

MSc Public Health and Social Care in Practice

Component 1- Information Booklet of Long-term Condition Management

Student name: Cadi Salla

Student number: 2216157

Module: Community Care and Management of Longer-Term Conditions

Module code: LCHS7003

Lecturer name: Dr. Raheela Shaikh

Booklet of diabetes

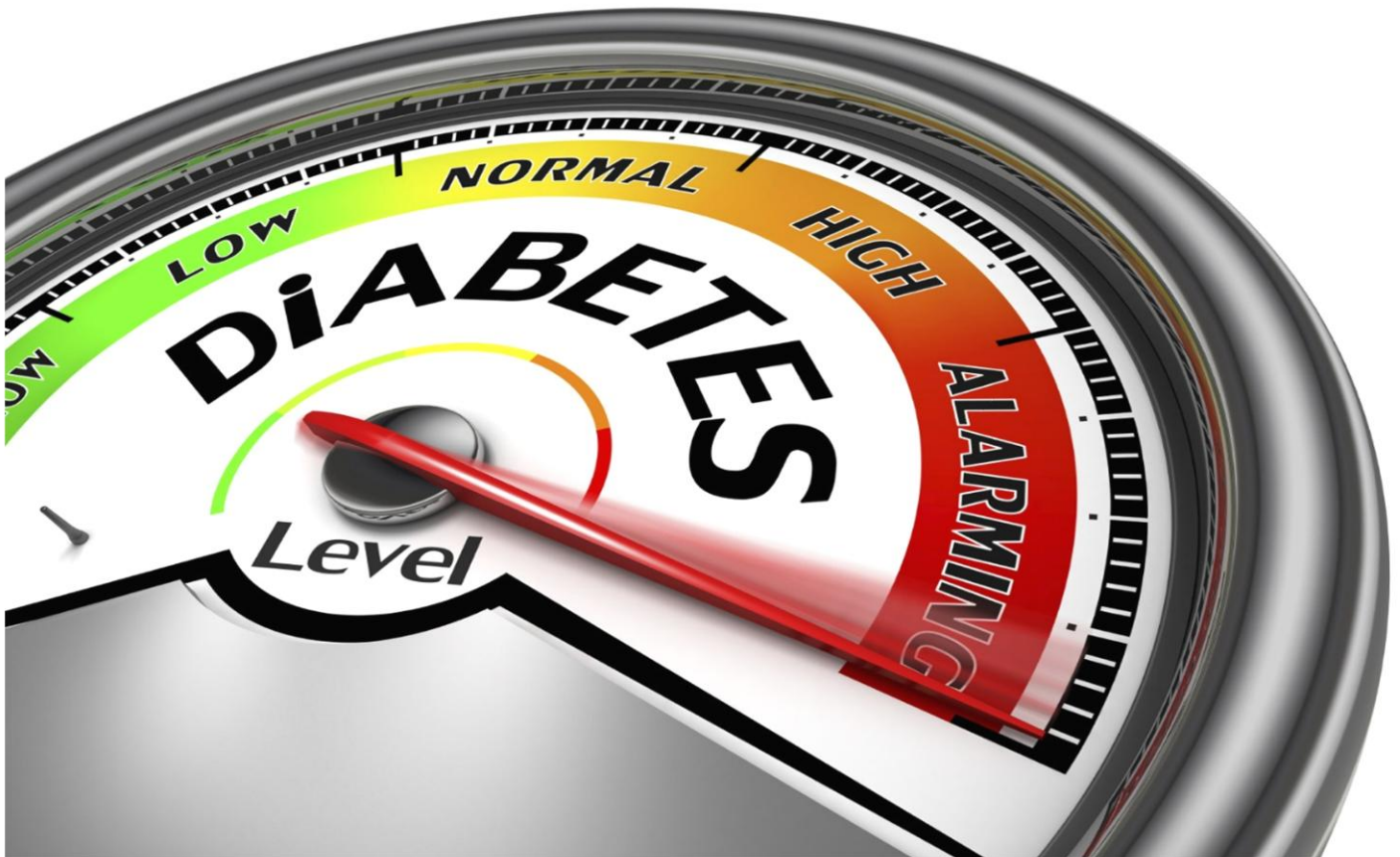


Figure 1: Diabetes meter. This meter shows the different levels of diabetes from low to alarming depending on the patients' sugar levels (Parlikar, 2015).

Table of Contents

Diabetes:	5
What is Diabetes Mellitus?	5
Diabetes aetiology (causes):	5
Cause 1: Lack or no response to insulin	5
Cause 2: Lifestyle factors	6
Global prevalence of diabetes:	7
Diabetes prevalence in the UK:	8
Type 1 prevalence:	8
Type 2 prevalence:	8
Risk factors:	9
Family history:	9
Gestational diabetes history:	10
Obesity:	11
.....	12
Impacts of diabetes:___	12
Physical implications:	12
Psychological impacts:	13
Social impacts:	14
The wider implication on families:	14
Theoretical perspectives:	15
House of care model in the UK:	15
International models-Chronic Care Model:	16
Policy implications:	17

NHS diabetes agenda:	17
Local diabetes care agenda-Leicester:	18
Recommendations:	19
Person centred care:	19
Self-management:	20
End of life care – diabetes:	21
Conclusion:	22
References:	23

Diabetes:

What is Diabetes Mellitus?

Diabetes Mellitus is a chronic metabolic, autoimmune or genetic disease described as elevated levels of blood sugar (glucose) known as hyperglycaemia (Egan and Dinneen, 2019). The main types are 1 and 2.

Diabetes aetiology (causes):

The causes of diabetes are still being researched due to its different origins. The main causes are related to insulin and lifestyle factors.

Cause 1: Lack or no response to insulin

Insulin is a hormone (a chemical) produced by the pancreas (Rahman *et al.*, 2021). This regulates blood

sugar levels by allowing sugar to enter cells to produce energy.

In type 1 diabetes this does not happen as the pancreas stops producing insulin or the body stops responding to insulin in type 2 diabetes. This causes the sugar to remain in the blood promoting hyperglycaemia.



Figure 2: Diabetes monitoring. A diabetic patient must control their blood sugar levels using finger prick test to decide their next steps independently (NHS, 2024).

Cause 2: Lifestyle factors

Lifestyle factors increase the chances of a person developing or go in remission of the disease. The habits that contribute to the development of diabetes are:

-Diet: Having a poor diet increases the risk of developing diabetes. Consuming a high amount of ultra processed foods increases the risk by 31% (Delpino *et al.*, 2022).

-Smoking: Active smoking impacts negatively the body's control of blood sugar levels. This habit causes a person to have an increased 37% risk of developing diabetes (Rouland *et al.*, 2024).

