process involved presenting the evidence, looking at local ambulance call out rates for severe hypoglycaemia, and modelling (with the assumption that 10% of T1D patients might derive benefit) to show the likely costs for the programme. Now, we provide evidence of meeting NICE guidelines on an A4 form and get approval within 7 days.

**(RG)** We are frequently told new technologies are funded by the NHS tariff. As insulin pump and consumables are funded through the high cost therapy tariff, should CGM be too?
(JV) To date, I am not aware of any teams being successful in achieving funding through this route.

(RA) Regarding CGM, the dilemma of commissioning has occurred in our STP. Locally, we are trying to build a criteria-based access policy to enable patients to access this technology. I liked the idea of linking that to the severe hypoglycaemia data in order to build up the case for change. We are currently having problems agreeing what the criteria should be.

(KH) In T2D, we are struggling to get the medications that we know are effective and reduce risk factors, prescribed correctly, and ensure that there is not duplication of monitoring and CV prevention in outpatient and GP clinics.

T1D is seen as a secondary care condition, but patients spend the majority of their lives in community. Overall, in this long term condition, some patients have a small amount of interaction with HCPs.

In Buckinghamshire, if T1D patients DNA (do not attend) three times, they are discharged; however, GPs and primary care nurse specialists do not have the specialist training in their management. We have identified 350 T1D patients who never go to the hospital. Primary care has a pivotal role in T1D but we need to up-skill GPs and community nurses to look after this cohort of patients. The care needs to be delivered where the patient is.

Questions and Comments

Q. A proportion of T1D patients are not just disengaged with specialist care, they don’t seek assistance from primary or secondary care. What can be done for this group?

A. (KH) GP records should be able to identify these T1D patients, and they may be attending surgery for other reasons. We need to ask them what needs to change to enable them to engage – if it seems to be psychologically mediated or they have major social issues, such issues can be addressed first. After the patient has been given the support they need, diabetes issues can be addressed. Often lives are so complicated, that diabetes needs seem less important.

C. In East & North Hertfordshire, we have received a grant from the CCG (Clinical Commissioning Group) to look at 250 disengaged young adult T1D patients, aged 16-30. We have had a 30% response rate through our young adult worker and nurses by making contact using text, Skype, Whatsapp, etc. This is about whole system care, but needs specialist overview.

National Priorities: An Overview of National Priorities in Diabetes

Professor Jonathan Valabhji (JV)
National Clinical Director Diabetes
NHS England

Diabetes has been in the spotlight nationally over the last few years, as one of the six clinical priority areas for NHS England to be supported by transformation funds. These allow investment into areas where they could contribute to sustainability and areas where up-front investment could bring about increased cost-effectiveness or cost savings in addition to improvements in quality of care and clinical outcomes.

The Diabetes Transformation Fund will support improvement in the treatment and care of people with diabetes, as well as supporting the prevention of Type 2 diabetes, with £65 million this year and £70 million for next year. The projects will follow three major work streams and involve a collaborative between NHS England, Diabetes UK and Public Health England:

A. T2D Prevention: The ambition is to achieve a country-wide, evidence-based T2D prevention programme, ‘The Healthier You’ programme, with the aim of preventing or delaying onset of T2D in those already identified to be at high risk. The initial year involved piloting the programme, followed by collation of evidence and consultations to obtain broad input into the service specification for the project. The rollout, in April 2016, allowed 27 local health economies (covering around 45-50% of the country) to choose which of 4 framework providers they wished to partner to best suit local needs. Participants began to be enrolled in July 2016, undergoing an intensive 9 month programme providing at least 13 face-to-face interactions and at least 16 hours of contact time.

Participants have already been identified as having non-diabetic hyperglycaemia through routine clinical practice or the NHS Health Check programme. NHS England fund the intervention and provide some resources to local health economies for case identification and for ‘development of the referral pathway; the local health economies agree to find a certain number of participants/year via a memorandum of understanding.
Latest figures indicate >50,000 referrals (trajectory of referrals is 110%) with attendance rates of 42% (vs. 25-40% from prior modelling). Currently seeing as many from most deprived as least deprived areas and more patients from black and minority ethnic communities than expected. Given the duration of the intervention and the lead in time from referral to attendance, we do not yet have completion data. The project will analyse weight loss, changes in HbA1c, attendance rates and completion rates. We aim to expand the National Diabetes Audit to collect data on non-diabetic hyperglycaemia, which will allow us to track attendees vs. non-attendees longitudinally via their NHS number for T2D development, as well as the later development of diabetic complications.

