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Understanding and Managing Diabetes: A person
Centred approach to long term condition in the UK

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Introduction

Long-term conditions (LTCs) are chronic health problems that are to be managed and have serious physical, psychological, and social impacts on patients and their families (Haugan and Eriksson, 2021). Dementia, cardiovascular diseases, and diabetes are the LTCs in the United Kingdom, which comprise more than 70% of the healthcare expenditure and continue to be a priority of the NHS Long-Term Plan (2019). The main subject of this booklet is Diabetes Mellitus, which is a chronic metabolic disease that is marked by high levels of glucose in the blood due to a lack of enough insulin or the inability to use insulin effectively (WHO.). The three most important ones are Type 1 diabetes, which needs lifetime insulin treatment, Type 2 diabetes, which is mostly lifestyle-related and insulin-resistance-related, and Gestational diabetes, which develops during pregnancy and exposes the victim to future risks (NHS Grampian, 2019).

Understanding Diabetes: Definition, Types, and Aetiology

Diabetes mellitus is a long-term complication which is a chronic disease which impairs the body's regulation of blood glucose. The World Health Organisation (WHO) revealed that diabetes arises when the pancreas fails to produce insulin sufficiently or when the body fails to respond to the insulin produced. Insulin is a hormone that assists glucose to penetrate the cells to

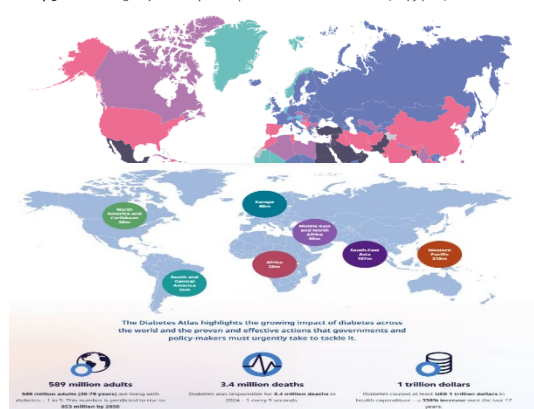
generate energy, and in the absence of the hormone, glucose flows into the bloodstream, causing hyperglycaemia. According to the National Health Service (NHS, 2022), diabetes is a condition that makes a person have too high a level of sugar in the blood as the body cannot produce or utilise insulin properly. Equally, the National Institute for Health and Care Excellence (NICE, 2021) identifies diabetes as a cluster of metabolic diseases that feature sustained elevated blood sugar levels because of insulin deficiency or resistance.

Diabetically, the body is physically affected by the insulin production or the reaction of the body to insulin. The pancreas of a healthy individual stores insulin and glucose, allowing it to get into the cells and be utilised as energy. In diabetes, the mechanism is affected either by autoimmune destruction of the pancreatic beta cells, leading to a lack of insulin or because of insulin resistance, in which the cells are unable to respond to insulin appropriately.

Diabetes has three major types. Insulin-dependent diabetes or juvenile-onset diabetes (T1DM) is a condition that develops when the immune system attacks the insulin-producing beta cells of the pancreas, which are entirely destroyed, resulting in full insulin deficiency. Type 1 diabetes patients need insulin throughout their lives (WHO, 2025.). The prevalence of type 2 diabetes is over 95 per cent and was mostly triggered by the inability of the body to utilise insulin. The lifestyle factors are to a great extent associated with obesity, poor diet, and lack of physical activity that determine this type (WHO, 2025).

Diabetes aetiology is multifactorial as it

Map 3.2 Estimated age-adjusted comparative prevalence of diabetes in adults (20–79 years) in 2021



encompasses genetic as well as environmental factors. Some of the key risk factors are family history, ethnicity (especially the South Asian, African, and Caribbean populations), age, obesity, unhealthy diet, and lack of physical activity. Diabetes may be viewed in terms of biological, psychological, and social interactions with the help of the biopsychosocial model (Adler, 2009). Genetic predisposition and metabolic dysfunction are also important biologically.