-Being sedentary: Sedentary lifestyle occurs when a person does little to no physical activity. This lifestyle causes the body to increase in fat and weight. These changes increase diabetes risk (Li *et al.*, 2022).

-Poor sleep: Negative sleeping habits is associated with developing type 2 diabetes. Sleep affects how cells will respond to insulin. Good quality of sleep will increase the cells' sensitivity to insulin. However, a poor night of sleep, decreases the cells' sensitivity to insulin meaning that body will stop responding to it (Darraj, 2023).

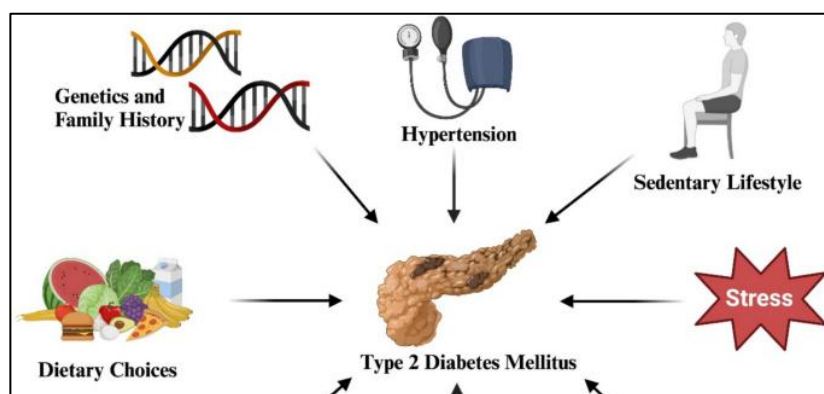


Figure 3: Causes of diabetes. There are different types of factors that lead to the development of diabetes as shown. These include genetics and family history, hypertension, sedentary lifestyle, stress, smoking, poor sleeping habits, obesity and diet (Sami *et al.*, 2025).

Global prevalence of diabetes:

Prevalence is the number of cases of a disease in a specific population (NHS Digital, 2022). It is important to monitor and be aware of disease prevalence to understand the occurrence, the urgency and patterns associated to the cases to create different effective plans to approach rise in cases.

Diabetes has been a global concern for years as it is one of the leading causes of death and disability (Ong *et al.*, 2023). Diabetes has been rising, currently there are above 800 million reported cases. This rose from 7% in 1990 to 14% in 2022 (UN, 2024). The prevalence is projected to rise to 1.31 billion cases by 2050 (The Lancet, 2023). The number of cases could be higher due to undiagnosed cases which are estimated to be 240 million (Hossain, Al-Mamun and Islam, 2024), and unreported cases. Those most likely to be affected by this are low-middle income countries due to economic disparities and lack of awareness.

Due to the rise in cases, mainly in low-middle income countries, there has been 445 million adults who did not receive any type of treatment (Sheffer *et al.*, 2024). This contributes to the rise in prevalence and shows the global inequalities in health sectors. The consequence of these is the rise of disability and deaths annually.

In 2022, reported cases were found in the following countries with the following numbers (O'Hare, 2024):

- ❖ USA - 42 million
- ❖ Brazil - 22 million
- ❖ China - 148 million
- ❖ Indonesia - 25 million
- ❖ India - 212 million

❖ Pakistan - 36 million

These show that each case can be linked to the number of the population of each country and their lifestyle (Goyal *et al.*, 2023). The difference in prevalences suggest that economic inequalities affect how diabetes is approached by different countries.

The most common type of diabetes globally is type 2 with 462 million cases (Xin *et al.*, 2025). This is because it can develop from obesity, unhealthy diets and sedentary lifestyles while type 1 is more uncommon for being autoimmune. It was estimated that in 2025 there were 9.50 million people living with type 1 (Ogle *et al.*, 2025).

Diabetes prevalence in the UK:

In the UK, there has been a rise in diabetes. The prevalences of different types vary as type 1 is linked to internal factors while type 2 involves internal and external factors.

Type 1 prevalence:

This is often diagnosed in early adulthood or during childhood. About 35,000 children under the age of 19 have been diagnosed with type 1 diabetes. In all cases of diabetes, 5 to 10% is of type 1. This means that it is estimated that there are 464,000 people living with type 1 (NICE, 2025). The prevalence of this is challenging to be controlled as this is caused through uncontrollable mutations inside the body or through genetics.

Type 2 prevalence:

Type 2 diabetes makes up for the most cases of diabetes in the UK by 90% and it is likely that 1.3 million cases have been undiagnosed. These values suggest that the prevalence will increase as there are 549,000

people at risk of developing this within a year (NHS England, 2024). This is increasing among young people due to poor lifestyle choices.

Overall, it is estimated that in the UK there are more than 5.8 million cases (Diabetes UK, no date). The increase in the prevalence is led by socioeconomic and health inequalities. Lower income families are more likely to develop type 2 diabetes due to lifestyle factors such as diet. Health inequalities mean unequal health access, meaning there is decreased assistance for those at risk.

Risk factors:

A risk factor are habits or conditions that increase a person's risk to be exposed to a disease or developing it. By identifying risk factors, early detection and testing can lead to decrease of disease burden, morbidity and new cases (Jansen *et al.*, 2024). Identifying diabetes common risk factors amongst the population will allow healthcare authorities to create policies, laws and guidelines to prevent rise.

Family history:

Family history is a common factor for disease development. This factor means that in a patient's family there has been a case of a certain disease causing them to be at higher risk of being diagnosed with the same due to genetics. This factor allows the prediction of the likelihood of one contracting a disease meaning depending on the risk percentage, early measures can be taken (Lu *et al.*, 2022). This mainly applies to

people who had family members that had type 2 diabetes as there has been links to genetic factors.

People with a family history of diabetes are more likely to develop diabetes than people without a family history. This factor is also linked to environmental factors that a person's family members have been exposed to leading to their development of type 2 diabetes (Scott *et al.*, 2012).

Gestational diabetes history:

Gestational diabetes is the temporary occurrence of hyperglycaemia due to pregnancy (McIntyre *et al.*, 2019). Women with a history of gestational diabetes have 10 times increased risk of developing type 2 diabetes later in life in comparison to women that had a normal pregnancy (Vounzoulaki *et al.*, 2020). To prevent this, proper management must take place to avoid rise in prevalence.

