National Program for Diabetes

Challenges and Strategies

2025

REPÚBLICA PORTUGUESA
SAÚDE

DGS
Direção-Geral da Saúde

National Program for Diabetes

Challenges and Strategies 2025

TECHNICAL SHEET
Portugal. Ministry of Health. Directorate-General of Health.
NATIONAL PROGRAM FOR DIABETES: CHALLENGES AND STRATEGIES 2025 Lisbon: Directorate-General of Health, 2025.
ISBN: 978-972-675-384-1

KEY WORDS
Diabetes *mellitus*, epidemiology, prevention and control, treatment, complications of diabetes, mortality, costs, National Program for Diabetes.

PUBLISHER
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Lisbon, November 2025

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Abbreviations and Acronyms

ACeS - Agrupamentos de Centros de Saúde (Healthcare Centre Groups)

ACSS - Administração Central do Sistema de Saúde (Central Health System Administration)

AID - Automated Insulin Delivery

AMI- Acute Myocardial Infarction

ANAFRE - Associação Nacional de Freguesias (National Parish Association)

APDP - Associação Protectora dos Diabéticos de Portugal (Association for the Protection of Diabetics in Portugal)

ARS - Administração Regional de Saúde (Regional Health Administration)

BDMH - Base de Dados da Morbilidade Hospitalar (Hospital Morbidity Database)

BMI – Body Mass Index

BP- Blood Pressure

CCF - Centro de Conferência de Faturas (Invoice Control Centre)

CKD - Chronic Kidney Disease

CSII - Continuous Subcutaneous Insulin Infusion

DDD - Defined Daily Dose

DGS - Direção-Geral da Saúde (Directorate General of Health)

DM - Diabetes *mellitus*

DQS - Departamento da Qualidade na Saúde da Direção-Geral da Saúde (Department of Health Quality of the General Directorate of Health)

DSIA - Direção de Serviços de Informação e Análise ((Information and Analysis Services Directorate)

ECL - Equipas Coordenadoras Locais (Local Coordinating Teams)

EU – European Union

FRAD - Frente Rotária Anti-Diabetes (Rotary Anti-Diabetes Front)

GD - Gestational Diabetes

ICD - International Classification of Diseases

ICPC - Classificação Internacional de Cuidados Primários (International Classification of Primary Care)

IDF - International Diabetes Federation

IFG – Impaired Fasting Glucose

IGT – Impaired Glucose Tolerance

INE - Instituto Nacional de Estatística (National Statistics Institute)

INFARMED - Autoridade Nacional do Medicamento e Produtos de Saúde (National Authority for Medicines and Health Products)

ISBE - Instituto de Saúde Baseada na Evidência (Institute of Evidence-Based Health)

LVT - Lisboa e Vale do Tejo (Lisbon and Tagus Valley region)

M€ - Millions of euros

NA – Not applicable

No. - Number

OECD - Organization for Economic Co-operation and Development

OND - Observatório Nacional da Diabetes (National Diabetes Observatory)

PHC - Primary Health Care

PND - Programa Nacional para a Diabetes (National Program for Diabetes)

PTGO - Prova de Tolerância à Glicose Oral (oral glucose tolerance test)

RRD - Rastreio da Retinopatia Diabética (Screening for Diabetic Retinopathy)

RTP - Rádio e Televisão de Portugal (Portuguese Radio and Television)

SICO - Sistemas de Informação dos Certificados de Óbito (Death Certificate Information Systems)

SIM - Sistema de Informação e Monitorização do Serviço Nacional de Saúde (National Health Service Information and Monitoring System)

SiiMA - Plataforma Multi-Rastreios (Multi-Screening Platform)

SPD - Sociedade Portuguesa de Diabetologia (Portuguese Society of Diabetology)

SPMS - Serviços Partilhados do Ministério da Saúde (Shared Services of the Ministry of Health)

SPN - Sociedade Portuguesa de Nefrologia (Portuguese Society of Nephrology)

NHS - National Health Service

NHS 24 - National Health Service Contact Centre

T1DM – Type 1 Diabetes

T2DM – Type 2 Diabetes

UCFD - Unidade Coordenadora Funcional da Diabetes (Diabetes Functional Coordinating Unit)

ULS - Unidade Local de Saúde (Local Health Unit)

WHO - World Health Organization

Summary in Plain Language

This document summarises the updated national epidemiological data on diabetes for 2023-2024, a summary of key activities carried out by the National Program for Diabetes (PND) in 2024-2025.

Monitoring and Epidemiological Surveillance

A. Portugal continues to have a high prevalence of diabetes, with more than 930,000 people registered with a diagnosis of diabetes in Primary Health Care (PHC) by December 2024, representing 8.9% of users registered with the National Health Service (NHS).

B. There were 80,915 new registrations of diabetes diagnoses in 2024 in PHC.

C. It is estimated that around 33,350 people in Portugal have type 1 diabetes. In 2024, there were 20,259 people under the age of 50 with type 1 diabetes, of whom 3,610 were under the age of 20.

D. Most users with diabetes had at least one nursing consultation at PHC Centers, with an increasing focus on managing their therapeutic regimen, including diet, physical activity, and medication.

E. Gestational diabetes was present in 8.4% of pregnancies delivered in the NHS in 2023.

F. Type 2 diabetes risk assessment was performed in 3.89 million users in the 2022/2024 triennium, corresponding to 62% of the target population and an increase of 7% over the previous year.

G. Glycemic control and other cardiovascular risk factors have shown progressive improvement in recent years. In 2024, 70% of people with diabetes had HbA1c ≤ 8%, 60% had LDL cholesterol ≤ 100mg/dl, and 79% had blood pressure ≤ 140/90 mmHg.

H. At the end of 2024, 4,661 people with type 1 diabetes were treated with Continuous Subcutaneous Insulin Infusion (CSII). In 2025, with the dispensing of these devices through community pharmacies, there was a significant increase in access to this type of treatment (by the end of the first semester, 5,537 users were on this treatment 3,546 of whom were using Automatic Insulin Delivery Systems).

I. The population coverage rate for diabetic retinopathy screening was 46% and the population screening rate was 29%, revealing a decline in access to screening for this complication in 2024.

J. Diabetic nephropathy screening was performed in 74% of patients at PHC Centers, revealing greater access to this screening. Diabetes remains the leading cause of chronic kidney disease requiring renal replacement therapy.

K. In 2024, at least one diabetic foot ulcer risk assessment was performed on 83% of users registered with diabetes at PHC Centers. However, the number of major amputations remains high.

L. There was a reduction in hospital admissions for acute myocardial infarction (AMI) and stroke, however 33% of AMI episodes and 31% of stroke episodes occurred in people with diabetes.

M. In 2023, there were more than 260,000 hospital episodes in people with diabetes in the NHS. Concerning episodes with a primary diagnosis of diabetes, there was an increase in outpatient episodes (48 159), while the number of inpatient episodes remained similar (7 297).

N. In 2023, episodes of diabetic ketoacidosis and hypoglycemia decreased compared to the previous year.

O. There was an increase in the consumption of medicines and total expenditure on antidiabetic drugs (€493 million in 2023 vs. €616 million in 2024). There has also been an increase in the use of interstitial glucose monitoring devices (931 000 vs. 1 040 000 sensors), corresponding, in optimal use, to around 40,000 people using this type of monitoring in 2024. In addition to these, there are people being treated with Automatic Insulin Delivery Systems, which include continuous glucose monitoring systems.

P. Although diabetes accounted for 2,8 % of all deaths in 2023, the mortality rate before the age of 70 has decreased significantly since 2019.

Health Promotion and Disease Prevention

A. "Falar Abertamente da Diabetes" (Talking Openly About Diabetes): Partnership with TV (Rádio e Televisão de Portugal, RTP) on the TV program "Praça da Alegria", second season starting in 2024. Dissemination of educational videos on the social networks of RTP and DGS, and the PND microsite.

B. National competition "Diabetes and Schools": 5th edition in the 2024/25 school year, under the theme "diabetes, physical, mental, and social well-being".

C. "Correr e Caminhar pela Diabetes" (Running and Walking for Diabetes): annual event to promote physical activity, held in Covilhã (2024) and Lisbon (2025).

D. "Mais Saúde, Menos Diabetes" (More Health, Less Diabetes) program for the prevention of diabetes. Implementation of the educational program in a pilot group of people at high risk of developing the disease. Start of the randomised study of the "More Health, Less Diabetes" program with the inclusion of physical exercise.

Promotion of Best Practices, Quality, and Safety

A. Presentation and publication of the annual report of the National Program for Diabetes (PND) and publication of the diabetic retinopathy screening monitoring report.

B. Publication and implementation of Order No. 3390/2025 of 17 March, which "Determines the updating of the PND governance structure and the functioning of diabetes consultations".

C. Publication of Standard No. 06/2024 on "Organization of healthcare for people with type 1 diabetes".

D. Publication of the Guidance on "Prevention, Diagnosis, and Treatment of People with Diabetic Foot".

E. Coordination of the Continuous Subcutaneous Insulin Infusion treatment program. Ordinance No. 18/2025/1 of 21 January was published, which "Creates the exceptional reimbursement scheme for Continuous Subcutaneous Insulin Infusion medical devices and monitoring systems".

F. Co-coordination of the "Diabetes em Movimento" (Diabetes in Motion) program in association with the National Program for the Promotion of Physical Activity.

G. Participation in the European project to promote healthy lifestyles for the control and/or remission of type 2 diabetes: Joint Action Care4Diabetes.