The next step is a digital programme, to complement face to face intervention.

B. Diabetes Treatment and Care: NHS England has allocated £36.2 million across 4 clinical areas where intervention was believed to produce cost savings as well as improvements in quality of care and clinical outcomes. A further £6 million will be used to address inequalities; areas with poorer outcomes, which were not successful in the first round; regional teams will provide assistance with the next bidding process.

Table 1: Diabetes treatment and care: results of 2017 bidding for transformation funds

<table>
<thead>
<tr>
<th>Work Stream</th>
<th>Approximate Amount Allocated</th>
<th>Populations Covered</th>
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</thead>
<tbody>
<tr>
<td>Improving achievement of the NICE recommended treatment targets (HbA1c, blood pressure and cholesterol)</td>
<td>£14 million</td>
<td>~850,000 interventions for individual patients</td>
</tr>
<tr>
<td>Increased access to structured education for T1D and T2D</td>
<td>£11 million</td>
<td>148,000 places</td>
</tr>
<tr>
<td>Reducing the number of amputations by improving access to multi-disciplinary foot care teams</td>
<td>£6 million</td>
<td>54 hospital sites</td>
</tr>
<tr>
<td>Increasing access to inpatient diabetes specialist nurses</td>
<td>£4 million</td>
<td>60 hospital sites</td>
</tr>
</tbody>
</table>

C. Digital initiatives: This work stream will focus on delivering digital interventions in 2 of the 3 programmes involving digital education to complement face-to-face education programmes with formal evaluation built in to expand the digital evidence base:
- Diabetes prevention programme (see above)
- Dedicated digital offer for people with T1D
- Digital delivery diabetes education

Questions and Comments

Q. What is NHS England doing to address those areas that may not have been able to put in applications to the Diabetes Transformation Fund as these areas may be in the greatest need?

A. (JV) **There has to be a strategy for use of the transformation funds to ensure the plans have sufficient quality and as mentioned, we have a second round of allocation for the remaining £6 million.**

Q. With reference to the Diabetes Prevention Programme, will equity of access be investigated at individual partnership level?

A. (JV) **Once the data from the programme involves larger numbers, we can look to assess this.**

Commissioning in Diabetes

**Achieving Change in Diabetes Across a Sustainability and Transformation Plan (STP)**

*Professor Steve Ball (SB)  
Central Manchester University Hospitals NHS Trust & Manchester Academic Health Science Centre*

Greater Manchester has 2.8 million people speaking 220 languages. There is wide variation in life expectancy across the city, with a 10-12 year difference based on post codes. With health and social care devolution, the aim is to improve health outcomes and reduce variation.
The Greater Manchester Diabetes changing services programme includes nine different groups covering key areas: acute providers, in patient care, type 2 prevention, lower limb, patient-centred care, patient education, healthcare professional training, information & technology and the Transition Group. These, in turn, report into the Greater Manchester Diabetes Strategy Group, which reports to the Transformation Portfolio Board and so to the Health & Social Care Partnership Board.

The key elements for the Greater Manchester Diabetes transformation include:

1. **Strategic**
   - e.g. GM service specification; locality based gap analysis vs. specification; goal prioritisation and collaborative formulation of local plans to address gaps. The approach will be patient centred care, with regular dialogue with patient advisors

2. **Tactical**
   - e.g. Integrated commissioning; training & education; lower limb models and IT systems

3. **Innovation**
   - e.g. Gap analysis; invited bids addressing gaps; the need for scale and pace

**Potential challenges** for implementation of change on this scale will include engagement & inclusion through support and communication, and employing a collaborative model, which takes account of local as well as GM priorities, supports outliers and avoids ‘winners and losers’.

