Diabetes
The human, social and economic challenge
Tackling diabetes is one of the major health challenges of our time, in the UK and globally.

- Almost 300 million people worldwide have diabetes, including almost half a million children under the age of 14 – and the numbers are growing rapidly. By 2030, an estimated half a billion people will be living with diabetes.

- In the UK in 2010, 150,000 new diagnoses brought the number of people known to have diabetes to 2.78 million. About a million more are unaware that they already have diabetes – and many people are only diagnosed after having had it for many years, when complications have already set in.

- In 2008, almost a quarter of adults (24% of men and 25% of women aged 16 or over) in England were classified as obese (BMI >30 kg/m²). Some predictions forecast that obesity could affect over half of the population by 2050. Overweight and obesity often lead to the development of diabetes, and at a relatively young age.

Routine care for people with diabetes is itself expensive, but a far greater economic burden is the hospital care required to treat serious diabetes complications, which include kidney failure, heart attack and stroke. Major costs to society include lost economic productivity (as people take time off work through illness and retire early) and the expense of social care.
If diabetes continues to grow as predicted, the already major burden on the National Health Service will become unsustainable.

However, there are great opportunities to tackle this epidemic.

• Continued growth of type 2 diabetes – which constitutes about 90% of diabetes cases – is not inevitable. By encouraging people to eat a healthy diet and exercise regularly, we can help to prevent type 2 diabetes from developing. By eliminating the risk factors, up to 80% of type 2 diabetes could be delayed or prevented.

• By diagnosing diabetes early and treating it effectively, we can prevent or at least delay the complications that lead to so much human suffering, costly treatment and reduced life expectancy. Diabetes care in the UK is good, but not good enough – 40% of people with type 2 diabetes, and 71% of people with type 1 diabetes are not in optimal control. Earlier diagnosis, and use of effective modern therapies, would lead to big cuts in the human, social and economic costs of diabetes.

To reverse the epidemic and slow the rising cost of diabetes, we must work with healthcare professionals, government, the media and others to raise awareness of the risks of a sedentary lifestyle and unhealthy diet, and help people with diabetes to achieve effective self-management.

Preventing type 2 diabetes, early diagnosis and using effective treatments are a vital and essential investment for people who have diabetes now, and those at risk of developing it.
Identifying the diabetes challenge

What is diabetes?

Diabetes mellitus – usually known as diabetes – is an incurable and progressive condition. It is caused by a failure of the pancreas to produce insulin (type 1) or to produce enough adequately functioning insulin (type 2) to enable the glucose from food to enter the body cells and be used as a source of energy. As a result, in both types the glucose level in the blood remains too high. Blood glucose is commonly determined as HbA\textsubscript{1c}, which is the haemoglobin bound by glucose.

There are two main types of diabetes: type 1 and type 2:

• In type 1 diabetes, the body does not produce insulin at all, because the body’s defence system attacks its own insulin-producing cells. Type 1 diabetes is usually diagnosed in children or young adults.
• 90% of adults with diabetes in the UK have type 2\textsuperscript{15}. The pancreas produces insufficient quantities of insulin and/or the insulin has a reduced effect on the muscle and liver cells.

What diabetes does to people:

• Symptoms: tiredness, thirst and frequent urination
• Serious short-term conditions: hypoglycaemia (blood glucose level falls too low) or hyperglycaemia (blood glucose level is too high) can lead to unconsciousness and even death
• Stress of dealing with diabetes and its treatment can cause depression
• Increased risk of heart attack, stroke, kidney damage, blindness, nerve (neural) damage leading to amputation, and reduced life expectancy.

• Stroke
  Stroke is two to four times as likely in people with diabetes\textsuperscript{17}. Effective treatment reduces risk of stroke by more than a third.

• Blindness
  4,200 people in England are blind because of retinal damage (retinopathy) as a complication of diabetes\textsuperscript{15}. Effective treatment reduces serious deterioration by more than a third.

• Heart attack
  Heart attacks are three times as likely in people with diabetes – heart disease accounts for over half of deaths in type 2 patients\textsuperscript{16}. Effective treatment leads to a reduction in risk of heart failure of over 50%.

• Kidney failure
  Kidney (renal) failure accounts for 11% of deaths in type 2 patients\textsuperscript{15}. Effective treatment reduces the risk of kidney failure by more than a third.