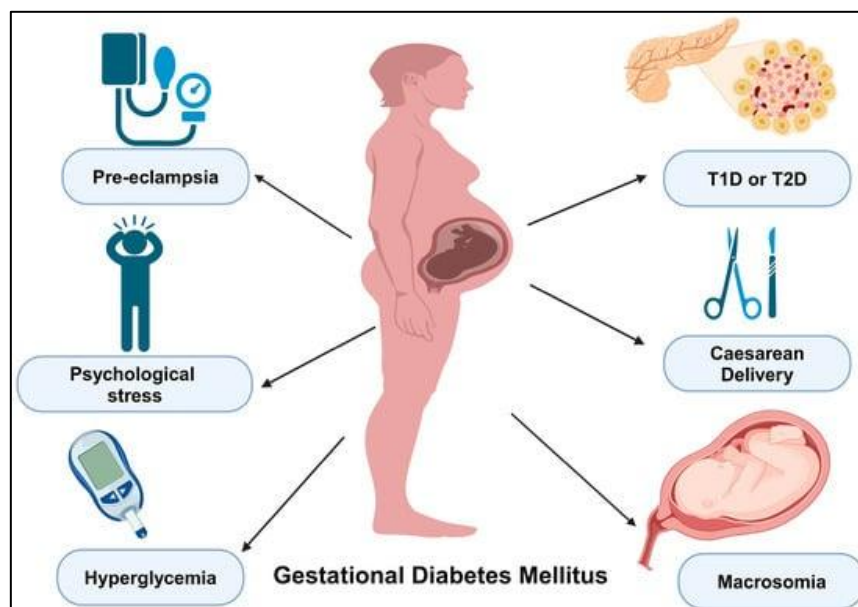


Figure 4: Possible effects of gestational diabetes. Diabetes type 1 and 2, psychological stress and hyperglycaemia have the risk of becoming long-term effects after pregnancy. Pre-eclampsia, caesarean delivery and macrosomia are effects that only affect pregnancy (Mittal *et al.*, 2025).

Obesity:

Obesity is one of the main risk factors. Being obese means having excessive body fat. To measure obesity, the Body Mass Index (BMI) is utilised. A person with a BMI value of 30 or above is in obesity range (Boutari, DeMarsilis and Mantzoros, 2023). This is caused by the lack of physical activity and poor diet which are two of the many causes of diabetes. Obesity is more likely to occur in older adults due to the lack of mobility and the slowing of their metabolism.

Another reason why obesity is because excessive fat in the body would not allow normal processes such as insulin mechanism to work to lower blood glucose levels (Klein *et al.*, 2022). Obesity has been linked with being one of the causes of type 1 diabetes complications (Ciężki *et al.*, 2022).

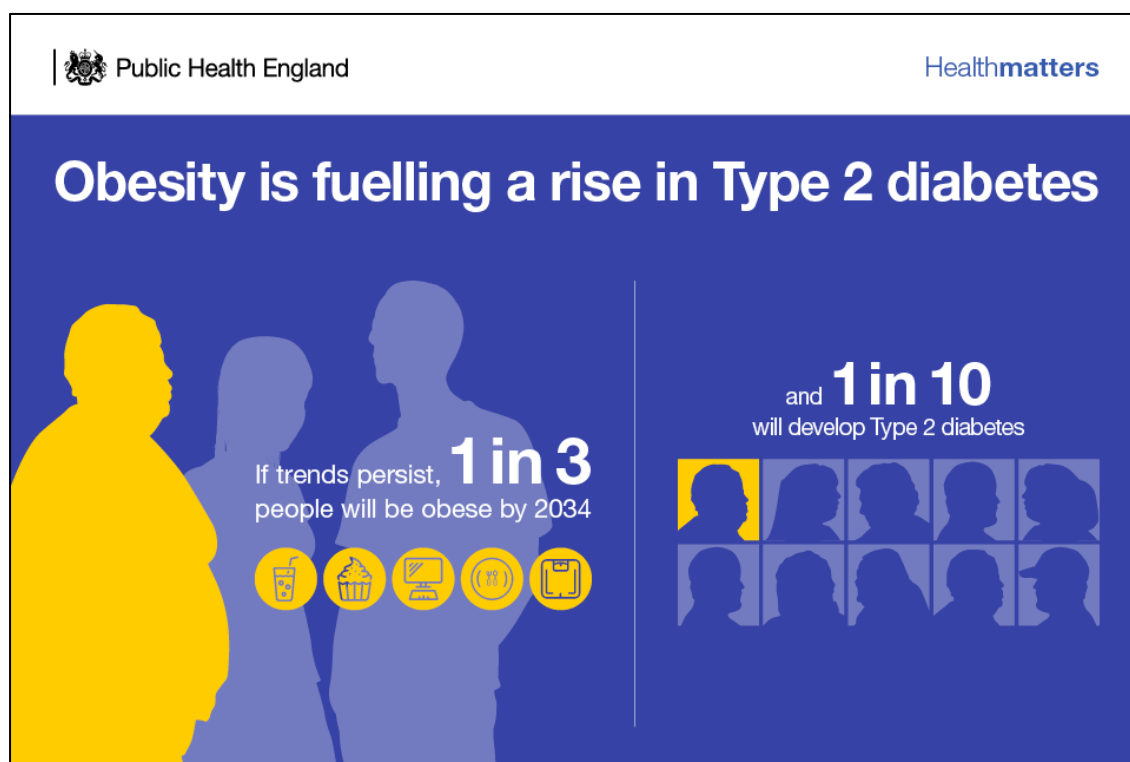


Figure 5: Obesity and type 2 diabetes relationship in the UK. Obese patients are at higher risk to develop type 2 diabetes due to lifestyle choices. If obesity rises it means that type 2 diabetes will also increase (Smith, 2018).

Impacts of diabetes:

Physical implications:

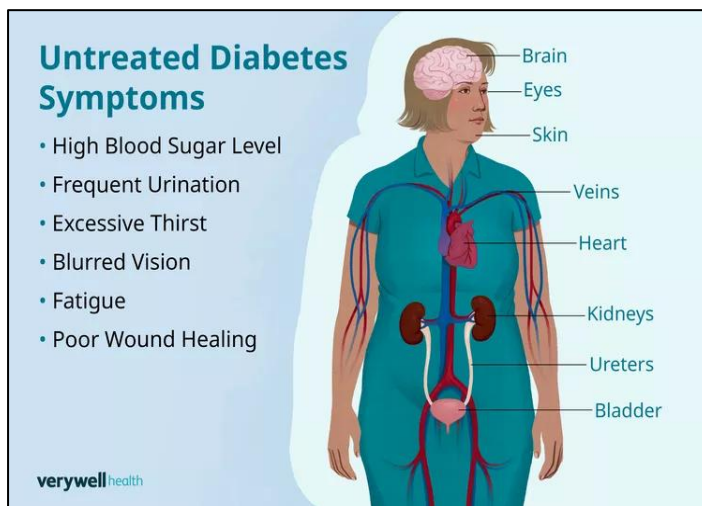


Figure 6: Diabetes physical effects. These effects affect different organs and lead to negative body changes (Etudo, 2026).