Global and UK Prevalence & Burden of Diabetes

Global Prevalence

Diabetes is a severe and escalating public health problem across the world. The International Diabetes Federation (IDF) factsheet has estimated that approximately 589 million adults aged between 20–79 years will be estimated to be living with diabetes in 2024, with an approximate of 853 million projected to be living with diabetes in 2050. According to the World Health Organisation (WHO), approximately 14% of adults aged 18 years and above had diabetes in 2022, compared to 7%

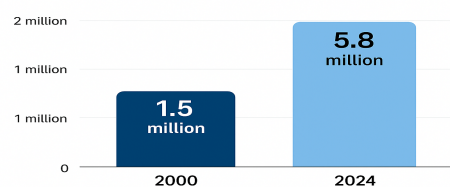
of adults in 1990. The global burden and access inequality practice show that over 80 per cent of diabetes populations are in low- and middle-income nations.

UK Prevalence

Diabetes is also on the increase in the UK. According to an estimate by the Diabetes UK charity, as of 2023–24, over 5.8 million individuals in the UK are living with diabetes (both diagnosed and undiagnosed). In addition, the NHS England states that the annual expenditure on diabetes care is estimated to be about 10 billion pounds, which is about 10 per cent of the total budgetary expenditure (NHS, 2022). According to the IDF data on the United Kingdom, evidence 4.5 million adults (20–79 yrs) with diabetes in 2024, up from the 1.5 million in 2000 (IDF, 2024).

UK Prevalence of Diabetes

Number of people in the UK with diabetes



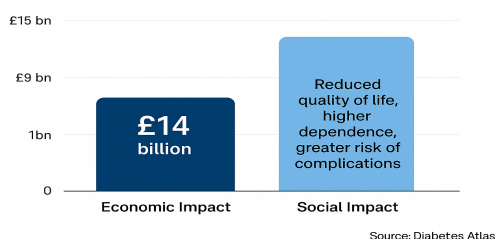
Source: Diabetes UK

Economic Impact and Social Impact.



Diabetes is costly in terms of economics. The overall cost in the UK in 2021/22 was estimated at almost £14 billion, of which over 10 billion was direct NHS costs (ONS, 2022). There are indirect costs like lost productivity, absenteeism and early retirement, which are even more burdensome. In the world, the IDF approximates health spending on diabetes to exceed USD 1 trillion per annum. In addition to the expenses, the social consequences of diabetes are significant: it is possible that people will not be able to resume working, they will become more dependent on family members or caregivers.

Economic Impact and Social Impact

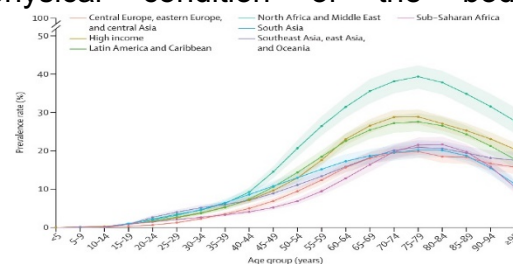


Trends and Public Health Significance.

The escalating morbidity and burden of diabetes render it a concern for the state health policy. The trend is on the rise, and hence prevention and early detection and management strategies are necessary. The factors that contribute to the increase in the condition are varied, such as ageing, sedentary lifestyles, obesity and urbanisation. With the increase in the prevalence of diabetes, the impact it has on healthcare systems, social services, and economic productivity is increasing continuously.

Physiological, Psychological, and Social Effects of Diabetes.

As a long-term condition (LTC), diabetes significantly affects the physical condition of the body,



psychological state, and social functioning of people. These multidimensional effects can be understood using the biopsychosocial and the holistic health models (Naidoo and Wills, 2016), to provide person-centred and integrated care to people living with diabetes in the United Kingdom.

Physical Impacts

Physical complications of diabetes are usually progressive and life-threatening. One of the most frequent ones is fatigue, which is usually associated with variations in blood sugar levels and the inability to control metabolic processes. Diabetic retinopathy is a microvascular complication that causes blindness in individuals, and when it remains untreated, it can also lead to vision problems (WHO). Moreover, diabetes is one of the factors that pose a significant risk to cardiovascular diseases, which are the causes of other illnesses, including hypertension, coronary heart disease, and stroke

(King's Fund, 2022). Additional frequent issues are diabetic neuropathy, which is nerve damage caused by diabetes that causes pain, numbness, and less mobility and foot ulcers and amputation due to poor circulation and infection (NHS, 2022).

