Chair's introduction

'I am proud of what you, working in primary care, have achieved in recent years' said Dr Colin Kenny (GP, Dromore, County Down) during his introductory address to nearly 400 delegates at the Inaugural National Conference of the Primary Care Diabetes Society. This year, for instance, the diabetes indicators of the new General Medical Services (nGMS) contract have been delivered to a very high standard by motivated and knowledgeable primary care teams, he noted.

During this time, the Steering Group of the PCDS has been working hard to build an active Acting PCDS Committee. Another task for the Steering Group has been to deliver a high-quality, relevant inaugural conference for the PCDS, Dr Kenny explained.

Dr Kenny also took the opportunity to explain the Steering Group's plan to use the conference as a means of forming an active PCDS Committee. Elected members would go on to build on the successes of the Steering Group over the next 3 years, he said.

'We've all put together this wonderful, educational programme, and hopefully you'll be able to use some of what you learn back in your practice,' Dr Kenny concluded.

The changing face of diabetes care delivery

Conference opening

'Now is a unique time for unique leadership from primary care.'

'Now is a unique time for unique leadership from primary care,' said Dr Sue Roberts (National Clinical Director for Diabetes), explaining how crucial the role of primary care is in the current management of diabetes in the UK. Dr Roberts began her talk, entitled 'Celebrating Primary Care', with a look back at how the role of primary diabetes care has evolved – from the primary care 'diabetes days' and 'mini-clinics' of the 1980s, through the use of high-quality audit data and an emphasis on 'the structure rather than the site of diabetes care' which informed care in the 1990s, up to the publication of the National Service Framework for diabetes in 2001/2003.

In 2005, she explained, diabetes care is again entering a new world. The Quality and Outcomes Framework (QOF) of the nGMS contract has been a great success, with 92% of the available diabetes points achieved by primary care practices over the last year. But, she said, many new challenges lie ahead.

Firstly, she said, 'primary care must sustain and further improve the quality care it provides by reducing the variation that currently exists.'

The second challenge, she explained, is for primary care to be systematic about engaging people with diabetes in the management of their condition. Since 60% of tablets prescribed for people with diabetes are not dispensed, and one-third of prescribed insulin is not taken, Dr Roberts explained that 'patient engagement is the key to ensuring good services for long-term conditions'. Furthermore, it is crucial because 'the QOF data shows us that 40% of people with diabetes do not have healthy blood pressure or cholesterol levels.'

The third challenge is to develop a whole-system commissioning framework for quality diabetes services, explained Dr Roberts. This might involve commissioning for diabetes prevention, for children's services, for structured education and for specialist services, she said.

How can we know if improvements are taking place? Dr Roberts concluded by drawing the audience's attention to the ongoing National Diabetes Audit: 'Encourage your PCT to join and see what effect your efforts are having.'

Emerging therapies 1: Glycaemic management

In 1776, just 12–15 miles from the location of this conference, James Watt's steam engine was set in motion, said Dr Clifford Bailey (Professor of Clinical Science and Head of Diabetes Research, Aston University, Birmingham). This heralded the era of mechanised transport, when daily exercise became no longer necessary. This is of relevance, of course, to today's epidemic of obesity and the burden of diabetes on healthcare budgets. Hospitalisations account for the majority of the costs of managing diabetes, stated Dr Bailey, but 'it is hoped that spending on new therapies can cut spending on hospitalisations,' he noted.

Emerging therapies for glycaemic management, Dr Bailey explained, can be divided into four groups: injected, ingested, inhaled and infused.

Injected

Pramlintide (Amylin Pharmaceuticals) is a soluble analogue of amylin, a hormone which helps to suppress glucagon secretion and which is reduced or absent in people with diabetes, noted Dr Bailey. There are ongoing discussions with the European Medicines Agency for its use along with insulin.

Glucagon-like peptide (GLP)-1 stimulates the secretion of insulin in response to elevated blood glucose levels. Approval is being sought for the GLP-1 analogue exenatide (Amylin/Eli Lilly), which was derived from the saliva of the Gila monster lizard. According to Dr Bailey, 'weight reduction is a very important part of the equation for exenatide.'

Ingested

Dipeptidyl peptidase (DPP)-4 is an enzyme that inactivates GLP-1. Inhibiting DPP-4 could thus augment insulin secretion. There are DPP-4 inhibitors in the pipeline, such as vildagliptin (Novartis), but Dr Bailey recommended that, before drawing firm conclusions, 'we should wait to see what the side effects are like.'

PPARα/γ agonists, which have the potential to improve glycaemic control and dyslipidaemia, are another emerging class of ingested therapies that Dr Bailey discussed. Members of this class in the pipeline include tesaglitazar (AstraZeneca) and muraglitazar (Bristol-Myers Squibb).