People with diabetes are at higher risk of developing other conditions. These can include:

- Strokes
- Kidney failure
- Heart attack
- Cardiovascular diseases

The above conditions are some of the most common

implications that co-exist with diabetes (Rietz *et al.*, 2022).

Diabetes can cause irreversible implications such as permanent vision loss (Kropp *et al.*, 2023), this is the leading cause of blindness globally. Additionally, people with diabetes might develop problems with their feet from nerve damage and poor blood flow leading to foot ulcers. If this worsens or is untreated, the patient might be amputated (Edmonds, Manu and Vas, 2021).

To prevent the above, patients must receive correct support and guidance to meet all needs.

Psychological impacts:

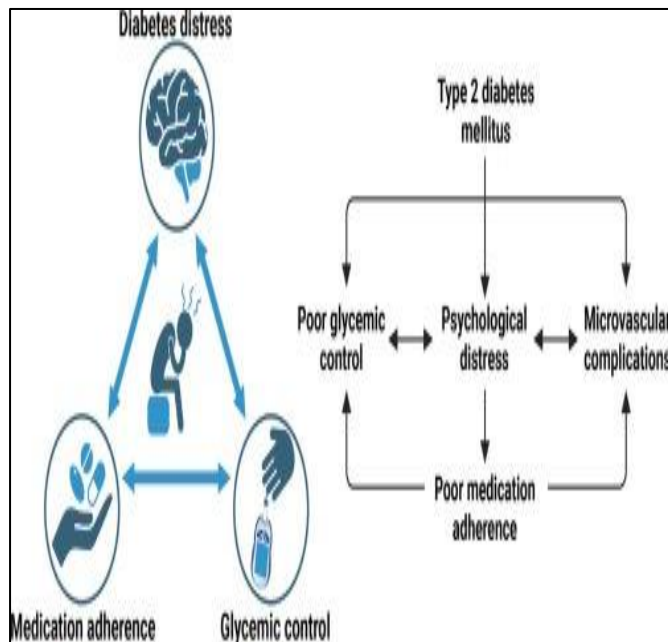


Figure 7: Psychological effects of diabetes.

All factors that cause psychological distress are connected and each affect the progress of the disease (Akshata and Nayak, 2024).

Psychological impacts refer to the effect a disease on mental health. This originates through changes in lifestyle, medications, regular appointments leading to emotional distress (Akyirem *et al.*, 2021). This can be harder for patients that have been diagnosed with a chronic disease such as type 1 diabetes.

Healthcare professionals have observed that many patients

have developed mental health problems such as anxiety, depression and eating difficulties which could further aggravate their condition (Davies, 2022).

These impacts are more likely to be present in a young person's life as they are growing and developing understanding of the world around them. This can lead to 'diabetes burnout' which is when the patient is tired of living with the condition increasing the risk of poor management (de Wit *et al.*, 2022).

Healthcare professionals must be trained to address to different psychological needs as it is an unique factor that alters the course of how diabetes is acting and patients' response (Stoop *et al.*, 2019).

Social impacts:

Diabetes affects how people interact and how they view them. Diabetic patients usually have some negative impacts on their mental health which causes their social life to change poorly. One of the effects diabetes has on social life is isolation. There is a tendency of patients to isolate themselves due to the stigma around the condition (Speight *et al.*, 2024). This often causes people to change their normal interactions and creates fear of new connections.

This stigma extends to other areas of life such as financial. Some might face discrimination in the employment sector leading them to have further difficulties which will aggravate the disease by creating negative effects in mental and physical health.

Healthcare authorities must create additional campaigns to decrease the stigma around diabetes.

The wider implication on families:

Diabetes affects patients' family members. The diagnosis may lead family members to be more alarmed in their daily lives. This means that lifestyles and routines might change to support the diabetic family member. The process of change might cause emotional distress specially if the diabetic family member is a child (Theofilou and Vlastos, 2023), pregnant or an older adult.

Physical, mental and social impacts of diabetes also interfere in families as they would also be adapting to the new life along with their loved one. Families can also affect diabetes (Leukel *et al.*, 2022). This means that they can create a positive impact through healthy habits and promoting better control of blood sugar levels amongst themselves. This will cause the diagnosed family member to improve their health condition (Zeren and Canbolat, 2023), as they would be surrounded by less stigma and more motivation.

Theoretical perspectives:

House of care model in the UK:

The House of Care Model is a framework developed to manage long-term conditions including diabetes. This aims to improve care of patients by including them in their care planning improved outcomes.

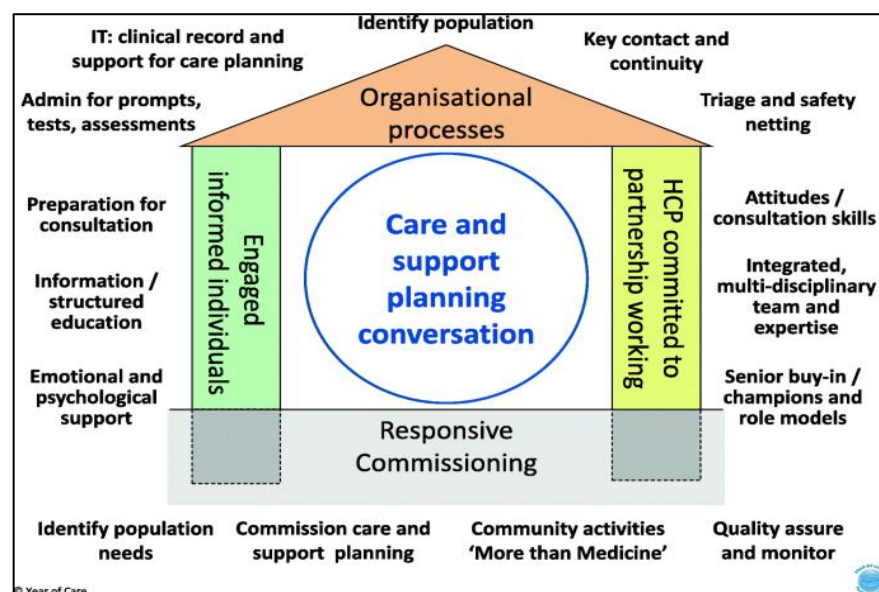


Figure 8: The House of Care Planning. This visual representation of the House of Care Planning shows all elements present in the framework. The elements form the shape of a house leading the origin of its name (Roberts *et al.*,

This model consists of the following elements (see Figure 8):

-A centre: This is the care planning where healthcare professionals work with patients to create an effective plan based on what is best for the patient.

