

Diabetes UK Position Statements

Diabetes in the UK: 2019

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Abstract

Aim Diabetes impairs the quality of life of people living with the condition and is a major public health concern. The aim of this paper is to create a state of the nation report of diabetes in the UK.

Methods Diabetes UK collates information about diabetes from diverse sources. This paper synthesizes these data to create a national report.

Results Some 7% of the UK population are now living with diabetes; approximately one million people have undiagnosed type 2 diabetes, 40 000 children have diabetes and more than 3000 children are diagnosed every year. Forty-nine per cent of people with type 1 diabetes were offered structured education, but only 7.6% attended; the corresponding figures for type 2 diabetes were 90% and 10.4%, respectively. Among people with diabetes, 28% reported having issues obtaining medication or equipment for self-management. Fifty-seven per cent of people with type 1 diabetes and 42% with type 2 diabetes do not receive all eight annual health checks. Around 40% of people with diabetes have diminished psychological well-being. One-third of people have a microvascular complication at the time of diagnosis of type 2 diabetes. Diabetes is responsible for 530 myocardial infarctions and 175 amputations every week. The National Health Service spends at least £10 billion a year on diabetes, equivalent to 10% of its budget; 80% is spent treating complications. One in six hospital inpatients has diabetes.

Conclusion Diabetes continues to place a significant burden on the individual with diabetes and wider UK society. This report will be updated annually to understand how diabetes is changing across the UK.

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Introduction

In the UK, someone is diagnosed with diabetes every two minutes and one in 15 people now have diabetes. Sensationalist headlines report that more than 500 people with diabetes die prematurely every week, the National Health Service (NHS) spends £19 000 a minute on diabetes and diabetes causes an amputation every hour [1]. Although these shocking statistics rightly grab our attention, there are many more facts and figures concerning all aspects of living with diabetes that deserve consideration, for example, over two-thirds of people with diabetes do not fully understand their diagnosis. Every year, Diabetes UK collates information about diabetes from diverse sources and the intention of this paper is to provide a state of the nation report using mainly data from 2017–2018, unless specified otherwise. The intention is that this report will be updated yearly to describe

how the situation is changing and allow comparisons with previous reports.

Prevalence and type of diabetes

Some 4.7 million people in the UK have a diagnosis of diabetes of whom 90% have type 2 diabetes [2,3]. The number has more than doubled in the past 20 years and Diabetes UK predicts that by 2030 this will exceed 5.5 million [2,4]. The number of people living with diabetes equates to 7% of the UK population and is broadly the same across the four nations of the UK (Table 1) [5]. About 8% of people currently living with a diagnosis of diabetes have type 1 diabetes, with other types such as monogenic diabetes accounting for the remaining 2% [3]. In 2013, six in ten people were asymptomatic at the time of diagnosis of type 2 diabetes and it is estimated that around one million people have undiagnosed type 2 diabetes [2].

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What's new?

- This paper provides a state-of-the-nation report on diabetes in the UK.
- Some 7% of the UK population have diabetes.
- Uptake of diabetes structured education is poor.
- Fewer than one half of people with diabetes receive all eight annual health checks.
- Diabetes is responsible for 530 myocardial infarctions and 175 amputations every week.
- The National Health Service spends at least £10 billion a year on diabetes, equivalent to 10% of its budget; 80% is spent treating complications.
- One in six hospital inpatients has diabetes.
- Annual state-of-the-nation reports will allow an assessment of the changing epidemiology of diabetes in the UK.

Risk of type 2 diabetes

Some 12.3 million people in the UK are at increased risk of type 2 diabetes [6]. South Asian and African-Caribbean people are two to four times more likely to develop type 2 diabetes than white Europeans [7]. Overweight and obesity are responsible for 80–85% of an individual's risk of developing type 2 diabetes, and 68% of men and 59% of women were overweight or obese in the UK in 2015 [8]. In England and Scotland, only 67% of men and 55% of women meet recommended physical activity levels – two and a half hours a week of moderate activity such as swimming, cycling or walking on the flat [9]. In June 2016, roll-out of the Healthier You: NHS Diabetes Prevention Programme (DPP) began and this is now available nationwide. Between 2017 and 2018, the DPP enrolled 103 000 individuals and the programme model estimates that by the fifth year of the DPP 18 000 cases of type 2 diabetes will have been prevented or delayed among the 5-year cohort [10].