H. Proposal for a pilot study on the implementation of "Population-based screening for type 1 diabetes in children".

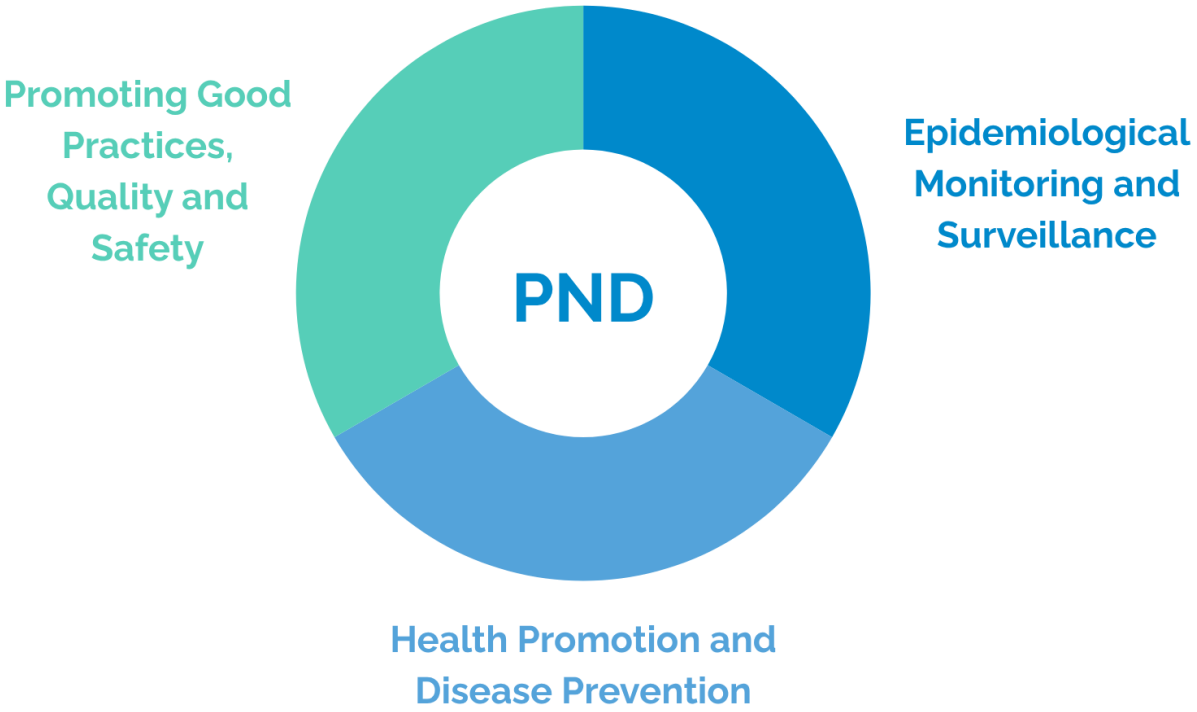
Introductory note

For decades, diabetes has been one of the greatest public health challenges in Portugal. In 1974, the first national Program dedicated to this disease was established, inspired by the 1973 Development Plan. Since then, the National Diabetes Program has been successively revised, and in 2012 it became part of the Directorate-General of Health's set of Priority Health Programs, reflecting the growing burden of the disease on Portuguese society.

According to the 11th edition of the IDF Diabetes Atlas (2025), around 1.1 million adults in Portugal live with diabetes, corresponding to a prevalence of 14.3% in the population aged between 20 and 79. This rate places the country among the most affected in the European Union. It is also estimated that 43.6% of cases remain undiagnosed, a situation that compromises the possibility of early intervention and increases the risk of complications.

Type 2 diabetes accounts for over 90% of diabetes cases. Promoting healthy eating habits, regular physical activity and weight management is essential to reverse the rising trend of the disease. At the same time, it is important to strengthen the focus on screening and early diagnosis, promoting effective monitoring to prevent complications and improve the quality of life of people with diabetes.

The National Diabetes Program focuses its activities on three strategic areas:



Chapter I – Epidemiological Monitoring and Surveillance 2023/2024

1. Prevalence and incidence of diabetes

In the European region, comprising 59 countries and territories, the International Diabetes Federation (IDF) has estimated a diabetes prevalence of 9.8%, corresponding to approximately 66 million people. This figure is projected to increase by 10% by 2050. Furthermore, this region has the highest number of children and adolescents with type 1 diabetes, estimated at 419,000 cases.

According to the IDF, in 2024, around 1.1 million adults in Portugal were living with diabetes, corresponding to a prevalence of 14.3% in the population aged between 20 and 79 (10.5% age-standardised). This organisation also estimated that 43.6% of cases remained undiagnosed. (1)

Type 1 Diabetes

Within the National Health Service (NHS), including primary care and hospital care, there were 3,610 people with a recorded diagnosis of type 1 diabetes by the age of 19 (prevalence 201 per 100,000 inhabitants) and 13,209 people up to the age of 39 (prevalence 328 per 100,000 inhabitants).

The total number of people with T1D registered in SClínico may be overestimated in older age groups. The coding system (the old classification in which patients were categorised as insulin-dependent and non-insulin-dependent diabetes) may include people with insulin-treated type 2 diabetes, particularly in older age groups. A reclassification effort will be necessary to ascertain the true situation.

Table 1. Cases of Type 1 diabetes (Primary Health Care and Hospital Care), Mainland Portugal | 2022 – 2024

	No. of Registered Cases		
Age Groups	**2022**	**2023**	**2024**
0 – 4 years	156	121	99
5 – 9 years	516	587	636
10 – 14 years	1 184	1 178	1 130
≤ 14 years	1 856	1 886	1 865
15 – 19 years	1 752	1 792	1 745
≤ 19 years	3 608	3 678	3 610
20 – 29 years	4 116	4 413	4 561
≤ 29 years	7 724	8 091	8 171
30 – 39 years	4 721	4 924	5 038
≤ 39 years	12 445	13 015	13 209
40 – 49 years	NA	7 041	7 050
≤ 49 years	NA	20 056	20 259

50 – 59 years	NA	9 831	10 014
≤ 59 years	NA	29 887	30 273
60 – 69 years*	NA	16 149	15 783
≤ 69 years *	NA	46 036	46 056
≥ 70 years*	NA	34 211	33 944
Total (all ages)	NA	**80 347**	**80 000**

Source: SIM@NHS, October 2025. Code: T89 - Insulin-Dependent Diabetes (Primary Health Care) / type 1 diabetes mellitus (Hospital Care), assuming that the values are overestimated in the younger Age Groups (*)

Table 2. Type 1 diabetes prevalence (Primary Health Care and Hospital Care), Mainland Portugal | 2024

Age Groups	Prevalence Rate (/100 000)
≤ 14 years	145
≤ 19 years	205
≤ 29 years	282
≤ 39 years	324
≤ 49 years	369
≤ 59 years	436

Source: SIM@NHS, October 2025. Records with Code T89 - Insulin-Dependent Diabetes (Primary Health Care) / Type 1 Diabetes Mellitus (Hospital Care). Population data used for rate calculations: INE.

Table 3. Type 1 diabetes incidence (Primary Health Care and Hospital Care), Mainland Portugal | 2023- 2024

Age Groups	2023		2024	
	No. of new cases	Incidence rate (/100 000)	No. of new cases	Incidence rate (/100 000)
≤ 14 years	263	20,28	265	20,44
≤ 19 years	327	-	344	-

Source: PND; Portuguese Society of Paediatric Endocrinology and Diabetology (SPDE); Data provided by Local Health Units, February 2025

Gestational Diabetes and Pregestational Diabetes

In 2023, Gestational Diabetes (GD) was present in 8.4% of pregnancies resulting in delivery within the NHS, ranging from a prevalence of 2.2% among women under 20 years of age to 15.2% among women aged 40 and over. Most women were treated with non-pharmacological therapy, and, in percentage terms, caesarean sections were more common among women with GD (40%) compared with women without GD (32%). By the end of 2023, there were also 277 births among women with pre-existing diabetes.

Table 4. Proportion of women with Gestational Diabetes (GD) in Portugal in the NHS | 2019 – 2023

	2019	2020	2021	2022	2023
No. of deliveries in women with GD	4 119	5 082	5 710	5 545	5 830
Total no. of deliveries	72 061	69 073	64 470	68 311	69 679
No. of caesarean sections in women with GD	1 479	1 881	2 152	2 149	2 324
% of caesarean sections in women with GD	36	37	38	39	40

No. of caesarean sections in total deliveries in NHS Hospitals	21 456	20 810	19 900	21 675	22 592
% of caesarean sections in total deliveries in the NHS Hospitals	30	30	31	32	32
Prevalence of Gestational Diabetes (GD)	5,7%	7,4%	8,9%	8,1%	8,4%
No. of deliveries in women with GD aged < 20 years	36	31	35	47	37
No. of deliveries in women with GD aged 20 - 29 years	1 016	1 247	1 431	1 446	1 550
No. of deliveries in women with GD aged 30 - 39 years	2 505	3 164	3 454	3 308	3 488
No. of deliveries in women with GD aged ≥40 years	562	640	790	744	755
Prevalence of GD in women aged < 20 years	1,8	1,8	2,3	3,0	2,2
Prevalence of GD in women aged 20 - 29 years	4,0	5,0	6,3	5,9	6,0
Prevalence of GD in women aged 30 - 39 years	6,3	8,4	9,7	8,9	9,3
Prevalence of GD in women aged ≥40 years	11,3	13,0	16,2	14,8	15,2

Note: Primary Diagnosis (PD) and Associated Diagnosis (AD) codes consulted: AD: V27. - (ICD 9 MC) and Z37. 0- (ICD 10 MC); PD: 648. - (ICD 9 MC) and O24. 42- (ICD 10 MC). Source: Business Intelligence for Hospital Morbidity - BIMH, accessed on 23/09/2025. Note: Inpatient and outpatient episodes coded in ICD9CM or ICD10CM/PCS, with valid codes) by NHS hospitals, from January 1, 2018 to September 23, 2025 (data import date from the Hospital Morbidity Database (BDMH)).