-A left wall (engaged, empowered, well supported patients): This element ensures to inform patients to promote their autonomy in managing their disease and health.

-A right wall: This involves the collaborative partnership of health care professionals to come into agreement to what is the best strategy to tackle a health problem.

-A roof: These are organisational systems assisting care. One of the most crucial systems are IT systems where data can be shared safely among professionals.

-A foundation: This element involves factors outside healthcare. The factors can be communities, volunteering organisations and social groups prepared to aid in the treatment of a patient.

By applying these elements, there is a higher chance that diabetic patients will respond to treatment effectively, tasks related to diabetes would be met with more productivity and there would be increase of knowledge and skills (Coulter *et al.*, 2016).

International models-Chronic Care Model:

The Chronic Care Model is a framework used globally to promote high quality care by health organisation towards chronic conditions (Yeoh *et al.*, 2018). By applying this model, patients will have the opportunity to experience 'person-centred care' instead of focusing on the disease only.

Since this model (see Figure 9), is being applied globally, it means that diseases on rise such as diabetes will be able to be managed altogether

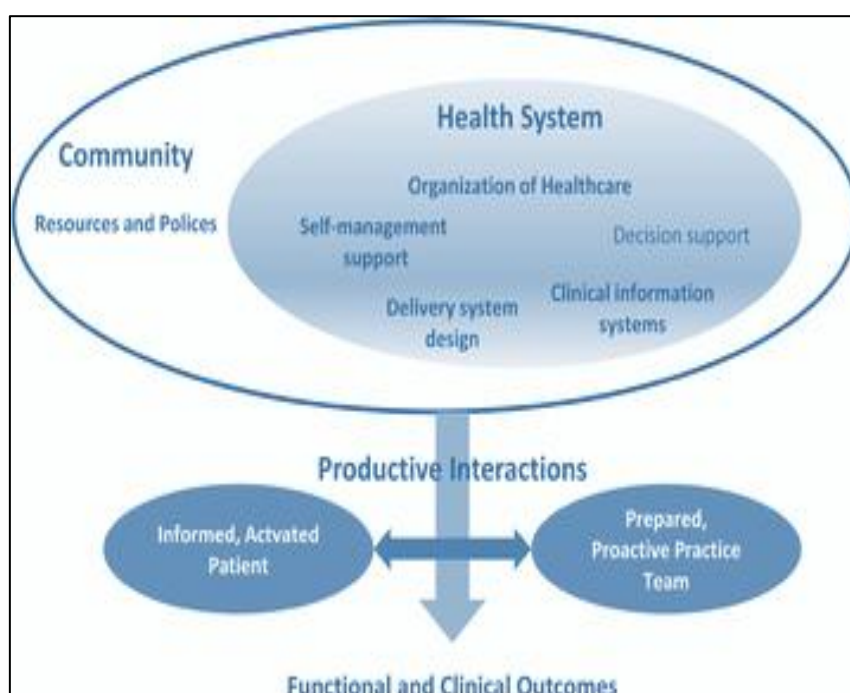


Figure 9: The chronic care model. This shows how all factors that build the model are connected leading to improved care (Baptista *et al.*, 2016).

as all healthcare industries are aiming to decrease prevalence.

As this is beneficial, there are also gaps in this model. One of them being the interaction between healthcare professionals and patients.

All countries, have health inequalities

that do not allow these to occur. Meaning that the benefits of this model would not be visible leading some to think that it is not effective.

To experience the benefits of this model, healthcare authorities need to ensure that patients have equal access to care.

Policy implications:

NHS diabetes agenda:

The NHS has different plans aimed to decrease the cases of diabetes in the UK. One of them is the NHS Diabetes Prevention Programme (NHS DPP). This has the focus of preventing type 2 diabetes in England.

This 9-month programme occurs in person or digitally. In person, patients receive personalised support to lose weight, change diets and develop healthier lifestyles as a group or individually.

Digitally, patients will use accessible technologies to track health progress. This programme has shown to lower the risk of diabetes by 20% (Diabetes UK, 2023). The limitation to this is that health inequalities might fail referring patients who are at risk meaning it is not equally accessible.

NHS policies and guidelines:

The NHS has different policies and guidelines to control diabetes based on National Institute for Health and Care Excellence (NICE). These guidelines ensure professionals diagnose, test and prescribe patients correctly and manage diabetes consistently (NICE, 2026).

Local diabetes care agenda-Leicester:

Leicester has been an epicentre of diabetes in England. This is why it is important to understand its agenda. The Leicester Diabetes Centre has been supporting the diabetic population.

The Leicester Diabetes Centre is a clinical research centre with the aim of improving diabetes care. They are partnered with NHS Leicester and University of Leicester to improve the lives of the diabetic population by combining already existing strategies to new strategies to fight prevalences.

This partnership is also utilising the NHS 'Type 2 Diabetes Path to Remission Programme' which also being applied to the rest of England. This is being implemented in local strategies as it aims to tackle the

prevalence of type 2 diabetes through the promotion of weight loss (NHS England, 2026).

Recommendations:

For improved services, healthcare professionals should increase their focus in person centred care which will involve a patient's self-management of diabetes and their end-of-life care.

Person centred care:

Person centred care is an approach focusing on the patient's choices rather than only observing the scientific aspect of the disease (Asmat *et al.*, 2022). This will lead to a patient's need and values to be respected and valued. For diabetes, healthcare authorities should:

- ❖ Ensure that person centred care is also including type 1 diabetes
- ❖ Not only rely in medicine to meet the needs of the patients
- ❖ Assist in lifestyle changes equally