Another potential use for an ingested therapy is the treatment of obesity (which is directly related to glycaemic control). The cannabinoid receptor blocker rimonabant (Sanofi-Aventis), which is in phase III, may be used in such a role, based on evidence that the cannabinoid system is overactive in obesity, explained Dr Bailey.

'It is hoped that spending on new therapies can cut spending on hospitalisations.'

Inhaled

There are several inhaled insulin therapies in the pipeline. Exubera (dry insulin formulation; Nektar Therapeutics/Pfizer/Sanofi-Aventis) is 'creating the noise,' Dr Bailey said, while the AERx insulin Diabetes Management System (liquid insulin formulation; Aradigm/Novo Nordisk) is 'in development close behind.' While the non-invasiveness of these therapies could be beneficial for many people, such as those with a fear of needles, the advantages will not apply to basal doses, for which injections may still be required, commented Dr Bailey.

Infused

Dr Bailey briefly turned to infused therapies, reporting how the number of insulin pump users has been steadily increasing for a number of years. Newer systems are 'only for aficionados,' he remarked, but 'companies do provide educational support.'

Emerging therapies 2: Cardiovascular risk

'We expect the Joint British Societies to recommend a total cholesterol target of 4 mmol/l and an LDL (low-density lipoprotein)-cholesterol target of 2 mmol/l in their soon-to-be published revised guidelines. That's where the targets are heading.'

'Current management strategies are reducing cardiovascular risk in diabetes,' said Dr Miles Fisher (Consultant Physician, Glasgow Royal Infirmary, Glasgow). 'While our current cardiovascular risk management guidelines and nGMS quality indicators are loosely based on trial data, we will need to update them based on the results of trials such as PROactive [PROspective pioglitAzone Clinical Trial In macroVascular Events] and FIELD [Fenofibrate Intervention and Event Lowering in Diabetes; data unpublished at the time of presentation]. In addition, emerging therapies for cardiovascular disease will help further.'

The importance of cardiovascular risk management

By revisiting his definition of diabetes from 1996 Dr Fisher stressed the importance of cardiovascular risk management: 'Diabetes is a state of premature cardiovascular death which is associated with chronic hyperglycaemia and may also be associated with blindness and renal failure.' This increased cardiovascular risk can be addressed by targeting the following diabetes comorbidities: hyperglycaemia, hypertension, dyslipidaemia and renal dysfunction.

Hyperglycaemia

Dr Fisher referred to the results of the UKPDS (UK Prospective Diabetes Study), which examined the effects of tight blood glucose control on micro- and macrovascular diabetes complications in type 2 diabetes. It was found that treatment with metformin reduced the incidence of myocardial infarction (MI) in overweight people compared with those receiving conventional therapy. A subsequent analysis of the study data showed that the risk of fatal or non-fatal MI is reduced further with each percentage point reduction in HbA_{1c}.

Similarly, explained Dr Fisher, the recent PROactive study showed that the addition of pioglitazone to the treatment of people with type 2 diabetes and established cardiovascular disease reduced the likelihood of a composite endpoint of all-cause mortality, MI or stroke.

What about the effects of further reductions in HbA_{1c}? Dr Fisher explained that ongoing trials, such as ACCORD (Action to Control CardiOvascular Risk in Diabetes) should provide more evidence when complete.

Hypertension

Dr Fisher explained that trials such as the Hypertension in Diabetes Study (HDS) have shown the significant benefits of tight blood pressure control in reducing diabetes-related endpoints and death. 'But how low should we go?' he asked, explaining that the HOT (Hypertension Optimal Treatment) study and epidemiological analysis of HDS have suggested that there is no low blood pressure for which a person with diabetes does not gain benefit. Reanalysis of the data are informing lower and lower targets.

Lipid lowering

Studies such as the landmark 4S (Scandinavian Simvastatin Survival Study) and CARDS (Collaborative AtoRvastatin Diabetes Study) trials have collectively demonstrated the important benefits of lipid lowering in preventing primary and secondary cardiovascular events. As with hypertension management, said Dr Fisher, 'the data from trials such as TNT [Treating to New Targets] suggest that the more you can reduce a patient's total or LDL (low-density lipoprotein)-cholesterol level, the less likely they are to experience a cardiovascular event.'

Future target adjustments

Dr Fisher concluded that 'we expect the Joint British Societies to recommend a total cholesterol target of 4 mmol/l and an LDL-cholesterol target of 2 mmol/l in their soon-to-be published revised guidelines. That's where the targets are heading.'

Masterclass 1: Initiating insulin

In her case study-based masterclass, Debbie Hicks (Nurse Consultant [Diabetes], Enfield Primary Care Trust) outlined the challenges for insulin initiation in primary care as well as the essential requirements.