Table 5. Gestational Diabetes Therapy in Portugal | 2019 – 2023

	2019	2020	2021	2022	2023
Non-pharmacological measures (%)	57	59	55	56	55
Oral antidiabetic drugs (%)	21	21	23	22	21
Insulin (%)	13	13	13	14	15
Not specified (%)	8	8	8	9	10

Source: Business Intelligence for Hospital Morbidity - BIMH, accessed on 09/23/2025. Note: Each user may correspond to more than one therapeutic option. (Inpatient and outpatient episodes coded in ICD10CM/PCS, with valid codes) by NHS hospitals, from January 1, 2018 to September 23, 2025 (data import date from the Hospital Morbidity Database (BDMH)).

Table 6. Prevalence of Pregestational Diabetes in women giving birth in hospitals, Portugal | 2019 – 2023

	2019	2020	2021	2022	2023
Cases of T1DM Pregestational Diabetes (n)	106	115	118	124	127
Cases of T2DM Pregestational Diabetes (n)	67	90	101	103	132
Other cases of Pregestational Diabetes (n)	16	12	11	19	18
Total cases of Pregestational Diabetes (n)	189	217	230	246	277

T1DM: Type 1 Diabetes; T2DM: Type 2 Diabetes. Source: Business Intelligence for Hospital Morbidity - BIMH, accessed on 09/23/2025. Note: (Hospitalization episodes coded in ICD9CM or ICD10CM/PCS, with valid codes) by NHS hospitals, from January 1, 2018 until the last date of data import from BIMH).

Diabetes Registration in Primary Health Care

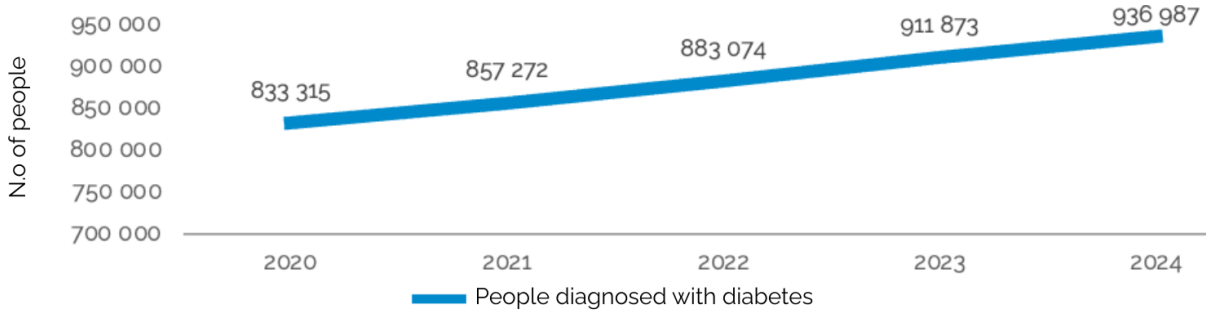
By the end of 2024, the recorded prevalence of diabetes in mainland Portugal stood at 936,987 patients (including type 1 and type 2) registered with primary healthcare services. This figure corresponds to 8.9% of all patients registered at that level of care. The upward trend observed in previous years is confirmed, both in terms of the absolute number of cases and the percentage of the population. The regional distribution of diabetes prevalence shows significant variation, with the proportion of people with a registered diagnosis ranging from 7.6% in the Algarve Region to 10.6% in the Alentejo Region. In terms of distribution by type of diabetes, T2D is the most prevalent form, accounting for 92.5% (844,277) of patients with a registered diagnosis.

Table 7. Number of users diagnosed with Diabetes registered in Primary Health Care, by region | 2020 – 2024.

Region		2020	2021	2022	2023	2024
Northern	**N**	314 845	326 666	340 139	353 860	375 716
	% of registered users	8,4	8,7	9,0	9,3	9,7
Central	**N**	159 585	163 409	166 944	171 212	179 130
	% of registered users	8,9	9,0	9,1	9,4	9,7
LVT	**N**	275 386	281 086	287 097	296 028	289 499
	% of registered users	7,3	7,3	7,3	7,5	7,7
Alentejo	**N**	48 612	49 442	50 727	51 842	52 571
	% of registered users	9,6	9,7	9,9	10,2	10,6
Algarve	**N**	34 887	36 669	38 167	38 931	40 071
	% of registered users	7,0	7,0	7,2	7,4	7,6
Mainland Portugal	**N**	**833 315**	**857 272**	**883 074**	**911 873**	**936 987**
	% of registered users	**8,1**	**8,2**	**8,4**	**8,6**	**8,9**

Source: SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS MORB.198.01.

Figure 1. Evolution of the number of patients diagnosed with Diabetes registered in Primary Health Care | 2020 – 2024



Source: SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS MORB.198.01.

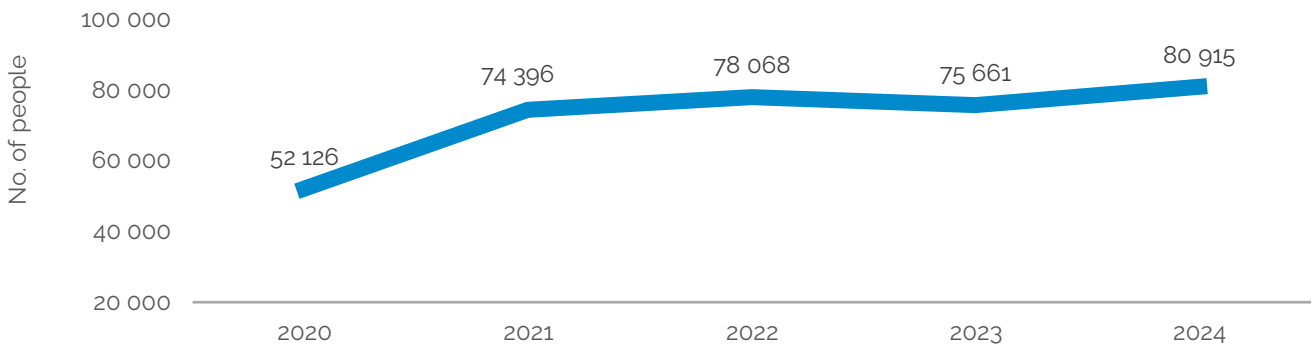
In 2024, there were 80,915 new cases of diabetes diagnosed, corresponding to a rate of 7.7 per 1,000 registered patients in mainland Portugal.

Table 8. Rate of new Diabetes registrations per 1,000 users and number of new cases registered at Primary Health Care level, Mainland Portugal | 2020 – 2024

Region		2020	2021	2022	2023	2024
Northern Region	‰	5,0	7,5	8,1	7,9	8,6
Central Region	‰	5,8	7,5	7,5	7,6	7,7
LVT Region	‰	4,7	6,4	6,6	6,3	6,7
Alentejo Region	‰	5,5	7,9	8,3	7,8	8,8
Algarve Region	‰	5,4	6,8	7,1	6,5	7,0
Mainland Portugal	‰	5,1	7,1	7,4	7,2	7,7

Source: SPMS – SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS BI MORB.236.01.FL Incidence of diabetes.

Figure 2. Evolution in the number of new patients with recorded diabetes in Primary Health Care | 2020–2024



Source: SPMS – SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS BI MORB.236.01.FL Incidence of Diabetes

2. Risk of Diabetes

Intermediate Hyperglycemia

With regard to impaired glucose regulation — including impaired fasting glucose (IFG), impaired glucose tolerance (IGT) or both — the IDF estimated that, in 2024, 5.6% of the Portuguese population aged between 20 and 79 had IFG, whilst 12% had IGT. (1)

Table 9. Estimated prevalence of diabetes, impaired fasting glucose levels and impaired glucose tolerance in Portugal | 2024

Prevalence rate	%
Diabetes	10,5
Impaired fasting glucose (IFG)	5,6
Impaired glucose tolerance (IGT)	12,0

Source: *IDF Diabetes Atlas 11th Ed* (1).

According to data published by the Portuguese Society of Diabetology (SPD) for the year 2024 (based on the PREVADIAB study (2),), intermediate hyperglycemia in Portugal affected 28.8% of the Portuguese population aged between 20 and 79, corresponding to 10.8% of people with impaired fasting glucose (IFG), 15.0% with impaired glucose tolerance (IGT) and 2.9% with both (totalling 2.3 million individuals) (3).

Type 2 Diabetes Risk Assessment

In primary healthcare in mainland Portugal, between 2022 and 2024, 3.89 million patients were identified as having undergone at least one risk assessment for type 2 diabetes, corresponding to around 62% of the target population. This figure represents a 7% increase compared with the previous three-year period (2021–2023), reflecting consistent growth across all regions.

Risk assessments are carried out during primary care consultations using the Finnish Diabetes Risk Score (FINDRISC) questionnaire, which helps to identify and stratify the risk of developing type 2 diabetes over a 10-

year period. This screening is aimed at adults aged 18 or over who have not previously been diagnosed with diabetes, and it is recommended that the assessment be repeated at least every three years.

In addition to risk assessment during face-to-face appointments, patients can carry out a self-assessment via the NHS Portal. In 2024, 166,377 self-assessments were recorded.

In this way, it is possible to identify the population at highest risk and implement measures to prevent type 2 diabetes, as well as to carry out early diagnosis in cases of high or very high risk, using laboratory tests.