Key solutions will include the buy-in to the GM model, shared vision through leadership & inclusion and accountability through delivering change.

**The New National Tariff: Does it Help or Hinder Cost-Effective Diabetes Commissioning?**

**Dr Garry Tan (GT)**
Consultant Physician, Oxford University Hospitals NHS Trust

Dr Tan discussed the key aspects of the new tariff fees that have been in place from the beginning of this financial year and are set for 2 years.

**Outpatient fees**

The justification for the changes is to reduce inappropriate follow-up appointments in secondary care across many specialities. One possible impact is to deter appropriate new referrals to secondary care to the potential disadvantage of patients. Another is for complex patients to be discharged back to primary care in the expectation they will be re-referred as new patients – a form of gaming.

**Table 1:** How much is the new national tariff for outpatient appointments?

<table>
<thead>
<tr>
<th></th>
<th>Single Professional</th>
<th></th>
<th></th>
<th>Multi-Professional</th>
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<tbody>
<tr>
<td></td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Follow up</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Follow up</td>
<td></td>
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<tr>
<td></td>
<td>Appointment</td>
<td>Appointment</td>
<td>Appointment</td>
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<td></td>
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<tr>
<td>2016 – 7</td>
<td>£203</td>
<td>£95</td>
<td>£207</td>
<td>£111</td>
<td></td>
</tr>
<tr>
<td>2017 - 9</td>
<td>£194</td>
<td>£81</td>
<td>£252</td>
<td>£94</td>
<td></td>
</tr>
<tr>
<td>% Change</td>
<td>- 4.4%</td>
<td>- 14.7%</td>
<td>+ 21.7%</td>
<td>- 15.3%</td>
<td></td>
</tr>
</tbody>
</table>

**Inpatient fees**

Around 15% of inpatients have diabetes, while 9% are hospitalised because of diabetes. Accurate coding is central to receiving the proper funding for patients, and will enable better analysis of diabetic hospitalisations.

The new tariff has procedure and diagnosis hierarchy changes:

- HRG4 moved to HRG4+, stratified by complexity and comorbidity (CC) score. This enables better case-mix analysis
- Improved identification of inpatients with diabetes
- Best practice tariffs e.g. for diabetic ketoacidosis and hypoglycaemia (all in adults)
- OPCS4 codes (podiatry)

**Top tips for accurate coding:**

- Hypoglycaemia = primary diagnostic code of E16; you MUST code diabetes as a secondary diagnosis
- For podiatry procedure code (e.g. S71): specify site (and approach)
- Diagnostic imaging is unbundled e.g. MRI of feet
- Bariatric surgery - include obesity as a diagnostic code.
With correct coding, the new tariff should be good for inpatient funding.

A top tip for analysing how much is spent on diabetes is by using the CCG programme budgeting code: PBC 0204A.

**Personal Conclusions**

- Transactional charging doesn’t work for diabetes
- Should incentivise novel communication methods
- Need to provide a “Year of Care” tariff
- Explore evolving delivery systems & off bundle prices

**Excellence in Commissioning Diabetes Care**

*Julie Das-Thompson (JD-T), Head of Policy and Delivery & Thomas Marsh (TM), Senior Policy and Networks Officer NHSC Clinical Commissioners (NHSCC)*

**Diabetes commissioning is a priority for CCGs**

Since 1996, the number of people living with diabetes in the UK has more than doubled (now 4.5 million), and the NHS is now spending more than £9.8bn each year on treating the condition and its complications. However, commissioning budgets are diminishing so CCGs are tasked with making considerable reductions in demand.

NHSCC is the national membership organisation for CCGs with over 91% in membership. As part of its role is influencing policy and sharing best practice, NHSCC has established the CCG Diabetes Leads network, led by Adrian Hayter, Chair, NHS Windsor, Ascot and Maidenhead CCG. The group has published the report “Excellence in commissioning diabetes care”.

Excellence was defined as those CCGs that were top performing either in the CCG Improvement and Assessment Framework or in relation to Public Health England’s diabetes outcomes versus expenditure (DOVE) scoring tool. The team identified those CCGs that had achieved improved diabetes outcomes, whilst also reducing or maintaining expenditure, in order to share best practice.