The challenges – and these are not 'barriers', Debbie stressed – include the insufficient number of people needing insulin initiation in each practice, which makes the maintenance of skills and knowledge difficult. Furthermore, she noted, secondary care models may not fit primary care-based insulin initiation.

As examples of essential requirements, the need for a person-centred approach, available equipment, appropriate literature and support from education programmes was discussed in the session.

Masterclass 2: Supporting patients to adjust their own insulin

Heather Daly (Nurse Consultant in Diabetes at the University Hospitals of Leicester NHS Trust) began her masterclass by encouraging the participants to list their concerns about insulin initiation and titration. Topics raised by the audience included: ensuring safety in insulin titration; blood glucose meter accuracy; weight; and dealing with titration enquiries from people with diabetes.

Heather and the participants then began to explore the drivers for self-management, along with the implications of self-management for people with diabetes, their carers and health professionals.

Heather explained that one barrier to self-management of insulin in diabetes is 'a lack of methods'. However, she said, structured educational programmes such as DAFNE and DESMOND are helping to address this problem. Furthermore, she said, evidence from trials such as AT.LANTUS proves that people with diabetes can effectively self-manage their own insulin therapy.

Masterclass 3: Encouraging concordance – Are we simply whistling in the wind?

Dr Chas Skinner (Senior Lecturer in Health Psychology, University of Southampton) encouraged his audience to think of medication taking as a lifestyle change. This seems obvious when it is pointed out, but it is significant because as few as one-third of patients on multiple therapy take their medication as directed. He suggested that it was 'normal' not to adhere fully with therapy – he demonstrated this through those present admitting to reluctance to lifestyle changes – while being interested in health.

With medication taking being a lifestyle issue, patients need to fully understand the implications of non-concordance. The answer is not education, Dr Skinner said, but true patient involvement. No model has been proven better than any other, but it is important to have a plan to assess learning on behalf of people with diabetes.

The audience was introduced to the UKPDS risk engine, which, Dr Skinner said, could be used as a tool to assist with patient education.

'Patients need to fully understand the implications of non-concordance. The answer is not education, but true patient involvement.'

Masterclass 4: Management nightmares

In this masterclass, Dr Neil Munro (GP, Claygate, and Associate Specialist in Diabetes, Chelsea and Westminster Hospital) looked at the potential problems that arise in daily practice.

Possible hazards with oral hypoglycaemic agents and insulin were discussed. In addition, Dr Munro explored how advice to give to patients can depend on plans for exercise, fasting (during Ramadan, for instance) and travelling abroad.

Case study discussion was used to exemplify guidance on referral criteria. Dr Munro concluded the session by turning to consideration of screening for diabetic nephropathy, and the utility of glomerular filtration rate in particular.

Masterclass 5: Patient education modules – Where are we?

Mary MacKinnon (Diabetes Education Consultant, Sheffield) led an interactive session demonstrating the value of teamwork by splitting her audience into groups and engaging them in discussion. She outlined current structured education programmes – DAFNE, DESMOND, X-PERT and the Expert Patient Programme – and asked the groups to identify their concerns in implementing structured education. Those voiced included time and accessibility. Another concern was that any funding will not be sufficient to cope with the current numbers, let alone the rising demand.

Mary outlined the Turin programme, which provides initial education and ongoing support for people with diabetes, and asked why people with diabetes were not encouraged to assist with training more than they do.

It is not possible to conjure up a quick fix for providing structured education. Instead, a greater emphasis on training patients to support others, along the lines of the Expert Patient Programme, is likely to emerge.

Masterclass 6: How to spot the at-risk foot

Below: Roger Gadsby encourages one of the participants to examine his feet.

Dr Roger Gadsby (GP, Nuneaton) began his masterclass by outlining a strategy of screening for and managing people with diabetes and 'foot at risk'. He explained that amputations could be reduced with a two-stage approach to prevention. At the primary prevention level, people with diabetes should be screened for foot at risk by a practice nurse. Those with foot at risk need extra education to avoid ulceration. For those people with ulceration, secondary prevention measures should include intensive and urgent management of the ulcer.

A key barrier to foot examination, he said, is that 'people don't like taking their shoes and socks off.' To illustrate this, he asked for a volunteer from the audience to remove their shoes and socks – yet none were forthcoming. 'To overcome this barrier we need to warn our patients that their feet will be examined as part of their annual diabetes review,' he said.

Obesity: A practical approach to a difficult problem

'Whatever we do with obesity, we have to remember that its causes are not going to go away,' said Omar Ali (Prescribing Consultant Primary Care and Formulary Development Pharmacist, Surrey & Sussex NHS Trust). 'The world around us has changed – cars, computers and lifts are here to stay. The current epidemic of obesity is a profound, abnormal metabolic reaction to our current environment, which results in disease pathology.'