Table 10. Proportion of users with Type 2 diabetes risk assessment recorded in Primary Health Care | 2018 – 2024

		2018/2020	2019/2021	2020/2022	2021/2023	2022/2024
Northern Region	**No.**	1 239 197	1 210 347	1 365 322	1 639 269	1 819 712
	% of the target population	54	52	58	68	73
Central Region	**No.**	416 464	407 336	459 345	580 079	708 256
	% of the target population	39	38	42	52	61
LVT Region	**No.**	629 413	619 821	731 488	949 655	1 071 287
	% of the target population	32	31	36	45	53
Alentejo Region	**No.**	82 223	85 182	97 756	123 374	137 975
	% of the target population	33	32	36	45	46
Algarve Region	**No.**	82 223	85 182	97 756	123 374	149 935
	% of the target population	33	32	36	45	53
Mainland Portugal	**No.**	2 487 884	2 431 050	2 756 452	3 211 780	3 887 165
	% of the target population	42	41	46	55	62

Source: SIM@NHS 2024, 2013.262.01 FL, extracted on February 8th.

Table 11. Proportion of users with Type 2 diabetes risk assessment recorded in Primary Health Care, by risk level and region | 2018 – 2024

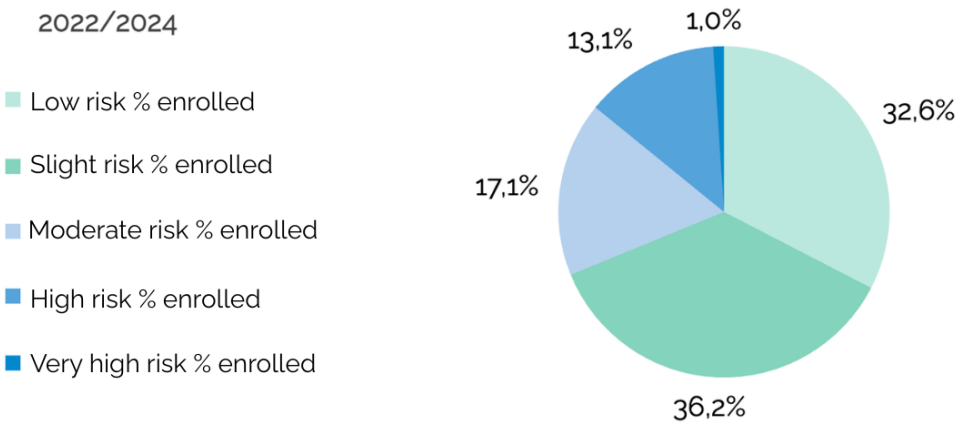
			2018/2020	2019/2021	2020/2022	2021/2023	2022/2024
Northern Region	**Low risk**	% of registered users	32,9	32,4	31,8	32,1	32,3
	Slight risk	% of registered users	37,4	37,3	36,1	36,4	36,8
	Moderate risk	% of registered users	17,4	17,6	17,7	17,4	17,0
	High risk	% of registered users	11,7	12,0	13,4	13,1	12,9
	Very high risk	% of registered users	0,7	0,7	1,1	1,0	1,0
Central Region	**Low risk**	% of registered users	28,3	28,4	28,1	28,8	30,0
	Slight risk	% of registered users	38,0	38,0	36,5	37,4	36,9
	Moderate risk	% of registered users	19,1	18,9	18,5	17,9	17,6
	High risk	% of registered users	13,7	13,8	15,3	14,6	14,2
	Very high risk	% of registered users	0,9	0,9	1,6	1,4	1,2

LVT Region	**Low risk**	% of registered users	30,2	30,5	32,9	34,3	35,4
	Slight risk	% of registered users	36,8	36,6	34,6	34,7	34,6
	Moderate risk	% of registered users	18,8	18,7	17,7	17,2	16,5
	High risk	% of registered users	13,2	13,2	13,5	12,8	12,4
	Very high risk	% of registered users	0,9	0,9	1,2	1,1	1,1
Alentejo Region	**Low risk**	% of registered users	28,8	29,0	27,9	28,1	28,5
	Slight risk	% of registered users	36,7	36,4	35,4	35,8	35,9
	Moderate risk	% of registered users	19,8	19,8	19,9	19,8	19,4
	High risk	% of registered users	13,8	14,0	15,7	15,2	15,2
	Very high risk	% of registered users	0,8	0,9	1,1	1,1	1,1
Algarve Region	**Low risk**	% of registered users	33,7	34,2	34,2	34,0	34,3
	Slight risk	% of registered users	36,7	36,9	35,6	35,9	35,8
	Moderate risk	% of registered users	17,4	16,9	16,8	16,9	16,8
	High risk	% of registered users	11,4	11,2	12,2	12,2	12,1
	Very high risk	% of registered users	0,6	0,6	1,2	1,3	1,6
Mainland Portugal	**Low risk**	% of registered users	31,3	31,1	31,4	32,0	32,6
	Slight risk	% of registered users	37,3	37,2	35,8	36,1	36,2
	Moderate risk	% of registered users	18,2	18,2	17,8	17,5	17,1
	High risk	% of registered users	12,5	12,7	13,8	13,3	13,1
	Very high risk	% of registered users	0,8	0,8	1,2	1,1	1,0

Source: SIARS 2024, extracted on May 14. Note: Type 2 Diabetes Risk Levels over 10 years: Low (1 in 100 people), Mild (1 in 25 people), Moderate (1 in 6 people), High (1 in 3 people), and Very High (1 in 2 people).

Between 2022 and 2024, of the 3.84 million patients assessed in mainland Portugal's primary healthcare system for their risk of type 2 diabetes, around 1.19 million (31.2%) were found to be at moderate, high or very high risk, continuing the trend observed in the previous three-year period. These risk levels require lifestyle-focused interventions, promoting health education with the aim of reducing and addressing the identified risk factors.

Figure 3. Proportion of users with Type 2 Diabetes risk assessment registered in Primary Health Care, by risk level in the 2022/ 2024 triennium



Source: SIARS 2025, extracted on August 8th.

3. Access to health care

Medical and Nursing Surveillance

Regarding the monitoring of patients diagnosed with type 2 diabetes (T2D) in primary care, there was a slight increase in the proportion of patients with a follow-up commitment, rising from 89% in 2023 to 91% in 2024.

Table 12. Proportion of patients with T2DM with surveillance commitment with the NHS in terms of Primary Health Care, Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	91	92	93	93	95
Central Region	%	87	87	89	89	92
LVT Region	%	82	81	83	83	86
Alentejo Region	%	92	92	92	91	93
Algarve Region	%	81	81	84	86	89
Mainland Portugal	%	87	87	89	89	91
	N	662 394	685 884	721 935	747 983	794 278

Source: SIM@NHS 2025, extracted on February 17th. BI 2013.075.01FL Proportion of type 2 diabetes with surveillance commitment.

Regarding nursing follow-up appointments, there was an increase in the proportion of patients receiving follow-up care in 2024, with 84% of patients with diabetes attending a nursing follow-up appointment. This figure confirms the upward trend compared with previous years, reflecting progress in adherence to regular monitoring practices.

Table 13. Proportion of users with diabetes receiving nursing care consultations in the NHS at the Primary Health Care level, Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	76	80	89	91	94
Central Region	%	72	69	77	80	85
LVT Region	%	51	44	60	66	73
Alentejo Region	%	63	54	66	73	79
Algarve Region	%	63	61	68	72	77
Mainland Portugal	%	66	64	75	79	84
	N	549 489	546 037	663 828	721 738	787 267

Source: SIM@NHS 2025, extracted on February 17th. BI 2013.037.01FL Proportion of DM with DM surveillance nursing consultation in the last year

Continuous Subcutaneous insulin infusion (CSII) Treatment

Under the PND, since 2020 all eligible people with type 1 diabetes have had access to treatment with CSII devices, and since 2022 automated insulin delivery systems (AID systems) have been made available; these are currently considered the first-line treatment for this population.

Between 2023 and 2024, there was a 4.5% increase in the number of patients receiving CSII treatment under the PND, a lower growth rate than that observed in previous years and below the forecast set out in Order No. 6440/2023.

There was an increase in the estimated coverage rate for CSII treatment in 2024, compared with 2023, in the age groups ≤19 years.

Table 14. Type 1 Diabetes patients treated with Continuous Subcutaneous Insulin Infusion Systems (CSII) | 2020 – 2024

	2020	2021	2022	2023	2024
0-5 years	118	117	132	127	96
6-10 years	375	361	387	368	385
11-14 years	612	632	609	588	565
15-18 years	697	705	721	782	791
19-39 years	1 139	1 356	1 523	1808	1862
40-64 years	574	654	754	727	918
≥65 years	25	34	44	52	54
Total	**3 540**	**3 859**	**4 170**	**4452**	**4661**
Paediatric Age	1 802	1 815	1 849	1665	1645
Adulthood	1 738	2 044	2 321	2787	3016

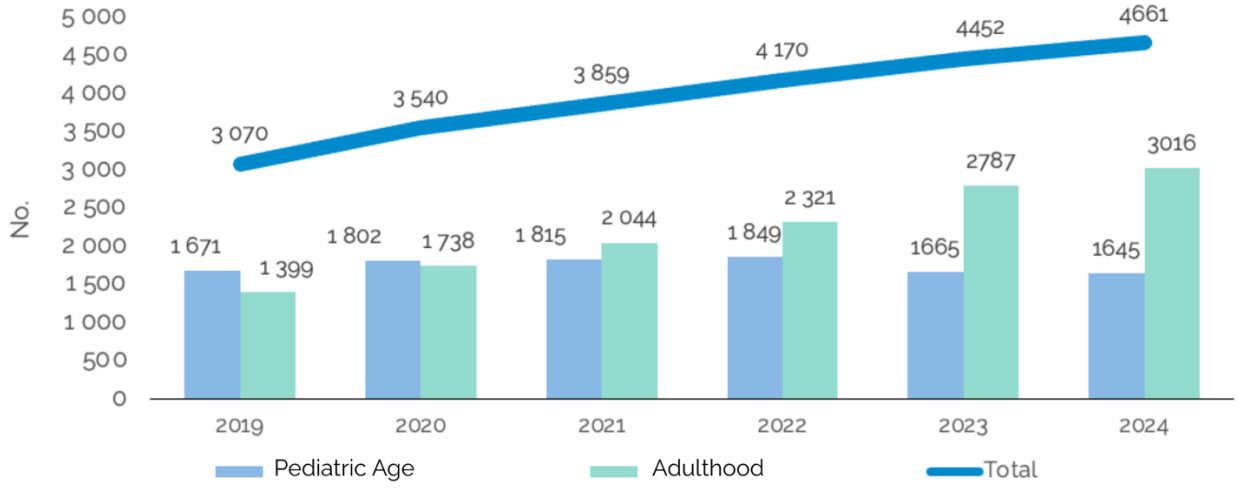
Source: Platform PSCI/DGS, 2025.