• Amputation
  Diabetes is the most common cause of lower limb amputations – 100 people a week affected in the UK\textsuperscript{15}. Effective treatment reduces the risk of amputations and foot ulcers.
How is diabetes treated?

Diabetes treatment aims to keep the level of blood glucose within recommended targets. Allowing blood glucose to remain higher increases the risk of developing serious long-term complications. Treatment must be monitored and adjusted regularly to ensure that the recommended blood glucose levels are achieved.

The treatment for type 1 diabetes is insulin – required from the time of diagnosis – coupled with careful management of diet and exercise. Insulin was discovered in the early 1920s, and treatment has evolved significantly since then. Today’s analogue or ‘modern’ insulins offer more flexibility and freedom to lead a normal life than ever before. They also offer a reduced risk of blood glucose falling too low (overnight, for example), known as hypoglycaemia (see p6).

Type 2 diabetes is initially treated through changes to lifestyle (healthier diet and increased physical activity), followed by oral antidiabetic drugs. These work either by increasing the production of insulin (sulphonylureas and others), by reducing release of glucose from the liver (metformin) or by delaying absorption of glucose from the gut (metformin and alphaglucosidase inhibitors).

Many patients also move on to insulin therapy, which is increasingly acknowledged to delay the onset of complications in type 2 diabetes\(^5\)\(^\text{(5)\(^{,}\)11}\).

There are now new treatment options to reduce blood glucose. Among these new treatments are the hormone GLP-1, which stimulates insulin secretion and controls blood glucose levels, and DPP-4 inhibitors (gliptins), which block the action of an enzyme that breaks down hormones of the GLP-1 group (the incretins).

Although of only limited use today, research is focusing increasingly on ways in which, in the future, normal blood glucose regulation could be restored, either by introducing more pancreatic cells or by encouraging the cells to regenerate.

Typical treatment pathway for type 2 diabetes, with treatment aims, number of UK patients

<table>
<thead>
<tr>
<th>Delay complications</th>
<th>Prevent complications</th>
<th>Delay progression</th>
<th>Treatment intensification</th>
<th>Treatment initiation</th>
<th>Treatment lifestyle modification</th>
<th>Diet and exercise: 650,000 patients</th>
<th>GLP-1: 40,000 patients</th>
<th>OAD*: 1.9 million patients</th>
<th>Insulin: 450,000 patients</th>
<th>2.8 million patients</th>
</tr>
</thead>
</table>

* OAD = oral antidiabetic drugs
In 2010, 2.26 million people in England had been diagnosed with diabetes: 5.4% of the population\(^3\). England is estimated to have another 800,000 that have not yet been diagnosed, and the whole UK may have a million or even more people undiagnosed\(^4\). By 2030, this will be much worse...
The human cost of diabetes – a major impact on people’s lives

40% of people with type 2 diabetes are at high risk of complications because of inadequate blood glucose control.

- More than one in ten (11.6%) deaths of adults in England are diabetes-related\(^{13}\)
- Life expectancy is reduced, on average, by more than 20 years in people with type 1 diabetes, and by up to 10 years in people with type 2 diabetes\(^{24}\)
- One in 10 people admitted to hospital in the UK has diabetes – and in some age groups it can be as many as one in five. Diabetes is related to one in five admissions for coronary heart disease, renal (kidney) disease and foot ulcers\(^ {25}\)
- Adults with diabetes are 2–4 times as likely to die from heart disease as those without diabetes, and are also 2–4 times more likely to suffer a stroke\(^ {6,17}\)
- Diabetes is the single largest cause of blindness among people of working age in the UK\(^ {15}\). Sixty per cent of people with type 2 diabetes will have some level of retinopathy within 20 years of diagnosis, as will almost all people with type 1 diabetes\(^ {19}\)
- About 30% of people with type 2 diabetes develop kidney disease\(^ {28}\)
- Over 5,700 people with diabetes underwent lower-limb amputations in England in 2008–9\(^ {21}\)

We are faced with a growing burden and shrinking resources

The social cost of diabetes – affecting some groups more than others

Type 1 diabetes affects people from all social and ethnic groups, but people living in deprived areas are more than twice as likely to develop type 2 diabetes as those with a higher income, especially among those aged between 40–54\(^ {4}\). Type 2 diabetes is strongly linked with overweight and obesity – which most affect the least affluent. Diabetes prevalence in England ranges from 5.5% in affluent locations to 10.9% in the most deprived areas – double the rate\(^ {4}\).