Psychological Impacts

There are also strong psychological effects of diabetes, which affect mental health and emotional adaptation. People tend to develop anxiety and depression, especially when having difficulties with glycemic control or when being overwhelmed with daily self-care (Naylor et al., 2012). Diabetes distress is a concept that defines the emotional distress and frustration of having diabetes, such as being afraid of complications and feeling helpless. A study on chronic illness conducted by Clancy, Hallet and Caress (2009) has shown that individuals tend to express their feelings in terms of fear, blame, and fatalism.

Also, Galvin and Todres (2011) note that people with long-term conditions usually find meaning and well-being in their suffering, and that medical workers should be able to help them perceive their well-being as experienced even in the context of illness. To overcome demotivational barriers and achieve resilience, psychological adaptation to diabetes should not only be supported by clinical interventions but also be empowered and have self-efficacy.

Social Impacts

The social impact of diabetes may be as difficult as well. Numerous people experience employment problems because of fatigue, constant medical

visits or limitations caused by some complications like neuropathy or loss of sight. Social isolation and stigma are also possible outcomes of diabetes, especially when a person feels misunderstood or judged by his/her lifestyle choice concerning diabetes (Department of Health, 2012). Additionally, the reliance on carers and relatives to take care of them daily, including meal preparation, insulin injections, or mobility support, may cause emotional and financial burdens in families (WHO, NHS, 2022).

Diagnosis and Evidence-Based Treatments

Diagnosis of Diabetes

Diabetes is diagnosed by determining chronic hyperglycemia by means of validated biochemical tests. The three main diagnostic tests described by the guidelines given by the World Health Organisation (WHO, n.d.) and NICE (NG17) are Fasting Plasma Glucose (FPG), HbA1c (glycated haemoglobin) and the Oral Glucose Tolerance Test (OGTT).

Fasting Plasma Glucose (FPG): A fasting plasma glucose level of at least 7.0mmol/L is a sign of diabetes.

HbA1c Test: A disclosure of diabetes is confirmed by the presence of an HbA1c of 6.5 mmol/mol, which is 65 mmol/mol (6.5mmol/mol) (NICE, 2015).

Oral Glucose Tolerance Test (OGTT): When the level of glucose in plasma measured 2 hours after a 75g glucose intake was ≥ 11.1 mmol/L, then it is indicative of diabetes (WHO, n.d.). The HbA1c test has been highly prescribed in diagnosing and in long-

term monitoring because of its convenience and its capability to indicate average glucose regulation in the past three months (NHS, 2023).

Management NICE Guidance (NG17).

The NICE NG17 guideline is an extensive and evidence-based guideline on how the management of both Type 1 and Type 2 diabetes should be carried out in the UK healthcare system. The framework enhances the use of individualised care planning, glycaemic control and multidisciplinary involvement. In case of Type 1 diabetes, the recommendations include structured education, frequent blood glucose testing, and multiple daily insulin plans or insulin pump therapy as the best control measures.

Treatment Options

Type 1 Diabetes

Type 1 diabetes is a permanent insulin insulin-dependent disease because the pancreas does not produce insulin. NICE recommends using a basal-bolus insulin treatment that combines the long-acting insulin and short-acting insulin so that it mimics the release of insulin in the body. CGM systems and insulin pumps are advised for patients who need intensive regulation (NHS Grampian, 2019).

Type 2 Diabetes

In Type 2 diabetes, management is based on lifestyle changes, weight management and pharmacotherapy. The first pharmacological therapy is metformin, and the second one is other oral hypoglycemics, including sulfonylureas or SGLT2 inhibitors, in case of glycaemic targets not being achieved. Insulin therapy can be initiated in the later stages. The DESMOND (Diabetes Education and

Self-Management for Ongoing and Newly Diagnosed) programme is a programme that facilitates individuals with Type 2 diabetes by educating them on nutritious food, physical activity, and coping to improve their self-management (NHS England, 2022).

Gestational Diabetes

Gestational diabetes mellitus (GDM) is a pregnancy-related condition that results from hormonal intolerance to insulin. Diet change, weight control, and blood sugar level are the areas of management. In case the targets are not met with the diet, insulin therapy or metformin can be introduced (The Rotherham NHS Foundation Trust, 2019).