Table 15. Type 1 Diabetes patients treated with Continuous Subcutaneous Insulin Infusion Systems (CSII) by age group and proportion in relation to T1DM Patients registered in the NHS. | 2020 – 2024

	2022	2023	2024
Users undergoing CSII treatment ≤14 years (n)	1 128	1 083	1 046
Users undergoing CSII treatment /Users registered with T1DM in PHC+HC, ≤14 years (%)	61	57	56
Users undergoing CSII treatment ≤19 years (n)	2 022	1 941	2 040
Users undergoing CSII treatment / Users registered with T1DM in PHC+HC, ≤19 years (%)	56	53	57
Users undergoing CSII treatment ≤39 years (n)	3 372	3 673	3 699
Users undergoing CSII treatment / Users registered with T1DM in PHC+HC, ≤39 years (%)	27	28	28

Source: PSCI/DGS Platform, 2025; INE Population Data, 2024 - Resident population (No.) by place of residence (NUTS - 2013), sex and age group; Annual - IBGE, Annual estimates of the resident population.

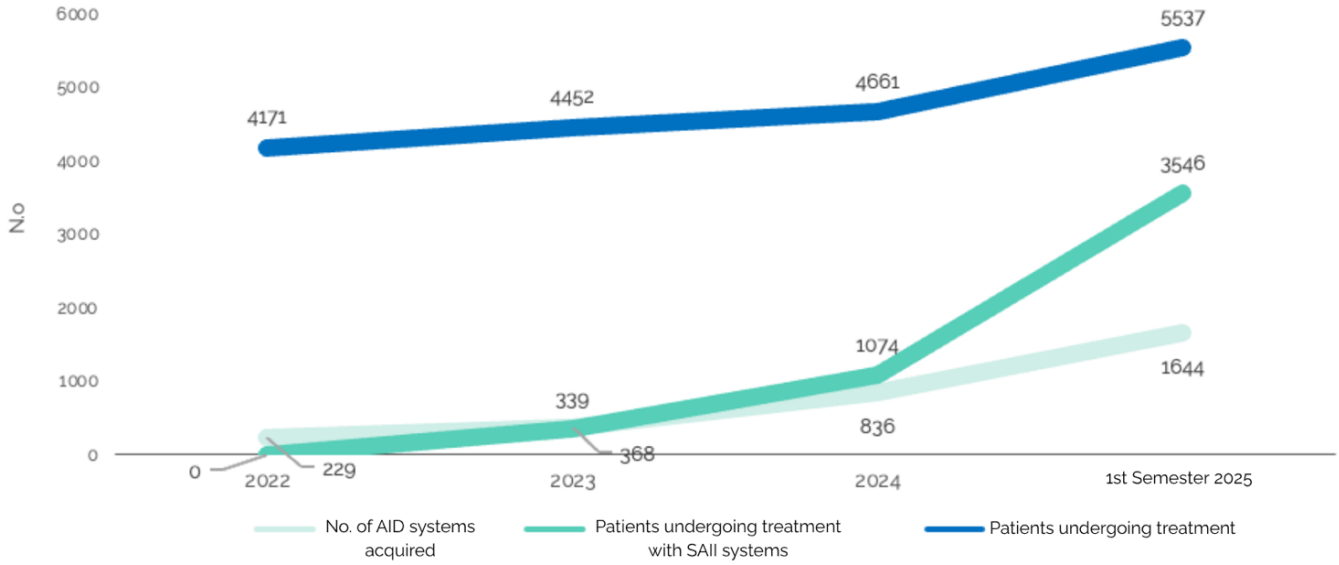
Figure 4. Evolution of the number of users with Type 1 Diabetes undergoing CSII treatment | 2019 – 2024



Source: Platform PSCI/DGS, 2024.

Following Ministerial Order No. 18/2025/1 of 21 January, which exempts community pharmacies from the requirement to stock CSII devices, there has been a significant increase in the purchase of AID systems, particularly in the first half of 2025, when 1,644 devices were purchased—a figure higher than the total for the previous three years combined. At the same time, the number of patients undergoing treatment with AID more than doubled compared to 2024, rising from 1,074 to 3,546. The less marked increase in the total number of patients undergoing treatment is due to the fact that many of the fittings in 2025 involved the replacement of standard-flow devices with AID systems.

Figure 5. Evolution of AID Acquisitions, Users Undergoing Treatment with CSII, and Users Undergoing Treatment with AID, Mainland Portugal | 2022 – 1st semester 2025



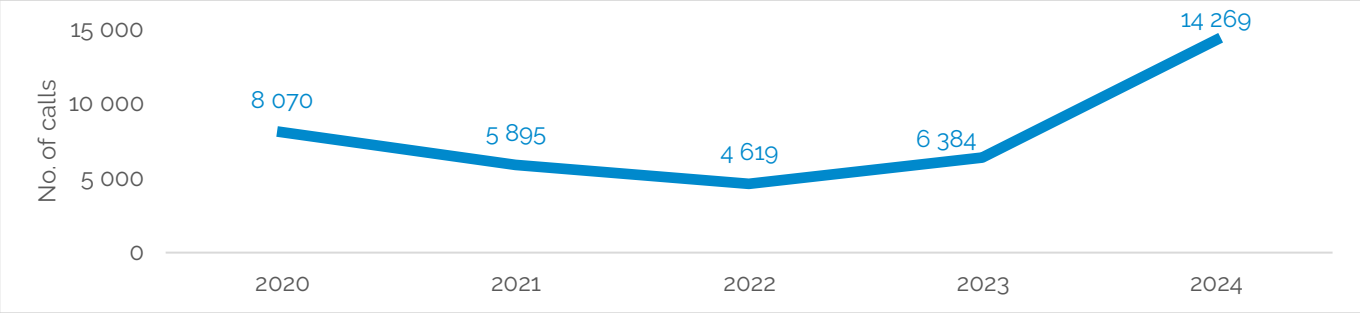
Source: PND questionnaires for CT-PSCI 2025 and PEM, SPMS 2025.

The NHS 24 Helpline

The NHS 24 helpline provides triage, advice and referrals for users based on their clinical condition, and is available 24 hours a day, every day of the year.

In 2024, 14,269 calls relating to diabetes-related issues were recorded, a figure representing a significant increase compared with 2023, when 6,384 calls were recorded. This 124% increase mirrored the growth in the use of the NHS 24 helpline in general. The increase in demand was linked to the expansion of the Helpline's services – such as the "Call First, Save Lives" project, which helps to book appointments and direct users to the appropriate level of care – and to the information campaign encouraging users to make use of this service. Nevertheless, the number of calls made for diabetes-related issues is low compared to the total number of people with diabetes (over 930,000).

Figure 6. Annual number of calls to the NHS 24 helpline for Diabetes-related problems in Portugal - 2020/2024



Source: NHS24, 2025

In 2024, the predominant profile of users of the NHS 24 helpline for diabetes-related issues remained unchanged: women (59%) and/or people aged 60 or over (70%).

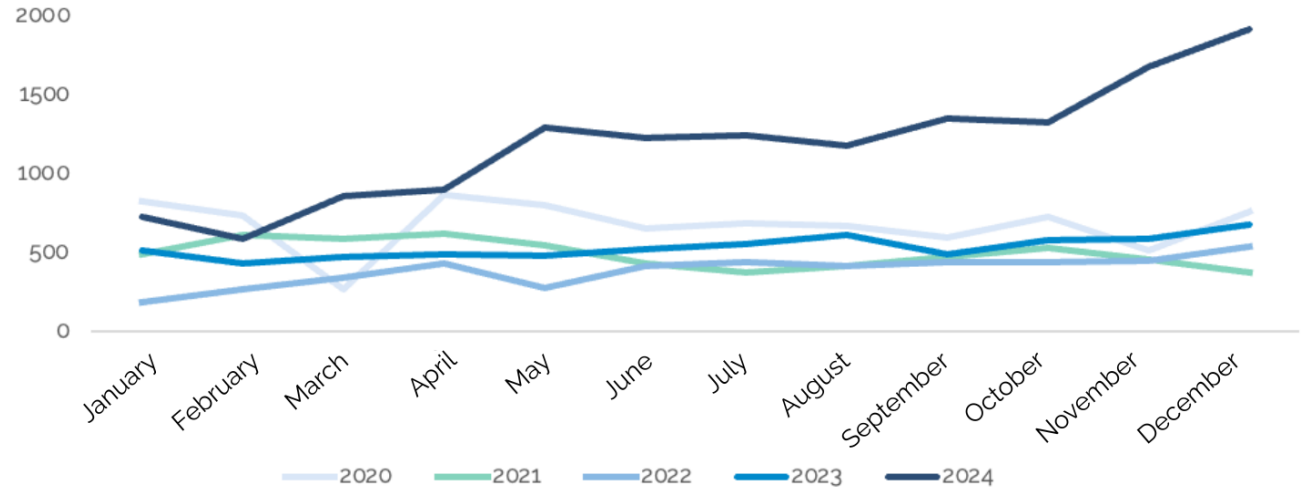
Table 16. Distribution, by sex and age groups, of calls to the NHS 24 helpline for diabetes-related problems | 2020 – 2024

	2020	2021	2022	2023	2024
Women	4 705 58%	3 355 57%	2 734 59%	3 682 58%	8 352 59%
Men	3 372 41%	2 540 43%	1 885 41%	2 702 42%	5 917 41%
≤29 years	269 3%	219 4%	197 4%	268 4%	606 4%
30-59 years	1 690 21%	1 294 22%	901 20%	1 425 22%	3 332 23%
≥60 years	6 111 76%	4 382 74%	3 521 76%	4 691 73%	9 996 70%
ND	- -	- -	- -	- -	335 2,3%
Total	8 070	5 895	4 619	6 384	14 269

Source: NHS24, 2025

As regards the distribution of enquiries throughout 2024, November and December saw the highest number of calls relating to diabetes, a pattern similar to that observed in previous years.