People from more socioeconomically disadvantaged backgrounds are more likely to be exposed to risk factors such as an unhealthy diet and little physical activity, smoking and poor blood pressure control. In 2008–9 in England, the level of obesity among people with type 2 diabetes was double that of the rest of the population\(^ {8}\).

Diabetes affects proportionately more people from Asian and black ethnic groups. Diabetes prevalence in England averages at 6.9% in white and mixed groups; but for black people it rises to 9.8% and Asian ethnic groups have diabetes prevalence of 14%\(^ {4}\).

<table>
<thead>
<tr>
<th>Age</th>
<th>Diabetes Prevalence (%)</th>
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<tbody>
<tr>
<td>16–34</td>
<td>1.8</td>
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<tr>
<td>35–54</td>
<td>5.1</td>
</tr>
<tr>
<td>55–74</td>
<td>14.3</td>
</tr>
<tr>
<td>75+</td>
<td>16.5</td>
</tr>
</tbody>
</table>

Diabetes prevalence (%) by age

- We are faced with a growing burden and shrinking resources
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- Diabetes affects proportionately more people from Asian and black ethnic groups. Diabetes prevalence in England averages at 6.9% in white and mixed groups; but for black people it rises to 9.8% and Asian ethnic groups have diabetes prevalence of 14%.
The economic cost of diabetes – £1 million an hour

The cost of caring for people with diabetes is vast, increasing and threatening to present an unsustainable challenge to healthcare services within the next 20 years – 94% and the vast majority of the cost goes on treating diabetes complications.

In 2010, the NHS spent about £9 billion a year – £1 million an hour – on treating diabetes. Much of this is spending on 1.1 million inpatient days each year, with only 6% of the costs spent on prescription medicines.

Paradoxically, endeavouring to improve blood glucose control can lead to hypoglycaemia. If left untreated, major hypoglycaemia can occur, requiring hospitalisation and incurring additional costs to the NHS of £13 million per year.

Expenditure on diabetes complications will be even higher in future, unless proper advantage is taken of the opportunities for early treatment with today’s advanced medications.

People with diabetes also face significant personal costs, estimated at £500 million a year, due to missing work, the cost of travel for medical treatment, and often loss of employment or early retirement because of ill health. About 6% of people with type 2 diabetes are unable to work at all. Family members may also suffer financially, especially parents of children with diabetes who may be forced to give up work to care for them.

One in 20 people with diabetes needs assistance from social services, at a cost of £230 million per year. More than 75% of these costs are for residential or nursing services, with most of the remainder for home help. It has been estimated that diabetes doubles the chances of entering a care home, and one in four care home residents have diabetes. Recent evidence from Canada has shown that the presence of chronic conditions, such as diabetes, has a much greater impact on healthcare resources than age alone.

The costs to the national economy of lost working time and early death from diabetes are very difficult to quantify, but estimates for the UK put the costs to industry at £531 million in 2006, rising to £780 million in 2026.
What does the future hold, if no real changes are made?

It is hard to predict how diabetes care in England will develop in the near and more distant future, because systems are already changing in an attempt to meet the increasing need. But, as an example, in England – on the assumption that no improvements are made in diabetes prevention, diagnosis or treatment, and on the basis of the data given above,

**between now and 2030...**

**1.42 million people** who have been diagnosed with diabetes today will have some level of retinopathy

**1.05 million people** who have been diagnosed with diabetes today will have kidney disease

EACH YEAR, between **5,600 and 8,600 people** with diabetes will have a foot amputated

We can’t let this happen.
01
Identifying the diabetes challenge

Diabetes is long term, seriously debilitating and costly to treat. Numbers are going up, and costs are going up.

Unless we face the challenge NOW, the NHS will be unable to cope.

Finding: Numbers are up and costs up.
Diabetes: a challenge for the NHS

The costs to the NHS are already extensive, particularly the cost of complications:

- Each heart attack costs £6,246 in the first year and £1,000 a year thereafter;
- Dialysis for end-stage renal disease costs £27,000 or £36,000 a year depending on the procedure;
- Amputation costs almost £12,500.

Good diabetes management is essential to minimise complications and prevent these costs from spiralling out of control. However, the National Diabetes Audit (which monitors the spread of diabetes and the quality of its care) has voiced some worrying concerns about the efficacy of current diabetes care.

In England, the working of the NHS is changing as the Coalition Government’s reforms are put into place.

