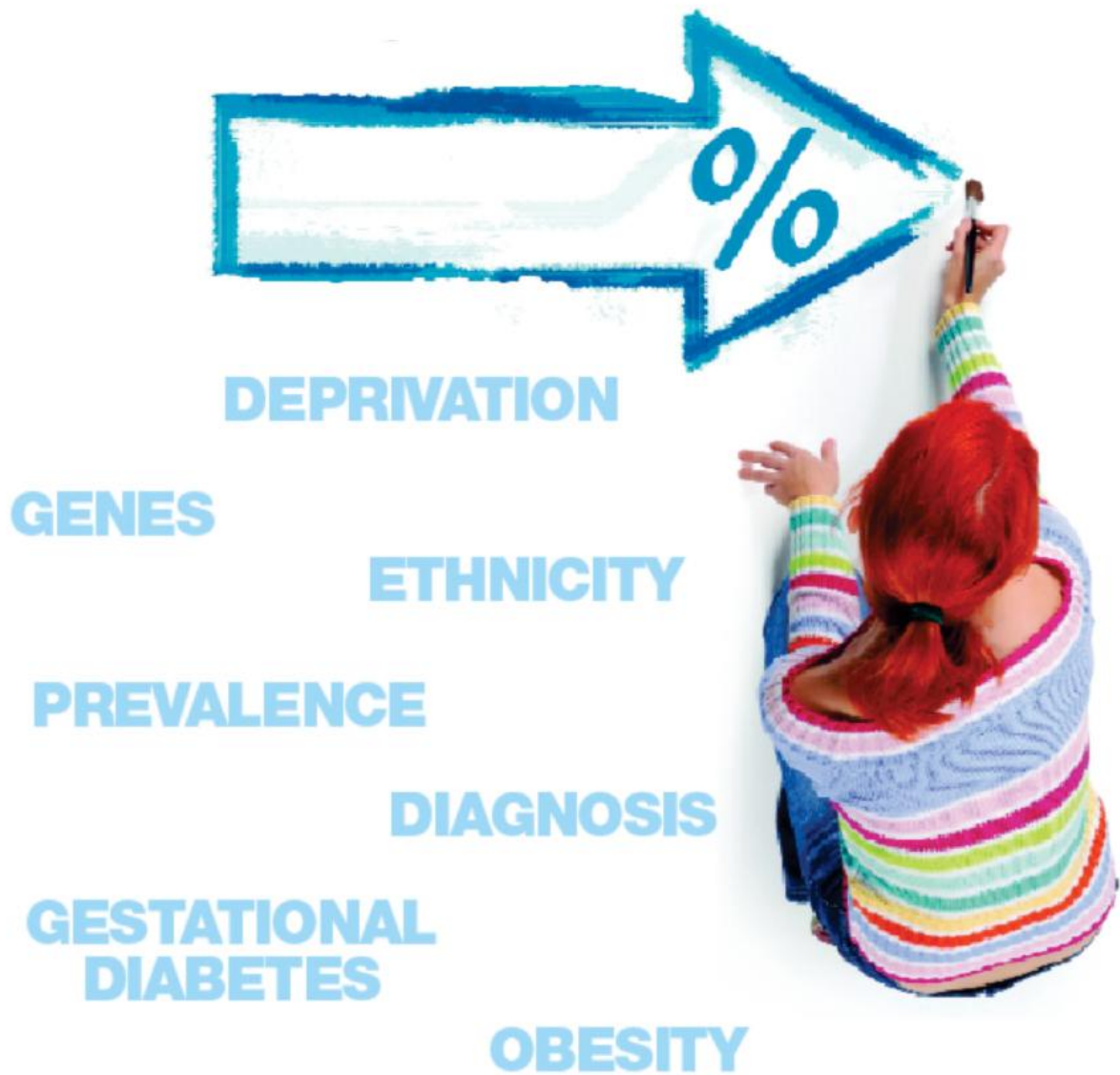


# DIABETES IN THE UK 2012

Key statistics on diabetes



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## Introduction

This report looks at diabetes in the UK today. It contains statistics about who is affected and how. Diabetes is serious. If left untreated, it can lead to heart disease, stroke, blindness, and kidney failure.