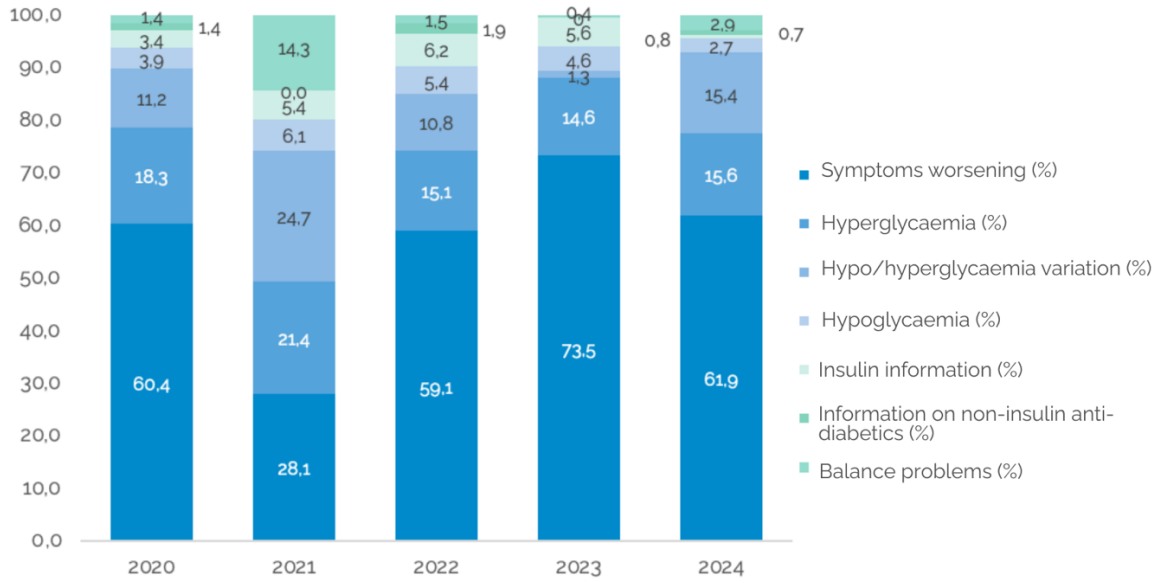
Figure 7. Monthly distribution of calls to the NHS 24 helpline for Diabetes related issues | 2020 – 2024



Source: NHS24, 2025

In 2024, most telephone enquiries relating to diabetes were due to a worsening of symptoms (61.5%). These were followed by episodes associated with hyperglycemia, which accounted for 15.6% of the total. A smaller proportion of calls related to requests for clarification regarding drug therapy, with 0.8% seeking information on insulin and 0.7% on non-insulin antidiabetic drugs.

Figure 8. Reasons for calls made to the NHS 24 helpline regarding diabetes-related problems | 2020 – 2024



Source: NHS24, 2025

Of all contacts, 47.4% resulted in a referral to the emergency room, whilst 33.5% were advised to seek observation at Primary Health Care (PHC). In 13.8% of cases, self-care was recommended, and 4.4% were referred to the National Medical Emergency Institute (INEM).

Compared with 2023, in 2024 there was an increase in referrals for medical observation in PHC (from 22.9% to 33.5%) and a corresponding decrease in referrals for self-care (from 20.4% to 13.8%) and to the INEM (from 8.4% to 4.4%).

Table 17. Referral pathways from calls made to the NHS 24 helpline in 2023 - 2024

Forwarding	2023		2024	
Emergency service	2976	46,6%	6 766	47,4%
Self-care	1302	20,4%	1 962	13,8%
Medical observation in PHC	1463	22,9%	4 782	33,5%
INEM	536	8,4%	633	4,4%
Others	107	1,7%	126	0,9%

Source: NHS24, 2025

4. Glycemic Control and Other Cardiovascular Risk Factors

In 2024, 79% of patients diagnosed with diabetes had at least one recorded HbA1c result in the previous six months, suggesting improved monitoring within primary healthcare.

Table 18. Proportion of users with diabetes and record of HbA1c results in the last 6 months in Primary Health Care, by health region, in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	60	61	69	74	87
Central Region	%	61	65	61	65	80
LVT Region	%	46	51	46	53	71
Alentejo Region	%	52	55	46	52	73
Algarve Region	%	48	52	49	55	73
Mainland Portugal	%	55	62	58	63	79

Source: SIM@NHS 2025, extracted on February 17th. BI 2013.038.01FL DM ratio with HbA1c registration at 6 months

Only 31% of people with diabetes aged under 65 had an HbA1c level of ≤ 6.5%. Although this result indicates a trend towards improvement, it still shows that glycemic control falls short of the desired level, highlighting the need to strengthen strategies to improve disease management.

Table 19. Proportion of users with diabetes and under 65 years of age, with the last recorded HbA1c ≤6.5% in Primary Health Care, by health region, in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	23	29	34	35	34
Central Region	%	24	26	30	33	34
LVT Region	%	14	17	21	24	25
Alentejo Region	%	16	18	20	24	27
Algarve Region	%	18	22	25	28	29
Mainland Portugal	%	20	23	28	30	31

Source: SIM@NHS 2024, extracted on February 17th. BI 2013.091.01FL Proportion of DM <65 A, with HbA1c ≤ 6,5 %

The proportion of patients with diabetes and HbA1c ≤8% shows an improvement in glyaemic control, rising from 64% in 2023 to 70% in 2024. This indicator exceeded pre-pandemic levels in 2023, with the upward trend continuing into 2024.

Table 20. Proportion of users with diabetes and the last recorded HbA1c ≤ 8%, in Primary Health Care, by health region, in Mainland Portugal | 2020 -2024

		2020	2021	2022	2023	2024
Northern Region	%	52	63	69	73	77
Central Region	%	54	57	62	66	71
LVT Region	%	39	44	49	56	62
Alentejo Region	%	44	45	50	55	63
Algarve Region	%	42	46	54	58	64
Mainland Portugal	%	47	54	61	64	70

Source: SIM@NHS 2025, extracted on February 17th. Research method Code SIARS BI 2013.039.01FL Proportion of DM, with HbA1c ≤ 8 %

Effective diabetes management requires a comprehensive approach that includes, in addition to glycemic control, the monitoring and strict control of other cardiovascular risk factors. With regard to LDL cholesterol, in 2024, 60% of patients had levels below 100 mg/dL, reflecting an improvement compared with previous years. However, considerable regional variation persists, highlighting inequalities in the management of the disease.

It should also be noted that this indicator uses an LDL threshold of <100 mg/dL as a reference, although for most people with diabetes, the recommended treatment targets are more stringent. Consequently, the actual percentage of patients achieving the desired clinical targets will be much lower than the figure reflected in this indicator.

Table 21. Proportion of users with diabetes and last LDL cholesterol result <100 mg/dl in the last 12 months, in Primary Health Care, in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	42	51	56	60	68
Central Region	%	41	46	51	53	61
LVT Region	%	30	35	40	42	53
Alentejo Region	%	33	35	37	40	48
Algarve Region	%	26	31	36	37	47
Mainland Portugal	%	37	43	48	51	60

Source: SPMS – SIM@NHS 2025, extracted on February 17th. BI 2015.315.01 FL Proportion of DM with C-LDL <100 mg/dl

In 2024, 79% of patients had blood pressure (BP) readings below 140/90 mmHg, suggesting an improvement in the management of this risk factor compared with the previous four years, but levels had not yet returned to pre-COVID-19 pandemic levels. It should be noted that current BP targets are lower than those analysed by this indicator; consequently, the proportion of people achieving the recommended BP level is lower than suggested by these results.

Table 22. Proportion of users with diabetes and last recorded blood pressure (BP) < 140/90 mmHg in the last 12 months, in Primary Health Care, in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	64	76	84	86	86
Central Region	%	58	64	70	72	78
LVT Region	%	42	50	58	61	69
Alentejo Region	%	52	56	64	64	73
Algarve Region	%	50	53	61	63	70
Mainland Portugal	%	54	63	70	73	79

Source: SPMS – SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS BI 2015.314.02 FL Proportion of DM with BP ≥140/90 mmHg. The values in the Table refer to the indicator data, but in the positive sense, i.e., the proportion of users with BP <140/90 mmHg (Ex: 100 – 30 = 70 in the case of Mainland Portugal).