**Top tips for commissioning diabetes services:**

1. **Involve patients** including educations session and involvement in conversations about diabetes commissioning.
2. **Using data** to identify variation locally and nationally and identify areas for intervention.

3. **Strong leadership** especially from GPs. They were the key driving force behind the development of community diabetes service
4. **Identify diabetes champions** in both primary and secondary care, and help them to work across organisational divides.
5. **Develop partnerships** e.g. with pharmaceutical industry to support implementation, or with ambulance service to give training on hypoglycaemia
6. **Outcome-based approaches** collaborate with providers on the move from activity to outcomes-based approaches

The NHSCC seek to work with national bodies to help CCGs ensure excellence in diabetes commissioning:

- Working with CCGs to identify top-priority patient outcome measures
- Promoting new contracting mechanisms, which better reflect population-based care.
- Establishing clearer rules of engagement on collaborations between pharmaceutical companies and CCGs.

**Conclusions**

The NHSCC will continue to be vocal in gaining support from national bodies and ensuring that diabetes remains a priority. Sharing best practice and approaches, ensures CCGs are supported to deliver the best and most cost-effective care and treatment to patients, and enable them to address unwarranted variation where it exists.

**Reference**


**Questions and Comments**

Q. When sharing best practice, although we see pathways, a lot of effort is often duplicated in developing templates to collect the data.

A. (TM) Agree, we need to share best practice more widely and reduce time pressures in implementation of best practice initiatives.
Q. If ‘year of care’ tariff would be better, what do we need to do to make it happen?

A. (JV) It is widely recognised that the current system is flawed. The ‘Five Year Forward’ report recommends changes to promote greater integration of primary and secondary charging. The devolution programme in Greater Manchester is creating an Accountable Care Organisation (ACO) with a capitated budget. There have been major changes over the last 2 years, and there is support for commissioners and HCPs to help these devolve further.

STRUCTURED DIABETES EDUCATION

Delivering Structured Diabetes Education

Professor Melanie Davies (MD), University of Leicester

Failure to acknowledge the impact of patient education may be a primary reason why the quality of diabetes care has, in general, remained poor.

Potential benefits of structured education are to improve outcomes through:

- Addressing the individual’s health beliefs
- Optimising metabolic control and addressing cardiovascular risk factors
- Facilitating behaviour change
- Improving quality of life and reducing depression

This should facilitate a productive enhanced relationship between the patient and their HCPs.

A meta-analysis has confirmed that group-based diabetes self-management education results statistically significant improvements in key clinical (HbA1c, fasting blood glucose) lifestyle (diabetic knowledge, self-management skills) and psychosocial outcomes (self-efficacy/empowerment).¹

Definition

A structured education programme should be:

- Patient-centred – flexible to the needs of the individual
- Structured with written curriculum and learning objectives which are shared with patients and their family/carers
- Evidence based
- Support self-management attitudes, and develop the knowledge and skills of attendees
- Use trained educators
- Undergo quality assurance and audit²

DESMOND: The Diabetes Education and Self Management for Ongoing and Newly Diagnosed (DESMOND) programme was compared with usual care in 824 UK T2D patients.³ The results found no significant difference in HBA1c (-1.5%), but significant differences for:

- Weight loss
- Smoking cessation (OR 3.6)
- Changes in health beliefs
- Reduced depression scores
- Improved CVD risk score³

DESMOND meets all the NICE criteria for structured education, and has been delivered to over 200,000 T2D patients, including use with interpreters and specialist visual tools for BME communities.

In Leicester, DESMOND has been delivered to 1674 subjects, and has resulted in a decrease in the mean HbA1c from 67.5 mmol/mol to 56.2 mmol/mol at 6 months.