What will these changes mean for diabetes care?

At present:

- The number of people diagnosed with diabetes is going up every year — the total number has increased by 25% since 2003–4.
- In 2008–9, only half of the people in England with type 2 diabetes and a third of people with type 1 diabetes received all nine checks recommended by the National Service Framework for diabetes. But assessment is only part of the answer — the results need to be acted on, adjusting or intensifying treatment as appropriate. Today, 40% of people with diabetes do not have their blood glucose level within the target range, and so have a high risk of future complications.
- In 2008–9, 90% of children and young people with diabetes had their blood glucose measured, but only 5% of those aged over 12 had all nine key checks recorded.
- There are huge inequalities in England in the percentage of people with diabetes who benefit from regular measurement of the nine key checks. There is also evidence of variation in the investment decisions made by those who commission healthcare services.
- 10% more people with type 1 diabetes suffered from diabetic ketoacidosis (a major complication of diabetes) in the five years to 2009 than in the previous five years (to 2004). This suggests that more people with type 1 (predominantly young people) are not effectively managing their diabetes, but also the numbers of young people with type 1 diabetes are rising.
- End-stage kidney disease has almost doubled in six years. Low rates of urine testing suggest that opportunities are being missed to detect kidney disease early.
- Children and young people are at particular risk of complications — only 5% regularly have all nine key health checks.

Nine key checks for people with diabetes*

- Weight
- Blood pressure
- Eyes
- HbA1c
- Urinary albumin
- Feet
- Serum creatinine
- Serum cholesterol
- Smoking

* Recommendations of the National Service Framework for Diabetes (the national guidelines for diabetes care for England and Wales)
Empowering the patient

Encouraging people with diabetes to understand and take control of their condition is extremely important.

As diabetes is a chronic disease, planning and managing food, physical activity and medication on a daily basis depend very much on the attitude and decisions of patients themselves, and their families. Successful self-management depends on information and empowerment, but in more than half of England’s primary care trusts, 10% of people or fewer report attending an education course on how to manage their diabetes36. Information and support are available from medical sources, patient organisations and social networks online, but depend on patients’ initiative to find it.

More imaginative empowerment of patients would have multiple benefits, e.g.:

- Fewer ambulance callouts to deal with diabetic emergencies such as hypoglycaemia
- Fewer working days lost through illness
- Reduced impact of diabetes complications
- Fewer bed-days needed for inpatient treatment
- Fewer and shorter hospital stays.

Patients and healthcare professionals could work together to share the responsibility for more effective diabetes care, through:

- A diabetes charter to establish the care that patients should expect at all stages of diabetes
- Care planning: Routine care decisions and goal-setting by patients and healthcare professionals working together
- Involvement of patients in designing the care they want, where and by whom it is provided
- Redress for patients if commissioners do not provide the care needed by patients within financial constraints
- Greater focus on ring-fencing finance for structured and local education in the evenings and at weekends, when patients can attend
- Greater use of patient-recorded outcome measures (PROMs) as promised by the changing NHS32
- Greater use of patient-related experience measures (PREMs) to help healthcare professionals and commissioners locate services that are easily accessible, culturally sensitive and cost-effective. This could significantly increase appropriate uptake of services, and reduce non-attendance.

‘Patients need to become empowered to manage their diabetes. If enough help and education is given to them at diagnosis and on an ongoing basis, their need for clinical care will be drastically reduced. This can also reduce the cost of long-term complications to the NHS and social services over time.’

Grace Vanterpool
Royal College of Nursing

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Who cares about diabetes?

- Patients
- Informal and social care
- Primary care
- Secondary care
- Policy, administration, others

**Key**
- *: Family and friends are the first line of carers
- **: Includes ophthalmologists, nephrologists, podiatrists, dieticians, diabetes educators
- ***: Includes psychology, endocrinology, neurology
- ****: Includes primary care trusts and strategic health authorities; changing to GP consortia
- †: GPwSIs are GPs with special interest in diabetes
How will the changing NHS affect diabetes care?

The NHS needs to make efficiency savings of up to £20 billion by 2015, an unprecedented amount. Public-health budgets are being transferred to local authorities, and GP practices will commission healthcare services. GP consortia will manage themselves, employing managers from the abolished primary care trusts and strategic health authorities, or buying in management from private healthcare companies. Overseeing the consortia, and allocating and accounting for funding, is a National Commissioning Board.