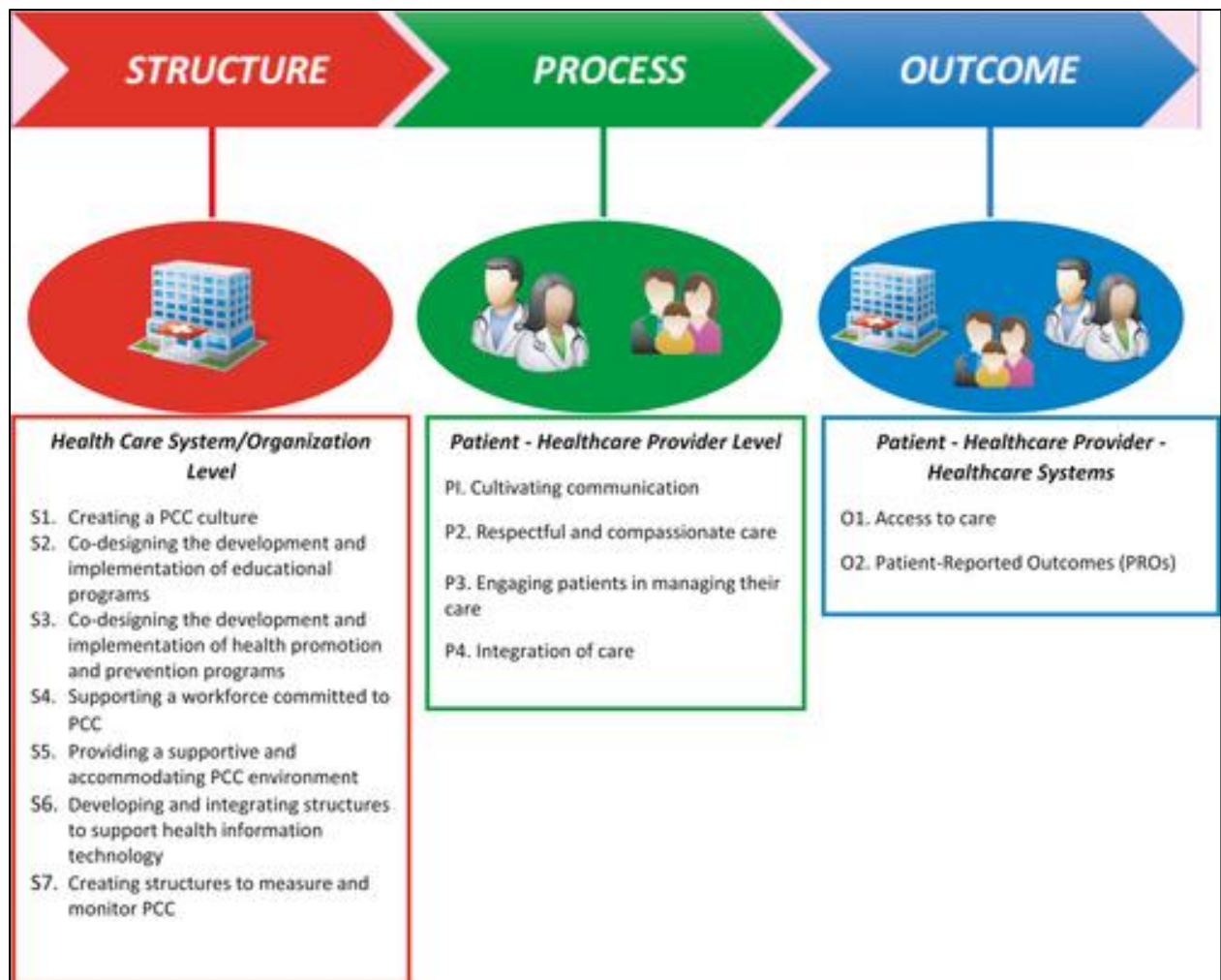


Figure 10: Person centred care framework. Person centred care has a structure based on health organisations which will support the process of delivering the care to patients to successful outcomes (Santana *et al.*, 2017).

Self-management:

This focus is linked to person centred care. To promote this:

- ❖ Awareness of diabetes must be raised through programmes and campaigns for increased patient autonomy.

Self-management is an important factor for health sectors as it would reduce waiting lists and meet the needs of vulnerable. Additionally, this would reduce patient's hospital visits allowing them to feel that they are living healthily and have more freedom in relation to their health.

The ways patients could self-manage diabetes include:

- ❖ Monitoring glucose regularly to ensure balanced diets are prepared.
- ❖ Regularly exercise to promote physical and mental wellbeing.
- ❖ Administrate medication on self

These allow patients to meet their own needs (Puzhakkal *et al.*, 2025). However, prior this, patients must be assessed by healthcare professionals to ensure that it is safe for them to do so independently.

End of life care – diabetes:

End of life care is support to patients that are in their last days or years of their lives. This type of care is crucial as needs of the patients must be met as they wish however some might go against treatment processes.

To prevent these types of scenarios, raising awareness to patients and their family members is crucial so they can make sensible decisions reducing patients' suffering and will improve their quality of life.



Figure 11: End of life care factors. These factors are what healthcare professionals follow to ensure that they reach all needs appropriately (Donnely *et al.*, 2018).

Conclusion:

Diabetes is a chronic condition that is raising globally. The main types are 1 and 2 (Forouhi and Wareham, 2019) which are being managed by different methods and frameworks such as the House of care model and chronic care model.

To decrease the prevalence of this disease, policies must be created at national and local levels to raise awareness and persuade people to improve lifestyle choices to reduce risk.

The management of diabetes is based on patients' choices of which must be respected and not be harmful to themselves. Further training and raising awareness will ensure improved care and decrease in cases.

References:

- Akshatha, S. and Nayak, U.B. (2024) "The psychological distress associated with type 2 diabetes mellitus represents an unmet need for drug discovery," *Medicine in drug discovery*, 23. Available at: <https://doi.org/10.1016/j.medidd.2024.100196>.
- Akyirem, S. *et al.* (2022) "Psychosocial interventions for adults with newly diagnosed chronic disease: A systematic review," *Journal of health psychology*, 27(7), pp. 1753–1782. Available at: <https://doi.org/10.1177/1359105321995916>.
- Baptista, D.R. *et al.* (2016). The chronic care model for type 2 diabetes: a systematic review. *Diabetology & metabolic syndrome*, 8(1), p.7. Available at: <https://doi.org/10.1186/s13098-015-0119-z>.
- Boutari, C., DeMarsilis, A. and Mantzoros, C.S. (2023) "Obesity and diabetes," *Diabetes research and clinical practice*, 202. Available at: <https://doi.org/10.1016/j.diabres.2023.110773>.
- Cieżki, S. *et al.* (2022) "Multi-Faceted Influence of Obesity on Type 1 Diabetes in Children – From Disease Pathogenesis to Complications," *Frontiers in endocrinology (Lausanne)*, 13, p. 890833. Available at: <https://doi.org/10.3389/fendo.2022.890833>.
- Coulter, A. *et al.* (2016). Building the House of Care for people with long-term conditions: the foundation of the House of Care framework. *The British Journal of General Practice*, 66(645), p.e288. Available at: <https://doi.org/10.3399/bjgp16X684745>
- Darraj, A. (2023) "The Link Between Sleeping and Type 2 Diabetes: A Systematic Review," *Cureus (Palo Alto, CA)*, 15(11), p. e48228. Available at: <https://doi.org/10.7759/cureus.48228>.
- Davies, M. (2022) "Psychological aspects of diabetes management," *Medicine (Abingdon. 1995, UK ed.)*, 50(11), pp. 749–751. Available at: <https://doi.org/10.1016/j.mpmed.2022.08.011>.
- Delpino, F.M. *et al.* (2022) "Ultra-processed food and risk of type 2 diabetes: a systematic review and meta-analysis of longitudinal studies," *International journal of epidemiology*, 51(4), pp. 1120–1141. Available at: <https://doi.org/10.1093/ije/dyab247>.
- Diabetes UK (2023) *NHS diabetes prevention programme linked to lower numbers of people developing Type 2 diabetes*. Available at: <https://www.diabetes.org.uk/about-us/news-and-views/reduced-risk-type-2-diabetes-diabetes-prevention-programme>. (Accessed: 24 February 2026).