A cost-effectiveness study put the ‘real world’ cost of DESMOND at £82/person, with a mean incremental cost per QALY (quality adjusted life years) gained of £2092.⁴

Challenges

- Lack of a common definition of ‘structured education’
- Absence of a robust national quality assurance and accreditation procedure for structured education and the educators who deliver it
- Failure to embed education in the clinical diabetes pathway
- More people with T2D are recorded as being offered education (78%) than people with T1D (32%)
- Confusion inherent in creation of a 3-Level approach to patient education
- The place of technology in education provision
References


Expert Panel Discussion

Session Chair:  Dr Kathy Hoffman (KH)
Bucks CCG, Diabetes Clinical Lead

- John Grumitt (JG), Chief Executive, ChangingHealth.com & Vice President, Diabetes UK
- Robin Hewings (RH), Policy Director, Diabetes UK
- Dr Nithya Nanda (NN), GP and East Berks Diabetes Lead
- Dr Gerry Rayman (GR), Consultant Diabetologist, Ipswich Hospital
- Professor Melanie Davies (MD), University of Leicester
- Dr Rachel Anthwal (RA), Bristol CCG, STP Diabetes Programme Lead

1. (KH) Reality is CCGs that are providing education, even though it is not evidence based. What is the panel’s view on providing such education, that is less than the gold standard?

(RH) We should make sure that high quality structured education is always commissioned. We also need to ensure that there good uptake rates for courses like DESMOND or X-PERT. However, we should also look at ways to reach people with other courses that may be less intense. There is also a problem with definitions, there is no minimum intensity to structured diabetic education, and that is where cost cutting can take place.

(NN) Although at first sight courses such as DESMOND seem to suit BME patients; when feedback is analysed, they appear to lack multicultural sensitivity. We have commissioned a non-traditional education programme (which included family involvement), and have identified, at the end of one year, 10% improvement in glucose control.

(JG) Regarding the T2D Diabetes Prevention Programme take-up, one of the barriers is the rather antiquated means of referral. At Changing Health we have used text to reach patients and have achieved a 30% response in 24 hours, and such methods can be used to deliver information, e.g. link to recommended websites. “Our current model is not fit for purpose”.

(GR) In Suffolk, patients are referred to DESMOND at the time of diagnosis; the practice nurses are all familiar with DESMOND (most having attended a course). Patients are phoned by an engaging lady who ‘sells’ the value of the programme. As a result, 90-95% of patients are referred and 80% attend. However, many patients don’t have 7 days available for DAFNE, but the feedback for both programmes are excellent.

(MD) We should innovate how we refer patients and improve uptake to structured education but should not compromise on quality. We have a duty of care to provide evidence-based programmes. In Leicester, 30% of the population are BME, and there is excellent uptake for DESMOND (55%), although lower than for the rest of the population.

(JG) I absolutely agree. At Changing Health we have created the first evidenced based online education and support, working with the South Asian Health Foundation and Diabetes UK. One size does not fit all. Face-to-face does not suit everyone.

2. (KH) Patients go to the internet as their first source of information. How do we manage this?

(JG) There needs to be accreditation for education materials (badging) of information.

(MD) A Type 1 platform is under development by NHS England, and we are looking at platforms. We need to ensure that Diabetes UK or University Diabetes Centres become a key portal of information.
3. **(KH)** Do the panel have any top tips for CCGs STPs to achieve transformation?

**NN** 1. Credible structured education plan achieving good patient uptake.
2. Championing primary care element – model of integrated diabetes clinic including clinical pharmacists and other HCPs

**GR** In Ipswich, we have a good relationship with CCG to build integrated services. A block contract was approved and good facilitated integration with GPs (working with Diabetes UK). We also invested in System 1 to exchange information with GPs to enable shared care.

**RA** Need clinical leadership and dedicated resource for diabetes in STP. Executive involvement is essential so they understand the aims of service changes. Finally, data are essential to build a case for change and monitor over time.

**JG** Create a network with all stakeholders represented and insist on having patients in room at every meeting. Go for a quick win to generate initial momentum before you attempt to address more difficult issues.

**RH** Develop a system that works together as a whole; save money to put towards your big projects, which will be chiefly funding structured education courses.