The rationale for commissioning by GP consortia is to ensure that design of patient pathways and local services is always clinically led and based on (more) effective dialogue and partnership with hospital specialists, reinforcing the crucial role that GPs have always played in committing NHS resources through their daily clinical decisions.

The development of truly integrated care pathways will be essential to improve the quality of care, particularly for long-term conditions. GP commissioning provides a unique opportunity for GPs to work in partnership with local authorities, physicians, nurses and other clinical professionals to improve patient care and support the integration of healthcare. However, making this vision a reality is a major challenge, and the relationship between primary- and secondary-care health professionals, and an agreed consensus of roles, will be critical to the success or failure of these proposals.

We need to focus on keeping diabetes high on the national health agenda and a priority within the newly emerging GP consortia.

Novo Nordisk has gathered a range of perspectives on how diabetes care can be strengthened in the context of the changing NHS. The stakeholders’ views have been developed using information from combination of questionnaires, advisory boards, conferences and surveys involving people with a shared concern for preventing, diagnosing and treating diabetes in England, and limiting its impact.

Our research focused in particular on:

What are the main challenges we need to address?

What are the key ingredients to improve diabetes care?

How do we reduce diabetes complications?

The attitude of the medical community is that when you are diagnosed you should slow down your lifestyle. I don’t want to do this. Life is for living.

Professor Sir George Alberti

Practice nurse

‘Better outcomes’ can mean something different for the patient and the clinician – convenience or comfort for the patient or clinical indicators? We need better understanding of what is being improved, and why.

GPwSI

Secondary care is already overburdened, so full management of diabetes care and treatment needs to take place at primary level.

Patient

36% of diabetes consultants believe that the new NHS structure will make diabetes treatment worse.

Diabetologists’ survey
What are the main challenges we need to address?

Employers need to take steps to provide workplaces that encourage healthy living.

**Politicians**

The government, GPs, the media and the general population must spread understanding of nutrition, obesity, treatment to prevent obesity and prevent diabetes.

Funding is limiting for access to never products. We believe patients would have better outcomes if consultants saw them in the early stages of diabetes, when new drugs can be used to best effect.

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**GPwSIs**

In secondary care, there is often insufficient time that consultants can dedicate to diabetes services due to the pressure of general medical inpatients and general hospital management.

**Specialist registrars**

Senior doctors, who are based on the hospital wards, are usually unable to attend clinics and therefore get very little experience in general diabetes management.

**Physicians**

There is still a marked lack of understanding as to the importance of diabetes and the best means of self-management.

Focus on weight loss, target high-risk patients, diagnose early and use effective treatment.

**DSNs**

We are increasing our training, but are concerned that we have a greatly increased role in commissioning and do not have the skills or resources.

**GPs**

We are concerned about fragmentation in the NHS.

**Pharmacists**

We need to identify people at risk of diabetes and target high-risk populations early, especially those who are overweight / have a family history / have had gestational diabetes (diabetes that develops during pregnancy).

**Practice nurses**

Government needs to support communities to get better exercise and health advice.

**Patients**

My annual review needs to be handled differently. The doctor used to take an active interest in me and my feet, and this not done any more. I feel that my care has been downgraded.

People should take more responsibility for their own lifestyle to prevent diseases such as diabetes [the view of 85% of patients asked].

The three-month check-ups need to provide more information and should take feedback from patients more seriously.

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What are the key ingredients to improve diabetes care?

We need a national call to action and a national approach to diabetes, especially for type 1 diabetes, children and foot care, and a diabetes framework for young people that particularly supporting education. It is essential to avoid fragmentation of the service.

Politicians

Nurses are key to providing high-quality patient care.

GPs

Increase working within a multidisciplinary team environment, with particular responsibilities for foot clinics, inpatient diabetes reviews with specialist nurses, and continuity.

Closer work with primary care to improve distribution of knowledge and enthusiasm to primary-care physicians on current approaches to diabetes care – and also improve communication at the primary/secondary care interface.

Specialist registrars

Moving diabetes into primary care is a great opportunity for GPs to initiate insulin therapy.

Regular review, monitoring and treatment adjustment if needed.

Key factors in improving care for the patient are education and building confidence to self-manage – without these, diabetes would be poorly controlled, however big the drugs budget.

Patient education is of key importance, as is building confidence to self-manage.

GPs will need education and support from diabetologists.

More advertising on the dangers of diabetes in the press and on TV.