Diabetes UK (no date) *How many people in the UK have diabetes?*. Available at: <https://www.diabetes.org.uk/about-us/about-the-charity/our-strategy/statistics#:~:text=We%20estimate%20that%20more%20than,living%20with%20over weight%20or%20obesity>. (Accessed: 23 February 2026).

Donnelly, S. *et al.* (2018) "Voices that matter: end-of-life care in two acute hospitals from the perspective of bereaved relatives," *BMC palliative care*, 17(1), pp. 117–13. Available at: <https://doi.org/10.1186/s12904-018-0365-6>.

Edmonds, M., Manu, C. and Vas, P. (2021) "The current burden of diabetic foot disease," *Journal of clinical orthopaedics and trauma*, 17, pp. 88–93. Available at: <https://doi.org/10.1016/j.jcot.2021.01.017>.

Egan, A.M. and Dinneen, S.F. (2019) "What is diabetes?," *Medicine (Abingdon. 1995, UK ed.)*, 47(1), pp. 1–4. Available at: <https://doi.org/10.1016/j.mpmed.2018.10.002>.

Etudo, M. (2026) 'How Untreated Diabetes Affects Your Body', *verywell health*, 20 February. Available at: <https://www.verywellhealth.com/untreated-diabetes-5116080> (Accessed: 25 February 2026).

Forouhi, N.G. and Wareham, N.J. (2019) "Epidemiology of diabetes," *Medicine (Abingdon. 1995, UK ed.)*, 47(1), pp. 22–27. Available at: <https://doi.org/10.1016/j.mpmed.2018.10.004>.

Goyal, S. *et al.* (2023). Genetics of diabetes. *World journal of diabetes*, 14(6), p.656. Available at: <https://doi.org/10.4239/wjd.v14.i6.656>.

Hossain, Md.J., Al-Mamun, M. and Islam, Md.R. (2024) "Diabetes mellitus, the fastest growing global public health concern: Early detection should be focused," *Health science reports*, 7(3), pp. e2004-n/a. Available at: <https://doi.org/10.1002/hsr2.2004>.

Jansen, S.N.G. *et al.* (2024) "Ethics of early detection of disease risk factors: A scoping review," *BMC medical ethics*, 25(1). Available at: <https://doi.org/10.1186/s12910-024-01012-4>.

Kainat Asmat *et al.* (2022) "The effectiveness of patient-centered care vs. usual care in type 2 diabetes self-management: A systematic review and meta-analysis," *Frontiers in public health*, 10. Available at: <https://doi.org/10.3389/fpubh.2022.994766>.

Klein, S. *et al.* (2022) "Why does obesity cause diabetes?," *Cell metabolism*, 34(1), pp. 11–20. Available at: <https://doi.org/10.1016/j.cmet.2021.12.012>.

Kropp, M. *et al.* (2023) "Diabetic retinopathy as the leading cause of blindness and early predictor of cascading complications—risks and mitigation," *The EPMA journal*, 14(1), pp. 21–42. Available at: <https://doi.org/10.1007/s13167-023-00314-8>.

Leukel, P.J. *et al.* (2022) "The influence of emotion regulation and family involvement on diabetes distress among adults with type 2 diabetes," *Journal of behavioral medicine*, 45(6), pp. 904–913. Available at: <https://doi.org/10.1007/s10865-022-00351-0>.

Li, D. *et al.* (2022) "Sedentary lifestyle and body composition in type 2 diabetes," *Diabetology and metabolic syndrome*, 14(1). Available at: <https://doi.org/10.1186/s13098-021-00778-6>.

Lu, T. *et al.* (2022) "Capturing additional genetic risk from family history for improved polygenic risk prediction," *Communications biology*, 5(1). Available at: <https://doi.org/10.1038/s42003-022-03532-4>.

McIntyre, H.D. *et al.* (2019) "Gestational diabetes mellitus," *Nature reviews. Disease primers*, 5(1). Available at: <https://doi.org/10.1038/s41572-019-0098-8>.

Mittal, R. *et al.* (2025) "Unveiling Gestational Diabetes: An Overview of Pathophysiology and Management," *International journal of molecular sciences*, 26(5), p. 2320. Available at: <https://doi.org/10.3390/ijms26052320>.

NHS England (2024) *NHS identifies over half a million more people at risk of type 2 diabetes in a year*. Available at: <https://www.england.nhs.uk/2024/06/nhs-identifies-over-half-a-million-more-people-at-risk-of-type-2-diabetes-in-a-year/> (Accessed: 23 February 2026).

NHS England (2026) 'NHS Type 2 Diabetes Path to Remission Programme service specification (2023)', *NHS*, 17 February. Available at: <https://www.england.nhs.uk/long-read/nhs-type-2-diabetes-path-to-remission-programme-service-specification-2023/> (Accessed: 04 March 2026).

NHS Digital (2022) *Rare Conditions Registration Statistics updated to 2022*. Available at: <https://digital.nhs.uk/data-and-information/publications/statistical/rare-condition-registration-statistics/updated-to-2022/what-is-prevalence> (Accessed: 21 February 2026).

NHS (2024) *Diabetes, type 2*. Available at: <https://111.wales.nhs.uk/encyclopaedia/d/article/diabetes,type2> (Accessed: 21 February 2026).

NICE (2025) *Diabetes – type 1: How common is it?*. Available at: <https://cks.nice.org.uk/topics/diabetes-type-1/background-information/prevalence/> (Accessed: 23 February 2026).

NICE (2026) *Diabetes – type 2*. Available at: <https://cks.nice.org.uk/topics/diabetes-type-2/> (Accessed: 04 March 2026).

Ogle, G.D. *et al.* (2025) "Global type 1 diabetes prevalence, incidence, and mortality estimates 2025: Results from the International diabetes Federation Atlas, 11th Edition, and the T1D Index Version 3.0," *Diabetes research and clinical practice*, 225. Available at: <https://doi.org/10.1016/j.diabres.2025.112277>.