Diabetes mellitus is a condition in which the amount of glucose (sugar) in the blood is too high because the body cannot use it properly. There are two main types of diabetes.

Type 1 diabetes develops if the body cannot produce any insulin. Insulin is a hormone which helps the glucose to enter the cells where it is used as fuel by the body. Type 1 diabetes usually appears before the age of 40. It is the least common of the two main types and accounts for around 10 per cent of all people with diabetes.

Type 2 diabetes develops when the body can still make some insulin, but not enough, or when the insulin that is produced does not work properly (known as insulin resistance). In most cases this is linked with being overweight. This type of diabetes usually appears in people over the age of 40, though in South Asian people, it often appears after the age of 25. However, recently, more children are being diagnosed with the condition, some as young as seven. Type 2 diabetes is the more common of the two main types and accounts for around 90 per cent of people with diabetes.

Most health experts agree that the UK is facing a huge increase in the number of people with diabetes. Since 1996 the number of people diagnosed with diabetes has increased from 1.4 million to 2.9 million. By 2025 it is estimated that five million people will have diabetes. Most of these cases will be Type 2 diabetes, because of our ageing population and rapidly rising numbers of overweight and obese people.

The figures are alarming and confirm that diabetes is one of the biggest health challenges facing the UK today. If we are to curb this growing health crisis and see a reduction in the number of people dying from diabetes and its complications, we need to increase awareness of the risks, bring about wholesale changes in lifestyle, improve self-management among people with diabetes and improve access to integrated diabetes care services.

# How common is diabetes?

## Globally

- The estimated diabetes prevalence worldwide for 2011 was 366 million and it is expected to affect 552 million people by 2030.
- The International Diabetes Federation (IDF) estimated that in 2011 the five countries with the largest numbers of people with diabetes were China, India, the United States of America, Russia and Brazil.
- The IDF also reported that in 2011 the five countries with the highest diabetes prevalence in the adult population were Kiribati, Marshall Islands, Kuwait, Nauru and Lebanon.
- Low and middle income countries face the greatest burden of diabetes.<sup>1</sup>

## UK

It is estimated that more than one in 20 people in the UK has diabetes (diagnosed or undiagnosed).

### Diagnosed

- There are 2.9 million people who have been diagnosed with diabetes in the UK (2011).<sup>2</sup>
- By 2025, it is estimated that five million people will have diabetes in the UK.<sup>3</sup>
- It is equivalent to:
  - more than 400 people every day
  - over 17 people every hour
  - around three people every ten minutes.<sup>4</sup>

### Undiagnosed

- It is estimated that there are around 850,000 people in the UK who have diabetes but have not been diagnosed.<sup>5</sup>

### Prevalence

- In 2011, the prevalence of diabetes in the adult population across the UK was as follows:

Country	Prevalence	Number of people
England	5.5%	2,455,937
Northern Ireland	3.8%	72,693
Scotland	4.3%	223,494
Wales	5.0%	160,533

This gives a UK average prevalence of 4.45 per cent in adults.<sup>6</sup>

- To find the prevalence for your primary care trust (PCT), please use the following website: <http://www.gpcontract.co.uk/browse/UK/11>

## Type 1 and Type 2

For adults, we estimate that:

- 10 per cent of people with diabetes have Type 1 diabetes.
- 90 per cent of people with diabetes have Type 2.<sup>7</sup>

If we include children, we estimate that:

- 15 per cent of people with diabetes have Type 1.
- 85 per cent of people with diabetes have Type 2.<sup>8</sup>

## Adults: England

- Slightly more men than women have been diagnosed with diabetes. 6.3 per cent of men reported that they had diabetes and 5.3 per cent of women.<sup>11</sup>
- Prevalence of diabetes by age group in England (2010):<sup>9</sup>

Age	Men	Women
16–34	1.8%	2.1%
35–54	9.4%	6.6%
55–64	11.1%	8.0%
65–74	15.2%	12.2%
75+	15.9%	13.2%