More information and guidance on medication and combinations.

Dietician support for patients, particularly for those who have manual jobs as they need energy to function and diabetologists do not seem to understand the needs.

Regular monitoring is the most important thing.

Informing people of side-effects and informing the public of how to treat people with diabetes in an emergency.

Better communication with the healthcare professionals and better information.

Late clinics are needed for people who have normal working hours.

A patient-centred approach to address issues of most concern to the patient, rather than focusing exclusively on the technical aspects of treatment and management.

Lifestyle advice related to diet and physical activity, and prescribing exercise.

More diabetes education for primary care is vital so we can initiate more care in the primary setting.

Developing local expertise and increasing the initiation of diabetes drugs in primary care.

Improved data collection and care audits would help patients make more informed choices.

We can advise people with diabetes on practical monitoring and self-care, especially the newly diagnosed.

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What are the key ingredients to improve diabetes care?
How do we reduce diabetes complications?

Payers understand the need to invest now to prevent future costs, but not many base decisions on that.

If we had a time machine, we could take the payers 20 years forwards to see the complications and then bring them to the present.

We need to acknowledge that diabetes causes a long-term burden. Current targets are always short-term. Patients live through 5–6 parliamentary sessions.

Use of screening for early identification of diabetes.

Diabetologists

Changing NHS priorities should not allow any public health cuts to reduce programmes to address type 2 diabetes.

Ensure that patients understand fully their condition and treatment options, processes, effects and side-effects.

Politicians

Early diagnosis and cutting the length of time spent on relatively ineffective treatment.

Adequate spending by care commissioners on effective treatment is necessary – we are concerned that it will not happen. We need robust evidence of the improved control offered by new drugs.

DSNs

People need earlier use of treatments to prevent diabetes, more education on the risks of obesity and nutritional advice.

GPwSIs

Diet and regular exercise is vital.

Being told when first diagnosed what the implications are for the long term, so people get a serious understanding so they can control the condition better. This is important for the young, in particular.

Control of sugar levels by regular checks is the most important aspect. Ignoring this is dangerous.

Informing people of side-effects and informing public of how to treat people with diabetes in an emergency.

Specialist registrars

Patients

How do we reduce diabetes complications?
02 Diabetes: a challenge for the NHS

Diabetes care in England is good but not good enough; many people with diabetes are not in optimal control and risk future complications through relatively ineffective treatment.

More prevention initiatives are needed, better access to modern therapies, and more education for both doctors and patients.

Needs: Prevent, treat, educate.
03 Diabetes care in the future

Ideally, good diabetes care in the future should:

• expand initiatives on prevention by encouraging all diabetes-related organisations to educate and motivate the general public in addressing the risks of a sedentary lifestyle and poor diet

• diagnose diabetes earlier, by providing extra education in diagnosis for doctors and nurses in primary care; and incorporating diabetes screening into general check-ups

• improve control of diabetes by early access to the most effective therapies, to maximise the time before complications develop. Poor glycaemic control leads to complications and contributes directly to 90% of diabetes cost

• regularly monitor the nine key health indicators and adjust treatment as appropriate. A personalised, flexible care plan for each patient is needed, with the healthcare team responding to changing circumstances, and access to the full range of healthcare professionals as required

• ensure structured education is available to everyone with diabetes. All members of the diabetes healthcare team should be familiar with local programmes, which should be an integral part of patient care. Information and education of people with diabetes is vital for the best possible interaction with healthcare professionals, and to ensure that people are engaged and motivated to self-manage effectively. Healthcare professionals involved in care-planning decisions may also benefit from training in motivational techniques and communication skills

• recognise that emotional and psychological support for patients is essential to maintain their commitment to effective self-care (as shown by the Diabetes Attitudes Wishes and Needs (DAWN) study). People with diabetes are two to three times more likely than the rest of the population to need emotional support from healthcare professionals, family and friends, both at the time of diagnosis and at later stages

• acknowledge that children and young people with diabetes have similar clinical needs, but have particular difficulties in relation to self-management in schools, and in their access to specialist healthcare teams who are skilled in paediatric care. Transition from paediatric to adult diabetes services is a critical time of adjustment, when many young people with diabetes allow their care to lapse, with potentially disastrous results. It is vital for young people with diabetes to keep good control, as they have the greatest number of years ahead of them.