Patient Empowerment and Self-Management.

The key to successful diabetes care lies in self-management. Patient-centred education, including the DAFNE (Dose Adjustment for Normal Eating) and DESMOND, is a way of empowering patients to actively participate in the management of their condition. These programmes focus on setting the goals, dietary attentiveness, and peer encouragement, which arose within the framework of House of Care (NHS England, 2019).

Long-term Conditions Management Models and Frameworks.

The long-term condition (LTCs) management, such as diabetes, requires the application of systematic models and frameworks in order to provide person-centred and coordinated and proactive care.

House of Care Model (NHS England): the UK Model.

The NHS England developed the House of Care model to provide a model of the management of long-term diseases like diabetes. It concentrates on joint care planning, systems, cross-systems self-management and coordination to deliver person-centred care (NHS England, 2022). The model represents a visualisation of care in the form of a house, which has four main pillars:



Figure: **House of Care Model** (Coulter, 2016).

Interested, knowledgeable people and caregivers - Patients are enabled to know their condition and be involved in decision-making.

Patients who believe in partnership working - Clinicians work on a basis of collaboration with patients, and they identify them as equals in their care path.

Enablers of the organisation and systems- Enabling natural IT systems, education and data transfer between primary, secondary and social care.

Leadership and commissioning- Enhancing policy and resource congruence to maintain coordinated care (Department of Health, 2012).

The International Model: Chronic Care Model (CCM, Wagner, USA).

The Chronic Care Model (CCM) is a

model of healthcare transformation that was created by Wagner et al. in the USA and works on the principles of converting the reactive into the proactive type of care provision. This model comprises six interconnected elements, namely health system organisation, self-management support, delivery system design, decision support, clinical information systems, and community resources (Haugan and Eriksson, 2021).

Comparison of the Two Models: The critical one.

The two models are similar as they are both committed to person-centred, self-managed, and coordinated care, but not exactly in the same areas. The House of Care Model gives emphasis to a system-wide integration in the UK context, which clearly connects healthcare policy, local commissioning and patient empowerment (Department of Health, 2012).

Policy and Political Context

Diabetes has to be managed effectively in the United Kingdom through strong policies at the national and local levels to deal with prevention, early diagnosis, care and self-management. Strategic directions in healthcare professionals and communities are presented in policy frameworks like the NHS Long Term Plan (2019).

National Programmes: NHS Long-term plan and NICE Guidance.

According to the NHS Long Term Plan (2019), diabetes has been identified as one of the key long-term conditions that need specific attention in the form of prevention, early diagnosis, and combined treatment. It has clear targets

to lower the occurrence of type 2 diabetes, better the management of blood sugar levels and the avoidance of complications of diabetes like heart diseases and kidney failure (NHS England, 2022).

Type 1 and Type 2 diabetes have the NICE (NG17) guidelines, which offer evidence-based screening, diagnosis, and management. NICE recommends personal care plans, self-management education, and an integrated care pathway, where the care is holistic and patient-centred. Other supported programmes include DAFNE (Dose Adjustment for Normal Eating) and DESMOND (Diabetes Education and Self-Management for Ongoing and Newly Diagnosed) (Haugan & Eriksson, 2021).

The Diabetes Prevention Programme (NDPP) at Public Health England.

The NDPP, which was proposed by Public Health England (2016) and currently managed by NHS England, is concerned with lifestyle interventions for people who are identified to be at risk of developing type 2 diabetes (Kafaji, 2020). It facilitates nutrition and exercise, and weight control, and targets the primary biological and behavioural risk factors of obesity and sedentary lifestyles (Evans and Stoddart, 2017).

Local Strategies and Integrated Care Models.

At the local level, Integrated Care Systems (ICSs) have become the key to the delivery of diabetes services in the UK. These systems facilitate cooperation between community care, primary and secondary care and help in enhancing continuity and access to care. Self-management and

hospitalisations are also prevented since community-based education programs (Haugan & Eriksson, 2021).

Global Framework: WHO Global Diabetes Compact (2021).