**GR** In Ipswich, diabetic nurses work in both community and hospital, so 90% of clinics have access to a specialist nurse

**Question Comments**

**Q.** If you had capitated budgets, would you cut your drug budget to provide more education?

**A.** **(GR)** *Education can motivate patients without the need for changes to their medication. Revisit education with each patient contact.*

**A.** **(NN)** *Behaviour change is the most important – low spending and high outcomes*

**Q.** Commissioners have difficulty approving structured education because of limited information to compare outcomes and effectiveness?

**Q.** In Leeds, DESMOND has been decommissioned; we are very keen that new course is quality assured. Where do we go for this?

**A.** **(MD)** *There is no framework at present to do quality assurance on courses or trainers. Cost effectiveness of drugs is regularly assessed, but only DESMOND and X-PERT have published cost-effectiveness evidence.*

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**Appendices: Regional Network Workshops**

**London: Treatment & Care Implementation**

**Chair:** Dr Miranda Rosenthal (MR)  
Consultant Diabetologist & Endocrinologist, Royal Free Hospital, London

**National Diabetes Audit (NDA):** Current participation & using audit findings to influence commissioning decisions

Dr Miranda Rosenthal (MR), Consultant Diabetologist & Endocrinologist, Royal Free Hospital and Vicky Parker (VP), London Diabetes Clinical Network, NHS England

- The NDA is an annual audit of primary care and specialist diabetes services covering care processes, treatment targets, complications and mortality
- Participation in the NDA gives Trusts benchmarked data – all participating trusts get a trust level report to help plan and drive improvement activity
- Audit data can be compared by area and CCG, and results in terms of diabetic patient numbers, meeting performance indicators for monitoring of key care processes, treatment targets and structured education
- The audit data can help identify potential Inequality in care delivery and outcomes
- Findings can be used to identify key areas and help develop models of care, which can help influence commissioning decisions and be developed into transformation plans

**Barriers to Uptake of Diabetes Education in Patients with T1D**

Dr Sophie Harris (SH), Innovation Fellow & Honorary Diabetes Registrar, Health Innovation Network

- A database analysis of adults with T1D living in 2 boroughs found 27.5% had attended DAFNE.
- Certain demographic groups are significantly less likely to attend – men, older people, those with greater social deprivation and/or poorer glycaemic control.
- 4 types of patient were identified within the survey results:
  - 10-20% will have low benefit from DAFNE as already self-educated and achieving HbA1c targets.
20-40% had capability for DAFNE, but need motivation to attend.

10-20% have low numeracy and low self-worth and higher use of unplanned services; current DAFNE likely to be unsuitable.

10-20% have psychological barriers to attendance, e.g. avoidance and denial of diabetes and its impacts.

Different offerings and language need to be used to motivate attendance across these 4 different groups.

Leeds: How can we use local data to understand and reduce variations in diabetes care?

Chair: Dr Dinesh Nagi (DN)
ABCD Chair, Consultant in Diabetes & Endocrinology, Mid-Yorkshire NHS Trust

Wakefield Diabetes Service Redesign

Dr Ryan D’Costa (RC), Consultant Diabetes & Endocrinology Mid-Yorkshire Hospitals; Clinical Champion for Wakefield Diabetes Network

- Supporting and up-skilling primary care, including joint doctor/nurse clinics, case note reviews, educational sessions and e-consultations.
- Joint working identified gaps, both in organisational terms and clinical care, as well as patients who had slipped through the net.
- Insulin initiation is much more rapid; net ingredient costs went up within the first 2 years of redesign. This is indicative of unmet needs of type 2 patients being seen in primary care. This was an indirect indication that the new model was achieving its objectives.
- Care provided in prison has also reduced the need to attend hospital diabetes clinics and produced significant financial benefits.
- Continuous adaptation, feedback and re-assessment of population needs in needed.

Commissioning and Delivering Cost Effective Diabetes Care

Dr Sohail Abbas (SA) / Kath Helliwell (KH), Bradford City/District Clinical Commissioning Group

- Identify clear outcomes that facilitate collaborative working across organisational boundaries.
- Reasons: Our patients tell us that they find the service fragmented, and our clinical teams do not always have the full picture of the patients' clinical care.

Results so far: Pathways improving for patients, clinical care improving, training and up-skilling, prescribing being reviewed.