'it becomes increasingly important in the changing health landscape to work collaboratively across traditional organisational and professional boundaries. To achieve a Diabetes service that provides a truly seamless and integrated patient experience requires active engagement in designing services by those delivering and receiving them.'

Anna Morton NHS Diabetes

The ideal is an efficient, supportive service, working closely with an engaged, informed patient. This offers medical and emotional wellbeing support to the patient, and is also an effective and prudent use of healthcare resources. This partnership should be complemented by a network of preventive initiatives to reduce the number of people who develop diabetes in the future.
Finding the balance – spend and save

Achieving this level of care will require courageous decisions to be taken for the long-term benefit of people with diabetes.

A health economics model developed for this book, using data for England, shows the impact of effective care on the incidence, outcomes and costs of diabetes. It estimates the prevalence and cost of diabetes at yearly intervals from 2010 to 2025 and beyond, when the average levels of key diabetes indicators are compared with what would be found if just 30% of the population with diabetes are treated to the recommended target levels.

The indicators used give an accurate picture of diabetes control. They are:

- HbA1c
- Blood glucose levels before and after meals
- Average blood pressure
- Blood fats: HDL (‘good’) and LDL (‘bad’) cholesterol, and triglycerides.

The model also shows the effect that treating to target would have on a range of the common complications.

Starting from 2.26 million people with diagnosed diabetes in England in 2010, if 30% are treated to the recommended target levels, then by 2025:

13,223 more people will still be alive

Controlling the key indicators has a very dramatic and obvious effect on the costs of diabetes care, by preventing or delaying complications...
Direct costs £ millions

£263 million – this is the amount of money the NHS could save by 2030. This is equivalent to the annual salaries of 12,400 nurses.

Myocardial infarction (heart attack)

BY 2030, over 17,000 people could have avoided a heart attack.
By 2030, **2,246 fewer people** would have suffered severe vision loss...

...and kidney failure in people with diabetes could be reduced by **over 40%**
This analysis shows very clearly that effective prevention and care could slow the growth of diabetes, its costs and complications.
03 Diabetes care in the future

Good control makes a very significant difference to the human and economic impact of diabetes.

We should prioritise prevention, early diagnosis and effective treatment, which prevents or delays the complications that cause so much human suffering and threaten the National Health Service.

Objective: Cut the human and economic cost.
04 Invest now, to save now

If the standard of diabetes care in England is to be improved, inequalities removed, people with diabetes given all the required checks, and if we are to ensure that fewer people develop diabetes in future, then concerted action is needed from all the different interest groups. These are the key challenges facing us today...

If action is not taken, inequalities are likely to grow as GP consortia make their independent (and potentially inconsistent) decisions on diabetes care. Doing nothing is not an option at a time when the NHS and taxpayers need to obtain more value from the budget allocated to healthcare. The NHS, like many other healthcare systems around the world, is facing a demand from diabetes that it may be unable to meet.

What is needed is not just more of the same sort of services, but a more considered strategy.

More and more people with diabetes*

*More prevention initiatives, especially for deprived communities

*Raise awareness of general public of the vital importance of a healthy lifestyle

*More health promotion, physical education

*Ensure diabetes care services have capacity to meet the increasing need

Regional inequality of diabetes care

*Analyze the factors contributing to inequality and the resulting continued increasing costs of diabetic complications

Complications

*Analyze key factors leading to diabetic complications

*Ensure comprehensive monitoring of key indicators

*Ensure diabetes is recorded on death certificates as underlying cause of death, where people have died from diabetic complications

Children and young people

*Maintain effective self-management through the changing needs of adolescence

*Ensure effective transition from pediatric to adult care systems

*Ensure diabetes care services for children and young people have enough capacity for improvement

Failure to diagnose diabetes

*Raise healthcare professionals’ awareness of risk factors and early symptoms

*Make NHS Health Check available to people at risk of diabetes

Self-management not effective enough

*Make structured diabetes education for patients more available

*Make psychosocial support more available

*Stimulate better patient–HCP communication and negotiation of targets, to generate motivation and commitment

*Investigate training for primary care HCPs in motivation and effective communication
The challenge: What should YOU be doing NOW?

As a person with a professional or personal interest in diabetes, are you prepared to accept that 10% or more of the NHS budget is spent on diabetes alone? Can we afford to let type 2 diabetes continue to affect more and more people, depleting our healthcare resources?

Take a look at the aspects of diabetes care closest to YOU. What could you be doing NOW to ensure that diabetes care improves in the new NHS environment?