Children and diabetes

Around 40 000 children under 18 years of age have diabetes in the UK and more than 3000 are diagnosed every year [3,11–13]. The commonest age of diagnosis is between 10 and 14 years [11]. Ninety per cent of children with diabetes have type 1 and 18% of these are diagnosed with diabetic ketoacidosis [11]. The first children with type 2 diabetes were diagnosed in the UK in 2000. Type 2 diabetes, along with monogenic diabetes, cystic fibrosis-related diabetes or undefined diabetes make up the remaining 10% [11]. A survey undertaken at the turn of the millennium suggested only 20 children were known to have monogenic diabetes in the UK, but this number has grown steadily with the introduction of reliable diagnostic services [14].

Fourteen per cent of the issues raised with the Diabetes UK advocacy service in 2017 were to do with schools. Anecdotally, these include school staff refusing to take responsibility for insulin injections, children with diabetes not being allowed to attend extracurricular activities such as school trips or sporting events, and in some cases children being excluded from school when first diagnosed until a full-time care assistant can be employed. These major issues led to the Diabetes UK Schools Campaign.

Management and access to technology

People with diabetes spend around 3 h with a healthcare professional each year; for the remaining 8757 h they must manage their diabetes for themselves. People who attend diabetes education courses have lower blood glucose levels, improved health and fewer complications [15]. DAFNE, a diabetes education course for people with type 1 diabetes, reduces blood glucose levels and serious hypoglycaemic episodes [15]. The X-PERT and DESMOND courses for type 2 diabetes increase attendees' self-management skills and confidence, lower blood glucose levels and reduce cardiovascular risk factors [15]. The diabetes transformation fund has led to 94 000 additional places on education courses being made available [10]. Forty-nine per cent of people with type 1 diabetes were offered structured education with 7.6% attending, while 90% of people with type 2

Table 1 Prevalence of diabetes in the four nations of the United Kingdom [5]

Country	Prevalence of diabetes	Estimated numbers living with undiagnosed type 2 diabetes	Estimated numbers at risk of type 2 diabetes
England	> 3 222 500	> 860 000	10 300 000
Northern Ireland	> 96 100	> 11 000	340 000
Scotland	> 295 700	> 35 000	1 000 000
Wales	> 194 600	> 60 000	600 000

diabetes were offered structured education with 10.4% attending [3].

It is concerning that 28% of people with diabetes reported having issues obtaining the medication or equipment necessary for self-management. In particular, one in four people are not being prescribed the required number of glucose test strips [15]. One in 20 of the problems addressed by the Diabetes UK advocacy service in 2017 related to access to strips. The National Diabetes Insulin Pump Audit, 2017–18 states that 12 900 people with type 1 diabetes and 1760 with type 2 diabetes are using pump therapy [16]. The Freestyle Libre became available through the NHS in November 2017 in certain geographical areas for people with type 1 diabetes who met clinical criteria. National arrangements were made in England from March 2019 to reduce regional variation in availability. Since then, the number of Freestyle Libre prescriptions in England has increased by 50%, which is an important step for empowering individuals' self-management [17].

The National Institute for Health and Care Excellence (NICE) recommends that people with diabetes require eight annual basic health checks, but 57% of people with type 1 diabetes and 42% of those with type 2 diabetes do not receive all eight each year [3]. Although further work is needed to ensure that everyone with diabetes receives all eight recommended checks, the National Diabetes Audit has demonstrated improvements in achievement rates over the past 10 years. Fewer than one in five people with type 1 diabetes and two in five with type 2 diabetes meet the recommended treatment targets for these eight areas [3]. People of working age and younger are almost half as likely to achieve treatment targets compared with their older counterparts [3]. There has been a > 10% improvement in HbA_{1c} in people with type 1 diabetes and in blood pressure control in people with type 2 diabetes between 2011–2012 and 2016–2017 [3].