## Adults: Scotland

- More men than women have diagnosed diabetes; 56 per cent compared with 44 per cent in those with Type 1 diabetes and 55 per cent compared with 45 per cent in those with Type 2 diabetes. This ratio is relatively unchanged from 2001.<sup>10</sup>

- Distribution of diabetes by age group in Scotland (2010)\*:

Age	Percentage
15–44	10.6%
45–64	38.2%
65–84	45.5%
85+	4.9%

### Adults: Wales

- In a self-completed questionnaire, 6 per cent of adults surveyed for the Welsh Health Survey reported having diabetes.<sup>11</sup>
- Distribution of diabetes by age group in Wales (2010):

Age	Percentage
16–24	0%
25–34	1%
35–44	3%
45–54	6%
55–64	9%
65–74	13%
75+	15%

### Adults: Northern Ireland

- In a survey in Northern Ireland (2005/2006), 46 per cent of people who had diabetes were men and 54 per cent were women.<sup>12</sup>
- Distribution of diabetes by age group in Northern Ireland:

Age	Percentage
16–24	0.5%
25–34	2.8%
35–44	5.6%
45–54	12.4%
55–64	22.6%
65–74	30%
75+	26%

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\* This is not prevalence, but distribution across the age groups.

## Children

- There are about 29,000 children and young people with diabetes in the UK. About 26,500 of them have Type 1 diabetes and about 500 have Type 2 diabetes. There are a further 2,000 children and young people in the UK with diabetes whose diagnosis is not known.<sup>13</sup>

### Type 1

- The current estimate of prevalence of Type 1 diabetes in children in the UK is one per 700–1,000.
- Local authorities and primary care trusts (PCTs) can expect between 100 and 150 children with diabetes to live in their area.
- The peak age for diagnosis is between 10 and 14 years of age.<sup>14</sup>

### Type 2

- In 2000, the first cases of Type 2 diabetes in children were diagnosed in overweight girls aged nine to 16 of Pakistani, Indian or Arabic origin. It was first reported in white adolescents in 2002.<sup>15</sup>
- In 2004, children of South Asian origin were more than 13 times more likely to have Type 2 diabetes than white children.<sup>16</sup>

## Total children with diabetes in England

- There are almost 23,000 people under the age of 17 with diabetes in England. 97 per cent have Type 1 diabetes, 1.5 per cent have Type 2 and 1.5 per cent are recorded as 'other'.

Please see the table below for an age breakdown:<sup>17</sup>

Age	Percentage of Type 1	Percentage of Type 2	Percentage of other
0–4	4%	0%	9.7%
5–9	19.1%	1.8%	10.6%
10–14	42.5%	39.1%	35.6%
15	11.4%	22.0%	14.1%
16	12.2%	21.7%	15.9%
17	10.7%	15.6%	14.1%

## Who is at risk of diabetes?

Diabetes is a common health condition. The chances of developing it may depend on a mix of genes, lifestyle and environmental factors.

The risk factors are different for Type 1 and Type 2 diabetes. Type 1 diabetes develops when the insulin-producing cells in the pancreas have been destroyed. No one knows for certain why these cells have been damaged, but the most likely cause is the body having an abnormal reaction to the cells. This may be triggered by a viral or other infection.

Type 2 diabetes usually appears in middle-aged or older people, although more frequently it is being diagnosed in younger overweight people, and it is known to affect South Asian people at a younger age. Type 2 diabetes occurs when the body is not making enough insulin, or the insulin it is making is not being used properly. The risk of developing Type 2 diabetes can be reduced by changes in lifestyle.<sup>18</sup>

Some of the risk factors are provided in more detail below.