Ensuring that the UK’s changing health systems offer the best possible care for diabetes will be repaid, in human, social and economic terms – but to achieve this requires the involvement and commitment of all participating groups.

People with diabetes, and people at risk:
- If you do not have diabetes, are you taking enough care of your own health, through diet and physical activity, to reduce your chance of developing it?
- If you have diabetes, do you have all the information you need to understand and manage your diabetes?
- Are you in close contact with the various members of your healthcare team and can you ask for support when you need it?
- Do you feel that you are in control of your condition?
- Have you been made aware of all your options in your diabetes care?
- Do you attend all your clinic appointments?
- Are you eating a healthy diet and regularly being physically active?
- Are you achieving adequate blood glucose control?
- Young people with diabetes: are you thinking seriously about diabetes control?

GPs:
- In what ways could you improve the care you can offer to your own diabetes patients?
- What are other GP practices in your area providing for diabetes patients – and is there something you could learn from them (or share with them)? How do your outcomes compare with theirs?
- Do you know your patients’ views on the diabetes care you offer them? Or if they would value other services not currently offered?
- What steps does your practice take towards diabetes prevention (e.g. information and guidance on weight management, diet and physical activity)?
- Do you have access to all the support you would like for diabetes patients from other NHS services (e.g. dieticians, ophthalmologists, psychologists)?
- Do you have a satisfactory flow of information and support with diabetologists in secondary care?
- Do you assess your spending on diabetes care – routine, for emergency hospital admissions and for complications?
- Do you assess how many of your patients develop diabetes complications that could have been delayed or avoided with earlier or more intensive treatment?
Diabetes specialist nurses and practice nurses:
• Do you have sufficient responsibility and authority within your diabetes care team?
• What is the critical role you can play in ensuring secondary-care expertise is retained and shared, as responsibility for diabetes care shifts to GP consortia?
• What proportion of your services need to be delivered in a hospital setting?
• What could be moved out of hospital, and where would you deliver them instead?
• Can you see opportunities for developing your role that would contribute to more effective care for the patient, or more effective use of time for other team members?

Diabetes educators, dieticians and psychologists:
• Are you routinely invited to provide education and information / nutritional advice / psychological support for diabetes patients within your own area?
• Can you suggest how your skills could be made more widely available?

Pharmacists:
• Are you visible as members of the care team for people with diabetes?
• Are members of the general public aware of the resources you offer to help them maintain good health?
• Can you see further opportunities for contributing to primary and secondary prevention in diabetes?

Diabetes commissioners:
• Within the constraints of the NHS today, what opportunities can you see for improving diabetes care?
• What are the criteria for balancing investment in improved prevention / care services against long-term reduction in diabetes complications?
• What is the potential for strengthening diabetes care for children and young people to prevent a greater burden of complications in the future?
• How well do your services meet the needs of your population?

Diabetology consultants:
• How could the balance of patient care be more effectively shared with GPs?
• Could your input be used more effectively than it is at present? In what way?
• Do you assess your spending on diabetes care – both routine outpatient care and inpatient treatment for complications and emergencies?
• What services need to be delivered in a hospital setting, and which treatments can move closer to patients?
• How do you share your expertise with local commissioners of diabetes services?
• What new relationships need to be developed with your primary-care colleagues to ensure that high-quality diabetes care is maintained in the evolving NHS landscape?

Politicians:
• Are you fully informed on the implications of the NHS changes for the care of long-term conditions such as diabetes?
• Will you urge the Health Select Committee to hold an enquiry into the prevention and treatment of type 2 diabetes?
• Are you aware of the threat presented by the growth of diabetes to the economic resources of the NHS, nationally and in your constituency?
• Do you know how well diabetes care is delivered in your constituency?
• In what ways can you support the best use of the knowledge and skills of healthcare professionals, and the most effective use of today’s available medications and technologies, to stem the growth of diabetes?
04
Invest now, to save now

Giving people with diabetes a better quality of life – both now and for as long as possible – means:

• diagnosing early

• treating effectively

• providing education, information and support to help their self-management.

And, of course, avoiding diabetes through a healthy lifestyle is even better.

‘Only if we had a time machine, we could have taken them 20 years forward to see the complications, and then bring them back to the present.’

Dr Reggie John
Heart of England NHS Foundation Trust

Result:
Better care now means a better future.
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www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/diabetes

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