The WHO Global Diabetes Compact (2021) is a global policy framework that unifies and seeks to minimise tragic deaths and enhance access to affordable insulin and other necessary care. It facilitates collaboration between the countries, especially between the low and middle-income countries, in order to close the gap in the outcome of diabetes.

Critical Appraisal of Policy Effect.

The UK diabetes policies have yielded positive screening, education, and treatment results. Nevertheless, there are problems associated with the need to overcome inequality and disparities in health, resources, and access. Although such programmes as the NDPP have been successful, there is still less involvement with socioeconomically disadvantaged groups, and that reflects the enduring social determinants of health (Schwarz et al., 2022).

Individual-Centred Care and Self-Care.

Person-Centred Care and Self-Management Definition.

Person-centred care (PCC) is an interactive method that involves patients as active participants in their treatment instead of passive participants. It entails community care in partnership with patients, families, and healthcare workers in a bid to develop care plans that resonate with

the needs, values, and preferences of the individual (Haugan and Eriksson, 2021). Self-management is a crucial aspect of PCC in diabetes management, where the most important thing is to empower individuals to engage in control of their health and take charge of their own health by educating them, changing their behaviours, and carrying out constant self-monitoring (Naidoo and Wills, 2016).

Self-Monitoring, Peer Support and Technology.

The strategies of self-management are blood glucose, adherence, diet and physical activities. DESMOND (Diabetes Education and Self-Management for Ongoing and Newly Diagnosed) and DAFNE (Dose Adjustment for Normal Eating) are programmes where patients are given structured education which increases knowledge and coping skills (NHS England, 2022). According to The Six Principles of Good Peer Support to People Living with Type 1 Diabetes, peer-support interventions are aimed at encouraging emotional health, mutual learning and problem-solving in the diabetes community (NHS England, 2022).

Six Components of Personalised Care (NHS England).

NHS England (2019) identifies six elements of personalised care, which are:

- Patient-professional shared decision-making.
- Assisted self-care to enable the patients to gain confidence and skills.
- Individual goals in personalised

care and support planning.

- Community support and social prescribing to non-clinical needs.
- Individual health budgets have increased freedom in care decisions.
- Empowering decisions on care choices.

Case Studies and EBP.

The NHS Grampian Diabetes Programme illustrates that person-centred care has been successfully introduced in the form of education, collaboration with peers, and the introduction of technologies (NHS Grampian, 2023). Likewise, it has been found that the DESMOND programme is effective in enhancing glycaemic control and psychological well-being by increasing the self-efficacy of patients (Haugan & Eriksson, 2021).

Critical Evaluation

The self-management and PCC in diabetes care are reinforced by policies like the NHS Long Term Plan (2019) and the guidelines of NICE NG17. Nevertheless, inequalities in access, digitisation, and socioeconomic position restrict universal benefit (Schwarz et al., 2022).

End-of-Life Care and Ethical Considerations

Palliative care of people with advanced diabetes aims to enhance the comfort, dignity, and quality of life at a time when curative therapy can no longer be used. Individuals with terminal diabetes are prone to severe complications, including renal disease, neuropathy, heart disease, and infections that

necessitate palliative care to relieve pain and keep the symptoms under control, in addition to supporting well-being (NHS, 2019).

The guidelines given by NICE NG31 (2015) on the formulation of care for dying adults posit that holistic and compassionate care must combine physical, psychological, social, and spiritual support (Haugan and Eriksson, 2021).

Dignity, respect, and engagement of family in shared decision-making are the three aspects highlighted by the NHS End-of-Life Care Framework (2017). It urges the healthcare teams to use the principles of person-centred care to make sure that the care is delivered in a way that is consistent with the wishes of the patient as well as their cultural values. Practically, practitioners have to reconcile the two ideas, beneficence and autonomy, without causing pain that extends (Naidoo and Wills, 2016).

are also digital instruments, like continuous glucose monitoring, and mobile health apps, which enhance self-care and empowerment.

Recommendations and Conclusion

Treatment of diabetes needs a comprehensive and wholly person-centred model involving the combination of early screening, lifestyle change and evidence-based interventions at all care levels. Improved joint work among healthcare workers, patients and carers improves shared decision-making and long-term outcomes (Haugan and Eriksson, 2021). Prevention and treatment disparities can be decreased through culturally competent education and community-based awareness. There

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