### Genes

#### Type 1 diabetes

Although more than 85% of Type 1 diabetes occurs in individuals with no previous first degree family history, the risk among first degree relatives is about 15 times higher than in the general population.<sup>19</sup>

On average:

- if a mother has the condition, the risk of developing it is about 2–4 per cent
- if a father has the condition, the risk of developing it is about 6–9 per cent
- if both parents have the condition, the risk of developing it is up to 30 per cent
- if a brother or sister develops the condition, the risk of developing it is 10 per cent (rising to 10–19 per cent for a non-identical twin and 30–70 per cent for an identical twin).<sup>20</sup>

#### Type 2 diabetes

- There is a complex interplay of genetic and environmental factors in Type 2 diabetes. It tends to cluster in families. People with diabetes in the family are two to six times more likely to have diabetes than people without diabetes in the family.<sup>21</sup>

### Ethnicity

- Type 2 diabetes is up to six times more common in people of South Asian descent and up to three times more common among people of African and African-Caribbean origin.<sup>22</sup>
- According to the *Health Survey for England 2004*, doctor diagnosed diabetes is almost four times as prevalent in Bangladeshi men, and almost three times as prevalent in Pakistani and Indian men compared with men in the general population.



- Among women, diabetes is more than five times as likely among Pakistani women, at least three times as likely in Bangladeshi and Black Caribbean women, and two-and-a-half times as likely in Indian women, compared with women in the general population.
- In the same survey, diabetes was generally rare among those aged 16–34, but was highest among Indian men (2 per cent), Black African men (1.7 per cent) and Irish women (1.7 per cent).<sup>23</sup>
- Prevalence of self-reported doctor diagnosed diabetes in England by minority ethnic group and sex:<sup>24</sup>

Minority ethnic group	Men	Women
Bangladeshi	8.2%	5.2%
Black African	5%	2.1%
Black Caribbean	10%	8.4%
Chinese	3.8%	3.3%
Indian	10.1%	5.9%
Irish	3.6%	2.3%
Pakistani	7.3%	8.6%
General population	4.3%	3.4%

## Obesity

Obesity is the most potent risk factor for Type 2 diabetes. It accounts for 80–85 per cent of the overall risk of developing Type 2 diabetes and underlies the current global spread of the condition.<sup>25</sup>

- Almost two in every three people in the UK are overweight or obese (62 per cent of women and 66 per cent of men).<sup>26</sup>
- In 2009/10, almost one in four children in England measured in reception year was overweight or obese. In Year 6 in England, the rate was one in three.<sup>27</sup>
- The Department of Health recommends that everyone has at least 30 minutes moderate intensity physical activity a day on five or more days a week.<sup>28</sup>
- Across Great Britain, only 39 per cent of men and 29 per cent of women are meeting recommended physical activity levels.<sup>29</sup>

## Deprivation

Deprivation is strongly associated with higher levels of obesity, physical inactivity, unhealthy diet, smoking and poor blood pressure control. All these factors are inextricably linked to the risk of diabetes or the risk of serious complications for those already diagnosed.<sup>30</sup>

The statistics on deprivation shown on the next page are taken from three different health surveys.<sup>31 32 33</sup> Statistics for England and Scotland are broken down into five household income groups. Statistics for Wales are broken down into eight socio-economic groups so it is not always possible to make direct comparisons.

- The most deprived people in the UK are two-and-a-half times more likely than average to have diabetes at any given age.<sup>34</sup>
- Women in England who live in homes with the lowest income are more than four times as likely to get diabetes as those who live in homes with the highest income.
- The prevalence of diabetes among men in England is highest in those who live in homes with the lowest income (7 per cent) and the highest income (6.8 per cent).
- Diabetes in Wales is almost twice as high in the most deprived areas compared to the least deprived.
- In Scotland, the odds of developing Type 2 diabetes are 77 per cent higher for people from the most deprived areas compared to those in the most affluent areas.

## **Gestational diabetes**

Gestational diabetes is a type of diabetes that arises during pregnancy (usually during the second or third trimester). In some women, it occurs because the body cannot produce enough insulin to meet the extra needs of pregnancy. In other women, it may be found during the first trimester of pregnancy, and in these women, the condition most likely existed before the pregnancy.