O'Hare, R. (2024) 'Diabetes rate double doubles to 800 million adults, but over half are untreated', *Imperial College London*, 13 November. Available at:

<https://www.imperial.ac.uk/news/258217/diabetes-rate-doubles-800-million-adults/#:~:text=The%20countries%20with%20the%20lowest,and%2013.6%25%20in%20me>n). (Accessed: 21 February 2026).

Parlikar, U. (2015) 'Tight blood sugar control in type 2 diabetes linked to fewer heart attacks and strokes', *Harvard Health Publishing*, 4 June. Available at: <https://www.health.harvard.edu/blog/tight-blood-sugar-control-in-type-2-diabetes-linked-to-fewer-heart-attacks-and-strokes-201506048059> (Accessed: 25 February 2026).

Puzhakal, S. *et al.* (2025) "Self-care and self-management in diabetes: concepts, theories and practices," *International journal of clinical pharmacy*, 47(6), pp. 2094–2100. Available at: <https://doi.org/10.1007/s11096-025-01941-z>.

Sami, A. *et al.* (2025) "Genetics of diabetes and its complications: a comprehensive review," *Diabetology and metabolic syndrome*, 17(1). Available at: <https://doi.org/10.1186/s13098-025-01748-y>.

Santana, M.J. *et al.* (2018) "How to practice person-centred care: A conceptual framework," *Health expectations : an international journal of public participation in health care and health policy*, 21(2), pp. 429–440. Available at: <https://doi.org/10.1111/hex.12640>.

Smith, J. (2018) 'Health Matters: Preventing Type 2 diabetes', *UK Health Security Agency*, 24 May. Available at: <https://ukhsa.blog.gov.uk/2018/05/24/health-matters-preventing-type-2-diabetes/> (Accessed: 04 March 2026).

Speight, J. *et al.* (2024) "Bringing an end to diabetes stigma and discrimination: an international consensus statement on evidence and recommendations," *LANCET DIABETES & ENDOCRINOLOGY*, 12(1), p. 61. Available at: [https://doi.org/10.1016/S2213-8587\(23\)00347-9](https://doi.org/10.1016/S2213-8587(23)00347-9).

Stafford, L.K. *et al.* (2023) "Global, regional, and national burden of diabetes from 1990 to 2021, with projections of prevalence to 2050: a systematic analysis for the Global Burden of Disease Study 2021," *The Lancet (British edition)*, 402(10397), pp. 203–234. Available at: [https://doi.org/10.1016/S0140-6736\(23\)01301-6](https://doi.org/10.1016/S0140-6736(23)01301-6).

Stoop, C. *et al.* (2019) "Psychosocial health care needs of people with type 2 diabetes in primary care: Views of patients and health care providers," *Journal of advanced nursing*, 75(8), pp. 1702–1712. Available at: <https://doi.org/10.1111/jan.13996>.

Rahman, M.S. *et al.* (2021) "Role of Insulin in Health and Disease: An Update," *International journal of molecular sciences*, 22(12), p. 6403. Available at: <https://doi.org/10.3390/ijms22126403>.

- Rietz, M. *et al.* (2022). Physical activity and risk of major diabetes-related complications in individuals with diabetes: a systematic review and meta-analysis of observational studies. *Diabetes Care*, 45(12), pp.3101-3111. Available at: <https://doi.org/10.2337/dc22-0886>.
- Roberts, S. *et al.* (2019) "The Year of Care approach: developing a model and delivery programme for care and support planning in long term conditions within general practice," *BMC family practice*, 20(1). Available at: <https://doi.org/10.1186/s12875-019-1042-4>.
- Rouland, A. *et al.* (2024) "Smoking and diabetes," *Annales d'endocrinologie*, 85(6), pp. 614–622. Available at: <https://doi.org/10.1016/j.ando.2024.08.001>.
- Scott, R.A. *et al.* (2013) "The link between family history and risk of type 2 diabetes is not explained by anthropometric, lifestyle or genetic risk factors: the EPIC-InterAct study," *Diabetologia*, 56(1), pp. 60–69. Available at: <https://doi.org/10.1007/s00125-012-2715-x>.
- Sheffer, K.E. *et al.* (2024) "Worldwide trends in diabetes prevalence and treatment from 1990 to 2022: a pooled analysis of 1108 population-representative studies with 141 million participants," *The Lancet (British edition)*, 404(10467), pp. 2077–2093. Available at: [https://doi.org/10.1016/S0140-6736\(24\)02317-1](https://doi.org/10.1016/S0140-6736(24)02317-1).
- The Lancet (2023) "Diabetes: a defining disease of the 21st century," *The Lancet (British edition)*, 401(10394), pp. 2087–2087. Available at: [https://doi.org/10.1016/S0140-6736\(23\)01296-5](https://doi.org/10.1016/S0140-6736(23)01296-5).
- Theofilou, P. and Vlastos, D.D. (2023) "The Psychological Burden of Families with Diabetic Children: A Literature Review Focusing on Quality of Life and Stress," *Children (Basel)*, 10(6), p. 937. Available at: <https://doi.org/10.3390/children10060937>.
- United Nations [UN] (2024) *Global diabetes epidemic reaches critical levels with 800 million cases*. Available at: <https://news.un.org/en/story/2024/11/1156971> (Accessed: 21 February 2026).
- Vounzoulaki, E. *et al.* (2020) "Progression to type 2 diabetes in women with a known history of gestational diabetes: systematic review and meta-analysis," *BMJ (Online)*, 369, p. m1361. Available at: <https://doi.org/10.1136/bmj.m1361>.
- Wit, M. *et al.* (2022) "ISPAD Clinical Practice Consensus Guidelines 2022: Psychological care of children, adolescents and young adults with diabetes," *Pediatric diabetes*, 23(8), pp. 1373–1389. Available at: <https://doi.org/10.1111/pedi.13428>.
- Xin, H. *et al.* (2025) "Global, regional, and national burden of type 2 diabetes mellitus caused by high BMI from 1990 to 2021, and forecasts to 2045: analysis from the global burden of

disease study 2021,” *Frontiers in public health*, 13. Available at:

<https://doi.org/10.3389/fpubh.2025.1515797>.

Yeoh, E.K. *et al.* (2018) “Benefits and limitations of implementing Chronic Care Model (CCM) in primary care programs: A systematic review,” *International journal of cardiology*, 258, pp.

279–288. Available at: <https://doi.org/10.1016/j.ijcard.2017.11.057>.

Zeren, F.G. and Canbolat, O. (2023) “The relationship between family support and the level of self care in type 2 diabetes patients,” *Primary care diabetes*, 17(4), pp. 341–347. Available

at: <https://doi.org/10.1016/j.pcd.2023.04.008>.