Poor diet and a sedentary lifestyle are additional risk factors that require targeted intervention. By the end of 2024, 79% of people with diabetes had a record of their treatment management, including dietary habits, physical activity habits and medication regimens. A significant disparity was also observed between regions, with coverage ranging from 63% in the Algarve to 91% in the North. These figures represent an improvement on previous years.

Table 23. Proportion of users with diabetes and record of therapeutic regimen management (diet, physical activity and medication) in the last 12 months, in Primary Health Care, in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	61	71	84	88	91
Central Region	%	44	46	62	70	78
LVT Region	%	34	32	51	59	67
Alentejo Region	%	35	31	43	55	65
Algarve Region	%	27	37	46	55	63
Mainland Portugal	%	46	50	65	72	79

Source: SPMS – SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS BI 2013.036.01FL Proportion of DM users with GRT registration.

Overall, the Northern region continues to achieve better outcomes in terms of glycemic control and other risk factors in primary healthcare, followed by the Central region of the country.

This disparity in outcomes highlights the importance of continuing efforts to reduce inequalities in access to quality healthcare, in order to mitigate the persistent disparities that are still evident across the country.

5. Diabetes screening and complications

Screening for diabetic retinopathy

In 2024, of the patients with a recorded diagnosis of diabetes who were eligible for population-based diabetic retinopathy screening (DRS), 422,655 were invited, of whom 260,923 underwent screening, corresponding to a population coverage rate of 46% and a population screening rate of 29%, respectively. The geographical coverage rate was 87% of Local Health Units (ULS). Of the examinations performed and graded, 7,778 positive cases were identified, representing 3% of those screened.

Table 24. Diabetic retinopathy screening activity in Mainland Portugal | 2020 - 2024

	2020	2021	2022	2023	2024

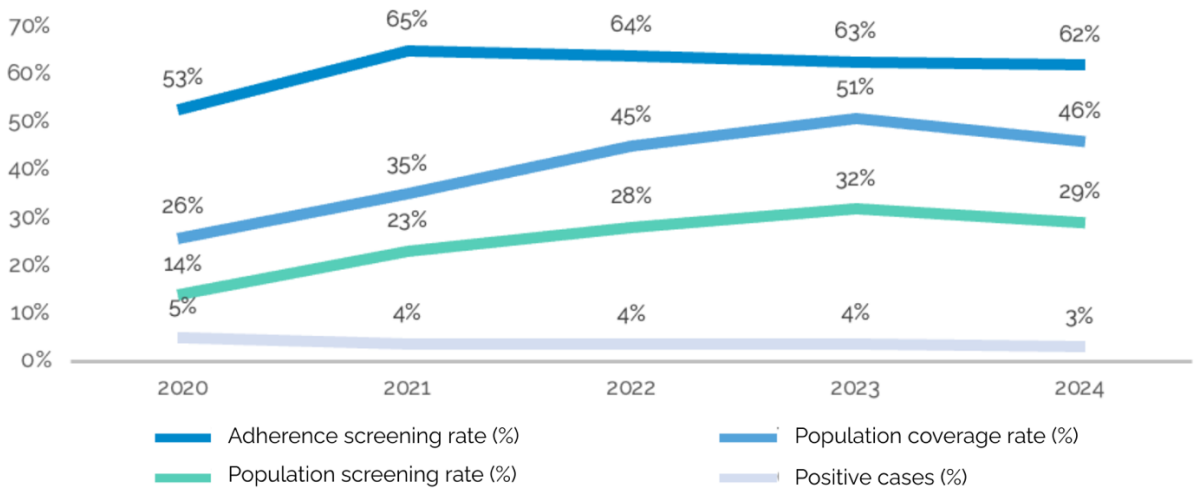
No. ACES/ULS with screening implemented	48	51	50	51	34
Total ACES/ULS	54	54	54	54	34
Geographic coverage /ACES/ULS (%)	89%	94%	93%	94%	87%
Eligible population	734 405	802 073	835 094	837 343	914 786
No. guests	192 362	282 124	372 484	425 103	422 655
No. tracked	102 487	185 404	237 487	266 508	260 923
Screening participation rate	53%	65%	64%	63%	62%
Population coverage rate	26%	35%	45%	51%	46%
Population screening rate	14%	23%	28%	32%	29%
No. positive cases	5 118	6 945	8 281	9 771	7 778
Positive cases (%)	5%	4%	4%	4%	3%

Source: ARS´s – SiiMA and APDP, 2025.

With regard to DRS,activity a gradual recovery in population coverage and screening rates was observed between 2021 and 2023. However, in 2024 this trend reversed, with a decline in the main activity indicators compared to the previous year (2023). Both the population coverage rate (which fell from 51% to 46%) and the number of screenings (from 266,508 to 260,923) decreased.

In 2024, coverage remained insufficient, highlighting that limitations on access to screening persist, resulting in 54% of eligible people with diabetes not being invited for screening.

Figure 9. Evolution of diabetic retinopathy screening coverage in Mainland Portugal | 2020 - 2024



Source: ARS - SiiMA, 2025. Note: Population coverage rate: Number of users diagnosed with diabetes invited for screening / eligible population of the region; Population screening rate: Number of users with diabetes screened in the region / Number of users diagnosed with diabetes eligible for screening in the region.

Diabetic Kidney Disease

Kidney disease in diabetes is one of the main causes of kidney failure requiring renal replacement therapy (haemodialysis, peritoneal dialysis). Early screening and treatment are essential to prevent the disease from progressing.

In 2024, there was an improvement in the performance of screening for diabetic nephropathy in primary care centres: the proportion of patients screened with a recorded microalbuminuria assessment reached 69%, representing an increase compared with previous years.

Table 25. Proportion of users with diabetes with a record of microalbuminuria assessment in Primary Health Care in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	63	74	79	81	83
Central Region	%	60	63	67	69	74
LVT Region	%	47	51	56	60	64
Alentejo Region	%	48	50	54	59	64
Algarve Region	%	45	48	53	55	63
Mainland Portugal	%	56	62	67	70	74

Source: SIM@NHS 2025, extracted on February 17th. BI 2013.097.01 FL Proportion of DM with microalbuminuria last year

With regard to the prevalence of diabetes among people with chronic kidney disease (CKD), data from the Portuguese Society of Nephrology indicate that, in 2023, 26.6% of people with CKD on dialysis had diabetes diagnosed as the cause of their condition. Among new patients with CKD on dialysis, 29.6% had diabetes as the cause of their condition (4).. It is also noted that in 12.7% of people who have had a kidney transplant, diabetes was considered the cause of their kidney disease (5).

Table 26. Prevalence of diabetes in people with kidney disease | 2019 – 2023

	2019	2020	2021	2022	2023
Prevalence of diabetes in people with CKD on dialysis (HD+DP)	28,0	27,7	28,0	27,3	26.6
Prevalence of diabetes in people with CKD on haemodialysis	28,6	28,6	29,0	28,1	28,2
Prevalence of diabetes in people with CKD in PD	16,9	15,8	14,6	16,2	15,5
Prevalence of Diabetes in people starting dialysis (HD + PD)	31,5	33,2	33,1	33,2	29,6
Diabetes as an aetiology of CKD in kidney transplants	17,0	21,7	13,6	15,6	12,7

Source: Annual reports of the Portuguese Society of Nephrology 2024 and 2025. Note: CKD – Chronic Kidney Disease; HD – Hemodialysis; PD – Peritoneal Dialysis

Diabetic Foot

Diabetes is the leading cause of non-traumatic lower limb amputation. Regular assessment of the risk of diabetic foot ulcers enables the risk of developing an ulcer to be categorised, a care plan to be drawn up, and the frequency of monitoring to be determined. During 2024, at least 83% of patients with diabetes registered at PHC underwent this assessment.

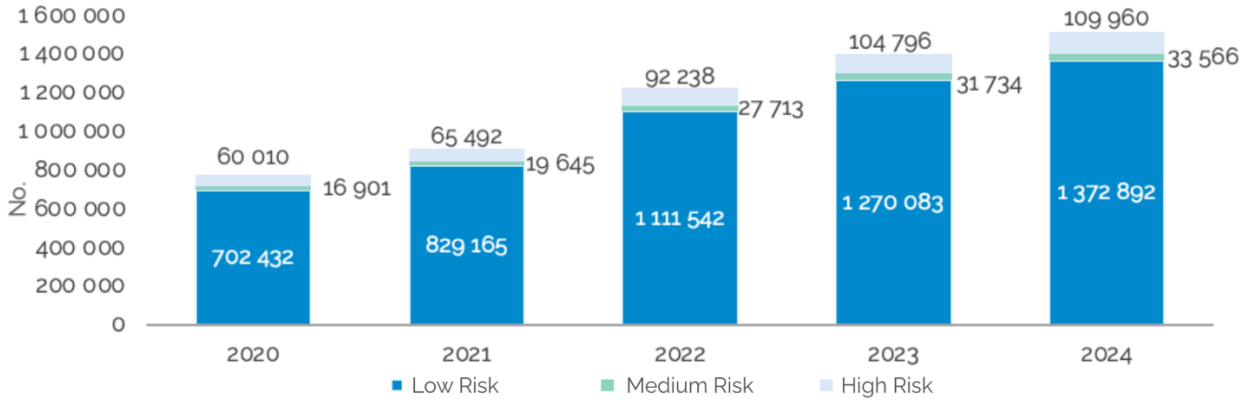
Table 27. Proportion of users with diabetes with standing observation record in Mainland Portugal | 2019 – 2023

		2020	2021	2022	2023	2024
Northern Region	%	72	80	89	91	94
Central Region	%	62	62	72	77	82
LVT Region	%	45	44	59	65	72
Alentejo Region	%	56	51	62	69	76
Algarve Region	%	50	53	62	67	73
Mainland Portugal	%	**59**	**62**	**73**	**78**	**83**

Source: SPMS – SIM@NHS 2025, extracted on February 17th. Research method: Code SIARS BI 2013.035.01 FL Proportion DM with foot exam in the last year

Of the recorded diabetic foot ulcer risk assessments, approximately 90.6% (1,372,892) were classified as low risk, 2.2% (33,566) as medium risk and 7.3% (109,960) as high risk.