- Gestational diabetes affects up to 5 per cent of all pregnancies.<sup>35</sup>
- Women who are overweight or obese are at a higher risk of gestational diabetes.
- The lifetime risk of developing Type 2 diabetes after gestational diabetes is at least 7 per cent.<sup>36</sup>

## The impact

Good diabetes management has been shown to reduce the risk of complications.<sup>37</sup> But when diabetes is not well managed, it is associated with serious complications including heart disease, stroke, blindness, kidney disease and amputations leading to disability and premature mortality. There is also a substantial financial cost to diabetes care as well as costs to the lives of people with diabetes.

- By the time they are diagnosed, half of the people with Type 2 diabetes show signs of complications.<sup>38</sup>
- Complications may begin five to six years before diagnosis and the actual onset of diabetes may be ten years or more before clinical diagnosis.<sup>39</sup>

## Cardiovascular disease

The term cardiovascular disease (CVD) includes heart disease, stroke and all other diseases of the heart and circulation, such as hardening and narrowing of the arteries supplying blood to the legs, which is known as peripheral vascular disease (PVD). People with diabetes have about twice the risk of developing a range of CVD, compared with those without diabetes.<sup>40</sup> Research shows that improving dietary habits, managing weight, keeping active and using medication where required to help control risk factors like diabetes, high cholesterol, triglyceride levels and high blood pressure reduces the overall chance of developing CVD.<sup>41 42 43 44</sup>

- Cardiovascular disease is a major cause of death and disability in people with diabetes, accounting for 44 per cent of fatalities in people with Type 1 diabetes and 52 per cent in people with Type 2.<sup>45</sup>
- People with Type 2 diabetes have a two-fold increased risk of stroke within the first five years of diagnosis compared with the general population.<sup>46 47</sup>

## Kidney disease

Kidney disease can happen to anyone but it is much more common in people with diabetes and people with high blood pressure. The kidneys are the organs that filter and clean the blood and get rid of any waste products by making urine. They regulate the amount of fluid and various salts in the body, helping to control blood pressure. They also release several hormones. Kidney disease (or nephropathy) is caused by damage to small blood vessels making the kidneys work less efficiently and this can cause the kidneys to start to fail. Keeping blood glucose levels as near normal as possible and blood pressure well controlled can greatly reduce the risk of kidney disease developing as well as other diabetes complications.<sup>48</sup>

- Almost one in three people with Type 2 diabetes develops overt kidney disease.<sup>49</sup>
- Diabetes is the single most common cause of end stage renal disease.<sup>50</sup>
- Kidney disease accounts for 21 per cent of deaths in Type 1 diabetes and 11 per cent of deaths in Type 2.<sup>51</sup>

## Eye disease

People with diabetes are at risk of developing a complication called retinopathy. Retinopathy affects the blood vessels supplying the retina – the seeing part of the eye. Blood vessels in the retina of the eye can become blocked, leaky or grow haphazardly. This damage gets in the way of the light passing through to the retina and if left untreated can damage vision. Keeping blood glucose, blood pressure and blood fat levels under control will help to reduce the risk of developing retinopathy.<sup>52</sup> For protection against retinopathy, it is best to have eyes screened with a digital camera when first diagnosed and then every year, to identify and then treat eye problems early.

- People with diabetes are 10 to 20 times more likely to go blind than people without diabetes.<sup>53</sup>
- Diabetes is the leading cause of blindness in people of working age in the UK.<sup>54 55</sup> It is estimated that there are 4,200 people in England who are blind due to diabetic retinopathy. This increases by 1,280 each year.<sup>56</sup>
- Within 20 years of diagnosis nearly all people with Type 1 and almost two thirds of people with Type 2 diabetes (60 per cent) have some degree of retinopathy.<sup>57</sup>
- People with diabetes are twice as likely to suffer from cataracts or glaucoma as the general population.<sup>58</sup>

## Amputation

Foot problems can affect anyone who has diabetes. Diabetes, particularly if it is poorly controlled, can damage your nerves, muscles, sweat glands and circulation in the feet and legs leading to amputations. Reviewing the feet of people with diabetes regularly and keeping blood glucose, blood fats and blood pressure under control can prevent some of the complications associated with the feet.<sup>59</sup>