Timescales have to be realistic – to get engagement, build a model, map services, contractual element agreements AND manage the difficult bits!

Manchester: Topics to help facilitate holistic diabetic services

Chair: Dr Susannah Rowles (SR)
ABCD Committee, Consultant Diabetologist, Pennine Acute Hospitals NHS Trust, Greater Manchester

Depression and Diabetes: How not to miss this and how to manage it

Dr Adrian Heal (AH), Consultant Physician, Salford Royal Hospital

- Depression has been shown to be significantly more common in women with T2D and non-significantly more common in men with T2D.
- Depression is associated with increased risk for diabetic complications, increased CV disease and all-cause mortality (2-3 fold higher mortality risk).
- The American Diabetes Association recommends that patients with diabetes, particularly those with poor disease control, should be screened for psychosocial and psychological disturbances or disorders, including depression.
- Psychotherapy combined with self-care educational interventions emerges as the first-line treatment for depression in DM

Treating to Target in Diabetes: Some Thoughts from the Lab

Dr Mark Livingston (ML), Consultant Clinical Biochemist, Walsall Manor Hospital

- In diagnosis, HbA1c and glucose testing are not entirely concordant.
- Conditions or treatments that significantly affect the average age of circulating red cells will invalidate HbA1c (e.g. liver or kidney disease, severe hyperlipidaemia).
- Compared with annual monitoring, 3-monthly testing of HbA1c was associated with a halving of the proportion showing a significant rise in HbA1c (7–10% vs. 15–20%).
Research: What is going on locally?

Dr Adrian Heald (Consultant Physician/Diabetes Lead GMCRN); Lee Bullen (Research Delivery Manager GMCRN)

Top tips for supporting research in general practice:

- Advise practices on benefits of participating in research involving relevant studies
- Build relationships with key contacts within primary care locality & the research environment
- Have a single point of contact to introduce studies to practices
- Make research part of our every-day work to ensure that we really do change lives for the better.

Bristol: How New Models of Care and Technology Can Improve Diabetes Outcomes

Chair: Dr Marc Atkin (MA)
ABCD Committee, Consultant Diabetologist, Royal United Hospital, Bath

Primary and Acute Care Systems (PACS) model of care: improving diabetes outcomes in Somerset

Dr Alex Bickerton (AB), Yeovil District Hospital NHS Trust

- Symphony: A collaboration between Yeovil Hospital, the Somerset GP Federation, Somerset CCG and Somerset County Council with the aim of creating an integrated care system for South Somerset
- Diabetes is being developed as a pilot for Symphony
- Achievements so far: Health Coach Role in Diabetes defined and agreed, ‘Huddle’ full-practice MDT meetings and Hypoglycaemia project started
- Virtual clinics held with excellent feedback and reduction in specialist referrals
- You CAN make change happen IF you get involved, but do not underestimate the time involved.

“My Diabetes My Way”

Dr Scott Cunningham (SC), University of Dundee/NHS Tayside

- The average person with diabetes will spend 3 hours with a HCP and will take care of themselves for the remaining 8757 hours in a year”

- www.mydiabetesmyway.scot.nhs.uk website for patients and carers, with information leaflets, interactive content, videos, patient Testimonials
- Validated internal/external content overseen by multidisciplinary group (patients / HCPs / IT professionals)
- Patients able to access personal health record with key diabetes data and download patient-recorded data.
- Useful tool to aid patient self-management.

Diabetes Digital Coach

Dr Elizabeth Dymond (ED), West of England Academic Health Science Network

- DDC is one of 7 digital test bed projects funded by the NHS
- **Aim:** to give people with diabetes a choice of carefully selected digital tools to help them better self-manage their condition and put them more in control of their own care
- [https://www.diabetesdigitalcoach.org/](https://www.diabetesdigitalcoach.org/)

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Any queries, please contact:

Clive Johnstone
Medical Management Services (UK) Ltd
12 Claremont Road, Bath, BA1 6LX

- Email: c.johnstone@medman.co.uk
- Company No: 3499175
- Ref: 159/BJD/676

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