Omar outlined the well-established relationship between overweight/obesity and the increasing risk of insulin resistance and type 2 diabetes. He explained that while body mass index is included in the QOF of the nGMS contract, 'there are no points available for treating it – only for measuring it.' Measuring waist circumference is a useful, practical way of identifying people at risk of developing insulin resistance, he said, and 'it needs to be included in the revised QOF in 2006.'

Prevention and pharmacotherapy

Omar outlined the results of the Diabetes Prevention Program in the USA, which compared the effects of placebo, metformin treatment, and diet and exercise regimens. While treatment with metformin was beneficial in preventing the onset of type 2 diabetes, the greatest effect was seen with lifestyle interventions. 'Exercise does work *if* you do it,' said Omar.

Pharmacotherapy (e.g. using orlistat [Xenical; Roche] or sibutramine [Reductil; Abbott]) and bariatric surgery also have a role in obesity treatment. The current NICE guidelines on obesity management state that if treatment with a drug does not cause weight loss, pharmacotherapy should not be continued, explained Omar. 'I believe this is wrong – even weight maintenance is a success, since most people's weight increases over time. Instead of stopping treatment, we should be more aggressive and use more agents.'

'Whatever we do with obesity, we have to remember that its causes are not going to go away.'

The nGMS contract: Where to next?

'The health of the nGMS contract has significant bearings on the health of primary care teams,' said Dr Peter Holden (GP, Matlock, Derbyshire, and one of the negotiators of the nGMS contract). The establishment of the nGMS and the associated QOF results achieved in 2004/2005 represent 'a world-first, truly groundbreaking change in healthcare delivery', he said. 'For the first time, general practice is being reimbursed by clinical results based upon scientific evidence.'

So what next? Dr Holden explained that the excellent achievements in the first round of the QOF have significant financial implications for primary care organisations, which are 'struggling to stay in budgetary balance.'

Dr Holden explained that important challenges remain for the forthcoming year: 'We've got to become future proof,' he said, outlining some practical tips for individual practices on time management, planning efficiency and software. 'The future of the QOF is something of a conundrum,' he said. With only a limited amount of funding available, 'the only way forward is practice-based commissioning', he said. 'Time is short,' he concluded. 'Neighbouring practices need to start talking to each other, and their Local Medical Committee.'

'The only way forward is [to implement] practice-based commissioning.'

Head-to-head debate:

‘General practice is not fit to look after people with diabetes’

The argument for

‘General practice in Britain is very good on the whole, but there are areas where it is not so good,’ said Dr Rory McCrea (GP, Essex, and Chair of ChilversMcCrea Healthcare, an independent healthcare company). Furthermore, one of the major strengths of general practice – knowing the patients – is weakening in the ‘new world’, he added.

While the management of practices is easy, the management of chronic conditions is not, Dr McCrea noted. An interested practitioner can help greatly, but there is not always one present. Moreover, diabetes care requires a multidisciplinary approach, where every member of the team is important, but general practices are not built around this concept – this is a strong reason why general practice may not be fit to handle the growing burden of diabetes this century, he stated.

The argument against

In diabetes care, ‘no-one just looks at the pancreas,’ said Dr Clive Marchi (GP, Sale) – it is necessary to consider many systems in the body. Similarly, in caring for patients, it is greatly beneficial to consider all aspects of their diabetes: diagnosis, initiation of management, education, monitoring and complications. General practice is involved in the whole journey. For people with diabetes, general practice ‘is already fit and is getting fitter,’ stated Dr Marchi.

The result

After the debate, a vote was taken. The audience (unsurprisingly!) decided to reject the motion.

Consensus or conflict in the future of primary diabetes care?

How to find the missing million: A practical approach

‘The UKPDS has told us that we can reduce deaths from diabetes [and its complications] with good glycaemic control,’ said Melanie Davies (Professor of Diabetes Medicine, University of Leicester), which is why early detection can be so useful.

There is reasonably good evidence for simple tests to use, and the American Diabetes Association has recently shown that screening can be cost-effective, explained Prof Davies. Thus, while there is ‘still a way to go with staffing and facilities for a screening programme,’ she said, it is worth considering the research being carried out in the area.

The STAR (Screening Those At Risk) study is one such trial, and it has taken a very practical look at screening, stated Prof Davies. The study examined the utility of different screening methods based on age and ethnicity. To get 90% sensitivity for diabetes in white Europeans, for instance, 40–75 year olds should be targeted using a fasting plasma glucose cut-off of 6.0 mmol/l, she noted.

Another trial being undertaken is the ADDITION study, which is half-way through recruiting. ‘If that study is positive, the screening debate will be put to bed,’ Prof Davies concluded.