- Diabetes is the most common cause of lower limb amputations.<sup>60</sup>
- People with diabetes account for just under half of lower limb amputations in adults.<sup>63</sup>
- 100 amputations are carried out each week because of diabetes.<sup>61</sup>
- Around one in twenty people with diabetes will develop a foot ulcer in one year.<sup>62</sup> More than one in ten foot ulcers result in the amputation of a foot or a leg.<sup>63</sup>
- Worldwide, the rate of leg amputations in people with diabetes is over 15 times higher than in people without diabetes.<sup>64</sup>
- Up to 70 per cent of people die within five years of having an amputation as a result of diabetes.<sup>65</sup>

## Depression

The emotional well being of people with diabetes is important and is integral to the overall health of an individual, particularly for people with long term conditions such as diabetes. People with diabetes may have emotional or psychological support needs resulting from living with diabetes or due to causes external to the condition.

Coming to terms with diagnosis, the development of a complication, the side effects of medication, or dealing with the daily responsibility of self-managing diabetes can take their toll on emotional well being. In some cases this can lead to depression, anxiety, eating disorders, or phobias.

- The prevalence of depression is approximately twice as high in people with diabetes as it is in the general population.<sup>66</sup>

## Neuropathy

Neuropathy causes damage to the nerves that transmit impulses to and from the brain and spinal cord, to the muscles, skin, blood vessels and other organs. This can cause erectile dysfunction. The best way to reduce the risk of developing neuropathy, or prevent it becoming worse, is to control blood glucose levels.<sup>67</sup> Following a healthy, balanced diet, making sure that prescribed medication is taken properly, and having some form of regular exercise are all important factors that help keep good control of blood glucose levels.<sup>68 69</sup>

- Neuropathies (or nerve damage) may affect up to 50 per cent of patients with diabetes.<sup>70</sup>
- Chronic painful neuropathy is estimated to affect about one in six (16.2 per cent of) people with diabetes, compared with one in 20 (4.9 per cent) in the age and sex matched control group.<sup>71</sup>

## Sexual dysfunction

Erectile dysfunction (ED) or impotence, the inability to achieve or maintain an erection for sexual intercourse, is one of the most common sexual problems experienced by men.

- In 2009, a world literature review found that the reported prevalence of erectile dysfunction was between 35 per cent and 90 per cent among men with diabetes.<sup>72</sup>
- One study found that 27 per cent of women with Type 1 diabetes reported sexual dysfunction. However, this is an under-researched area.<sup>73</sup>

## Complications in pregnancy

Pregnancy poses additional risks for women with diabetes. The chances of having difficulties are greatly reduced through tight blood glucose control before and during pregnancy.<sup>74</sup>

- Babies of women with diabetes are:
  - five times as likely to be stillborn
  - three times as likely to die in their first months of life
  - twice as likely to have a major congenital anomaly. This number could be higher as this figure is not adjusted for the higher rate of abortions in women where congenital abnormalities are found.
- Two in three mothers with pre-existing diabetes have Type 1 diabetes.
- The proportion of births to women with diabetes is rising due to an increased prevalence of Type 2 diabetes in younger people.<sup>75 76 77</sup>

## Life expectancy and mortality

- Diabetes is the fifth most common cause of death in the world.<sup>78</sup>
- People with diabetes account for an estimated 15 to 16 per cent of deaths occurring in England.<sup>79</sup>
- Life expectancy is reduced, on average, by:
  - more than 20 years in people with Type 1 diabetes
  - up to 10 years in people with Type 2 diabetes.<sup>80</sup>

## Financial costs

- It is currently estimated that about £10 billion is spent by the NHS on diabetes. 10 per cent of the NHS budget is spent on diabetes.<sup>81</sup> This works out at around 10 per cent of the NHS budget (with a 2010/2011 budget for the NHS of approximately £103 billion).<sup>82</sup> Or:
  - £192 million a week
  - £27 million a day
  - £1 million an hour
  - £17,000 a minute
  - £286 a second.
- The total cost (direct care and indirect costs) associated with diabetes in the UK currently stands at £23.7 billion and is predicted to rise to £39.8 billion by 2035/6.<sup>81</sup>
- One in ten people admitted to hospital has diabetes. In some age groups, it is as many as one in five. This could be one in three coronary care admissions.
- Complications of diabetes make up around one in five of all coronary heart disease, foot and renal admissions.<sup>83</sup>
- 37.7 million prescription items were dispensed in primary care units across England in 2010 at a net ingredient cost of nearly £713 million. This is an increase in cost of 27 per cent over 2006.<sup>84</sup>

Diabetes also has a significant impact on health and social services.