Life with diabetes

Diabetes is a chronic disease and affects multiple aspects of a person's life. Here, we discuss how living with diabetes can affect individuals' mental health, work and personal lives.

Mental health

Around 40% of people with diabetes struggle with their psychological well-being, with seven in 10 reporting feeling overwhelmed by the demands of living with diabetes [18]. Three-quarters of those who have felt overwhelmed by their diabetes said this affected how well they could manage their condition [18]. When asked, 64% sometimes or often feel down because of their diabetes but almost eight in 10 people said that their diabetes team rarely or never helped them to talk about

their emotional well-being [15,18]. Fewer than one-quarter of people with diabetes feel they receive the emotional and psychological treatment they need from the NHS and 30% of general practitioners (GPs) agreed that current resources to support the mental health of people with diabetes are inadequate [18]. Three-quarters of people living with diabetes who wanted specialist mental health support could not access it [18]. It is therefore not surprising that 33% of people contacting the Diabetes UK helpline in 2017 and 2018 did so for emotional support. The NHS spends an extra 50% treating the physical health of someone who has type 2 diabetes and poor mental health compared with someone with type 2 diabetes and no mental health problems [18].

Work and driving

Thirty-seven per cent of people with diabetes feel that the disease has caused them a problem at work [15]. People with type 1 diabetes are twice as likely as those with type 2 diabetes to experience this, with one in five people with type 1 diabetes reporting discrimination at work. The Diabetes UK advocacy service helped deal with 1593 practical work-related problems in 2017 [15]. This accounted for 30% of all problems that went through the service, with driving-related issues accounting for another 17%. In the next state of the nation report we aim to report on the number of Driver and Vehicle Licensing Agency (DVLA) refusals/revocations for licences.

Sex and pregnancy

Both men and women with diabetes are more likely to have sexual problems, yet only 15–20% of men are asked about their sexual health during their annual review [19]. Of the 941 349 pregnancies in the UK in 2016, 5% were in women with diabetes [20]; 3500 pregnancies were in women with type 1 diabetes and 2400 in women with type 2 diabetes [20]. Some 41 000 pregnancies had gestational diabetes, which is increasing in line with the prevalence of obesity and more pregnancies in older women [20]. Compared with women without diabetes, women with diabetes are five times more likely to have a pre-term baby, three times more likely to have a caesarean section and twice as likely to have a baby weighing > 4 kg [21]. Babies of women with diabetes are five times more likely to be stillborn and three times more likely to die in their first three months of life [21].

Complications

Complications may start to develop 5–6 years before a diagnosis of type 2 diabetes and currently one in three people with type 2 diabetes have a microvascular complication at the time of diagnosis. This compares with the up to 50%

with complications at diagnosis reported by the United Kingdom Prospective Diabetes Study in 1999 [22].

Cardiovascular disease

Each year in the UK, diabetes causes more than 27 000 myocardial infarctions (530 per week) and 100 000 cases of heart failure (~2000 per week) [23]. Cerebrovascular accidents are twice as likely in people with type 2 diabetes and 3.5 times more likely in people with type 1 diabetes [23]. Diabetes causes more than 35 600 strokes each year in the UK, which equates to one in five of all strokes [23]. Twenty-five per cent of people in hospital for a stroke, myocardial infarction or heart failure have diabetes [23]. Compared with people without diabetes, people with type 2 diabetes are 2.5 times more likely to have a myocardial infarction and develop heart failure [23]. People with type 1 diabetes are four times more likely to have a myocardial infarction and 4.5 times more likely to experience heart failure [23].

Foot disease

Studies suggest that between 70 000 and 90 000 people with diabetes in the UK have a foot ulcer in any given week [24]. Diabetes is responsible for 175 amputations every week and this adds up to > 9000 leg, toe or foot amputations every year [25]. Someone with diabetes is 20 times more likely to experience an amputation compared with someone without diabetes [26]. In one year, the diabetes transformation fund has led to 185 staff appointed to foot care teams across 80 hospitals [10]. It is hoped that this will lead to improved numbers of proper foot checks for people with diabetes. Currently fewer than two-thirds of people with serious foot problems have a foot check within 24 h of being admitted to hospital [27]. Four in 10 people with a foot ulcer will die within 5 years and around half of all people who experience a major amputation will die within 2 years [24].