- People with diabetes are twice as likely to be admitted to hospital. At least one in ten people in hospital has diabetes at any moment in time.<sup>85</sup>
- People with diabetes experience prolonged stays in hospital. This results in about 80,000 bed days per year.<sup>86</sup>
- The presence of diabetic complications increases NHS costs more than five-fold, and increases by five the chance of a person needing hospital admission.
- One in 20 people with diabetes incurs social services costs. More than three-quarters of these costs were associated with residential and nursing care, while home help services accounted for a further one-fifth. The presence of complications increases social services costs four-fold.<sup>87</sup>

## Diabetes care

The *National Diabetes Audit 2010*<sup>88</sup> includes the following key findings about the quality of care for people with diabetes in England and Wales.

- Two thirds of people with Type 1 diabetes and almost half of people with Type 2 diabetes in England and Wales do not receive all nine annual health checks to manage their diabetes effectively.
- There are big variations in the percentage of patients receiving the care processes. In 19 PCTs all nine care processes are completed in more than 60 per cent of patients but in two PCTs the figure is less than 10 per cent.
- Over 800,000 people with diabetes are at high risk of future complications due to glucose control above recommended levels. Nearly 300,000 children and younger adults have high risk, and some 144,000 dangerously high risk, blood glucose levels that can lead to diabetic complications such as blindness or kidney failure.
- Younger people with diabetes aged 16–55 are less likely than older people to receive all their basic checks.
- Children and young people with diabetes have the worst rates of very high risk glucose control and of the acute metabolic complication diabetic ketoacidosis (DKA). 9 per cent of children and young people with diabetes experienced at least one episode of DKA in 2009–2010. There was a large variation in recurrence rates between treatment centres.



## Notes

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- 1 International Diabetes Federation (2011). Diabetes atlas, fifth edition: [www.diabetesatlas.org](http://www.diabetesatlas.org)  
Note: These figures are based on what countries report, and the figures will depend on screening strategies.
- 2 *Quality and outcomes framework* (QOF) 2011:  
England: <http://bit.ly/qof2011e>  
Northern Ireland: <http://bit.ly/qof2011ni>  
Scotland: <http://bit.ly/qof2011s>  
Wales: <http://bit.ly/qof2011w>
- 3 Figures based on AHPO diabetes prevalence model: <http://bit.ly/aphodiabetes>  
The APHO model estimates that by 2025 there will be 4,189,229 million people with diabetes in England, 371,310 people in Scotland, and 287,929 people in Wales. The model was not used to give a 2025 prediction for Northern Ireland so we are using the current APHO model estimate total for diagnosed and undiagnosed for 2010 of 109,000 [unpublished]. Adding these up gives us the estimate of five million people with diabetes in 2025.
- 4 This figure was worked out using the diagnosed figure from the 2009 *Quality and outcomes framework* with figures from the 2010 *Quality and outcomes framework*.  
  
*Quality and Outcomes Framework (QOF) 2009:*  
England: <http://bit.ly/qof2009e>  
Northern Ireland: <http://bit.ly/qof2009ni>  
Scotland: <http://bit.ly/qof2009s>  
Wales: <http://bit.ly/qof2009w>
- 5 Figure based on data from AHPO diabetes prevalence model figures <http://bit.ly/aphodiabetes> and the QOF 2010 figures <http://bit.ly/prevalence2010>
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*Welsh Health Survey 2010 national statistics*, chap 3  
<http://bit.ly/WHS2010>
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