Retinopathy

Diabetes is the leading cause of preventable sight loss and more than 1700 people have their sight seriously affected by diabetes every year in the UK [25]. Diabetes is responsible for 5% of all sight loss in the UK and 7% of people who are newly registered blind in England and Wales have lost their sight because of diabetes [28]; 14% of working age people with severe visual impairment have diabetes [29]. Almost half of people with type 1 diabetes and one-quarter of people with type 2 diabetes have some form of diabetic retinopathy. After living with the disease for 20 years almost all people with type 1 diabetes and two-thirds of people with type 2 diabetes will have some degree of retinopathy [28,30]. As well as diabetes specific eye disease, diabetes increases the risk of glaucoma by 1.5 times and doubles the risk of cataract [31].

Kidney disease

At least 10 300 people in the UK have end-stage renal disease primarily because of diabetes, as reported on the renal registry [32]. A further 12 350 have end-stage renal disease and diabetes, but diabetes is not listed as being the main cause. There are more than 22 650 people with diabetes in the UK who need dialysis or a kidney transplant [12]. In other words, more than one in three people who need dialysis or a kidney transplant have diabetes and one in five people with diabetes will need treatment for their kidney disease during their lifetime [12]. People with diabetes are five times more likely to need dialysis or transplantation than the general population [12].

Health service delivery

Diabetes and the NHS

When last reviewed, the NHS was spending at least £10 billion a year (£27 million a day) on diabetes, equivalent to 10% of its entire budget [1]; 80% of this is spent treating complications. In 2018–2019 there were 55 million items prescribed for people with diabetes, compared with 33 million a decade ago [33].

Diabetes care in hospital

People with diabetes are twice as likely to be admitted to hospital and one in six people in a hospital bed has diabetes [27,34]; in some hospitals people with diabetes make up 25% of all inpatient beds [27]. The diabetes transformation fund has led to 96 additional inpatient specialist nurse and related staff in hospitals [10]. This should improve the current situation in which more than one-fifth of hospitals do not have a dedicated diabetes inpatient specialist nurse [27]. Nearly two-fifths of people treated with insulin experience an insulin error during their hospital stay and 1 in 25 inpatients with type 1 diabetes develop ketoacidosis during their hospital stay [27]. Almost one-fifth of people with diabetes have a hypoglycaemic episode and 1.3% have a severe hypoglycaemic episode during their hospital stay [27]. Twenty-eight per cent of people who felt they needed to see a specialist diabetes team while in hospital reported that they did not see one [27].

How does the UK compare to the rest of Europe?

In 2014, the Euro Diabetes Index compared diabetes care across 30 European countries and placed the UK fourth after Sweden, the Netherlands and Denmark [35]. This index considers the quality of diabetes care by combining data across six domains into a single index. The UK performed well on case finding, range and reach of services,

access to treatment, procedures and outcomes due to the UK's established national guidelines, comprehensive audits, including in sub-specialty areas, and national eye screening programme. The UK performed poorly regarding prevention of type 2 diabetes but since the Euro Diabetes Index report in 2014, the UK DPP has been rolled out.

The Scottish Care Information – Diabetes Collaboration (SCI-DC) delivers a world leading fully integrated shared electronic patient record, which provides clinical information, support for diabetes screening services and the provision of data for national and local audit programmes. This supports care across primary and secondary care and includes specialty modules for paediatrics, podiatry, diabetes specialist nursing and dietetics[36].

Conclusion

The numbers of individuals, their families and carers affected by diabetes continue to increase across the UK, and more than 13 million people are thought to be at risk of or have undiagnosed type 2 diabetes. Diabetes is impacting multiple aspects of individuals' lives and a significant proportion of people with diabetes are also managing diabetes complications. Greater access to education, technology and inpatient diabetes teams is being seen thanks to transformation funding and it is hoped that this will result in less of the NHS budget being spent on complications and instead spent on care to prevent these in the first place.

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Competing interests

None declared.

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