Figure 10. Total number of diabetic foot risk assessments by risk level, performed in Primary Health Care in Mainland Portugal | 2020 – 2024



Source: SIARS 2025, extracted on August 8th.

Among patients monitored at Primary Health Care within the National Health Service (NHS) in mainland Portugal, 2,068 were recorded as having an active ulcer (an average of 0.23% of patients with diabetes, with rates ranging from 0.20% to 0.27% across the different regions).

Table 28. Proportion of diabetic patients with active foot ulcers registered in Primary Health Care in Mainland Portugal | 2020 – 2024

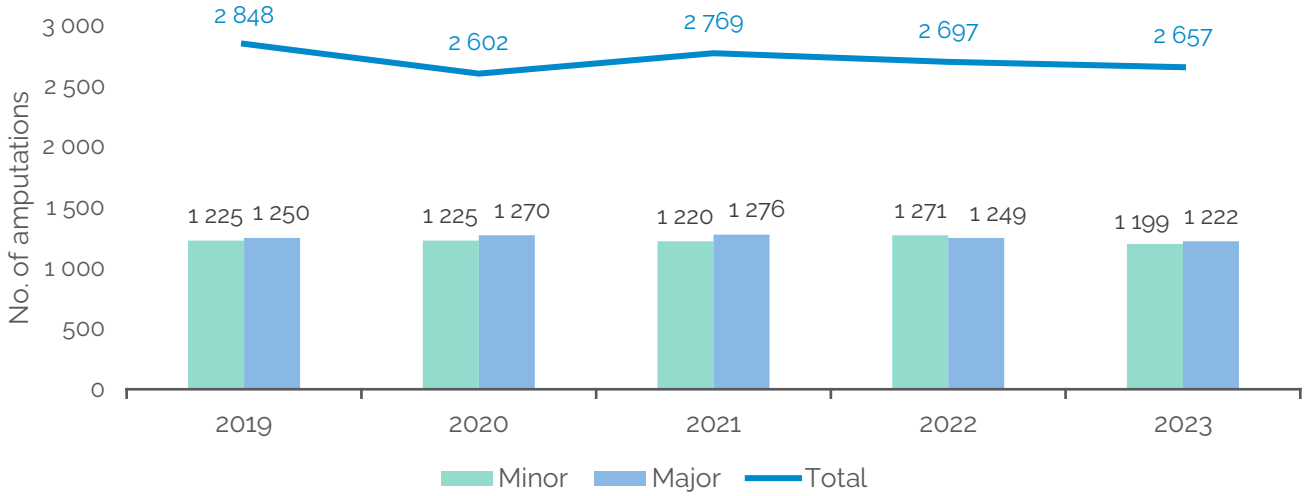
		2020	2021	2022	2023	2024
Northern Region	**N**	679	750	840	778	815
	%	0,23	0,24	0,26	0,23	0,22
Central Region	**N**	341	348	377	382	402
	%	0,24	0,24	0,24	0,24	0,23
LVT Region	**N**	515	501	613	627	635
	%	0,22	0,21	0,24	0,24	0,24
Alentejo Region	**N**	147	133	130	161	139
	%	0,31	0,28	0,26	0,32	0,27
Algarve Region	**N**	32	46	60	60	77
	%	0,11	0,15	0,18	0,17	0,20

Mainland Portugal	**N**	1 714	1 778	2 020	2 008	2 068
	%	0,23	0,23	0,25	0,23	0,23

Source: SPMS – SIM@NHS, 2025, extracted on February 17th. Research method: Code SIARS 2011.005.02. Percentage of people with diabetes and impaired surveillance, with active foot ulcers in the last year.

The total number of recorded amputations remained relatively stable over the last four years of the period under review, with a high proportion of major amputations continuing.

Figure 11. Hospitalizations of adult patients due to minor and major amputation, with associated diabetes | 2019 – 2023



Source: Business Intelligence for Hospital Morbidity - BIMH, accessed on 10/29/2025 (data is uploaded weekly, with all episodes coded by hospitals (ICD10CM/PCS, with valid codes) available at the time of consultation, from January 1, 2019 to December 31, 2023). Note: Inpatient episodes with a diagnosis of traumatic amputation were excluded. Minor amputation corresponds to toe amputation. Major amputation corresponds to lower limb amputation, excluding toe amputation.

The rate of hospital admissions for lower limb amputation recorded at the PHC level reflects the patient's registered place of residence. The rate of amputations remains high, highlighting the need for intervention in the management of diabetic foot care.

Table 29. Hospitalization rate for lower limb amputation in adults with diabetes (adjusted) recorded at the Primary Health Care level by region | 2019 – 2023

	2019	2020	2021	2022	2023
Northern Region	11,4	ND	12,7	12,7	10,1
Central Region	5,2	ND	9,8	9,1	9,5
LVT Region	12,7	ND	13,8	14,2	13,8
Alentejo Region	11,1	ND	15,9	12,4	12,2
Algarve Region	13,4	ND	12,8	12,6	13,9

Source: SPMS – SIM@NHS 2025, extracted on February 17th. Research method: 2017.360.01 FL: International rate for lower limb amputation due to diabetes (adjusted). Note: Any amputation of a lower limb except for fingers is considered a major amputation. Rate per 100,000 inhabitants.

Macrovascular Disease

Acute myocardial infarction (AMI) and stroke are macrovascular complications of diabetes and a significant cause of morbidity and mortality among people with diabetes. In 2023, in NHS hospitals, 33% of AMI cases and 31% of stroke cases occurred in people with diabetes.

Table 30. Number of episodes of acute myocardial infarction (AMI) in NHS hospitals

			2019	2020	2021	2022	2023
Episodes due to AMI (primary diagnosis)	**With DM as an associated diagnosis**	N	3 826	3 400	3 609	3 362	3 194
	With any associated diagnosis	N	11 467	10 426	11 076	10 329	9 772
	Proportion of DM in people with AMI	%	33,4%	32,6%	32,6%	32,5%	32,7%

Sources: *Business Intelligence* for Hospital Morbidity -BIMH, accessed on 29/10/2025

Table 31. Number of stroke episodes in NHS hospitals | 2019 – 2023

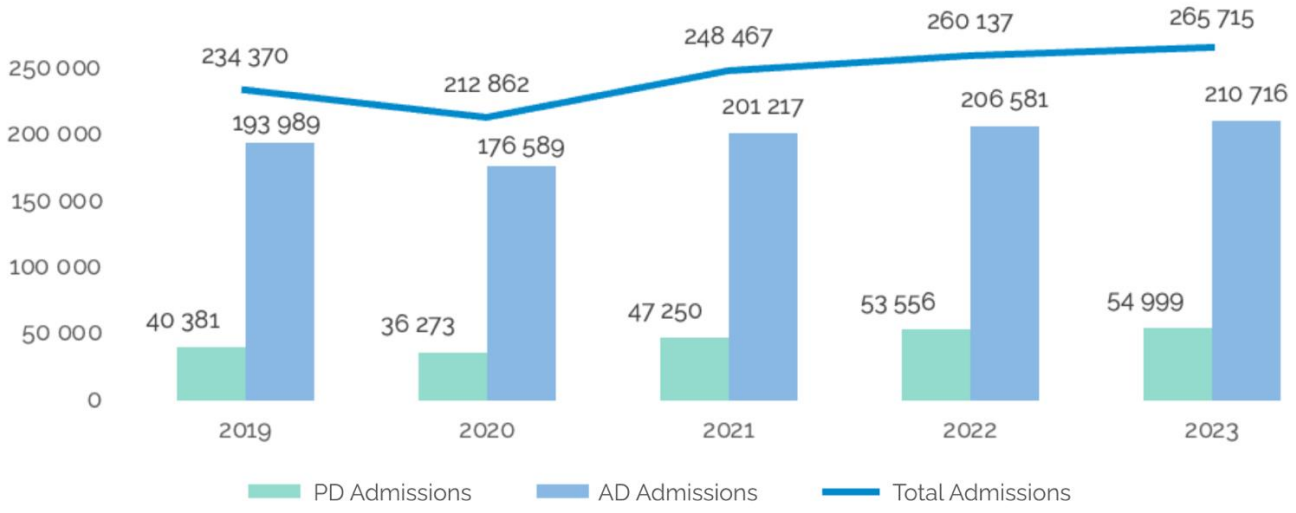
			2019	2020	2021	2022	2023
Episodes due to stroke (primary diagnosis)	**With DM as an associated diagnosis**	**N**	7 114	6 792	7 074	6 651	5 958
	With any associated diagnosis	**N**	23 458	22 700	22 597	21 684	19 535
	Proportion of DM in people with stroke	**%**	30,3%	29,9%	31,3%	30,7%	30,5%

Sources: *Business Intelligence* for Hospital Morbidity -BIMH, accessed on 29/10/2025

6. Hospital Episodes

In 2023, there were 265,715 hospital admissions of people diagnosed with diabetes, of whom 20.7% had diabetes as their primary diagnosis.

Figure 12. Total episodes in NHS hospitals with a diagnosis of diabetes, whether as main diagnosis (PD) or associated diagnosis (AD) | 2019 – 2023

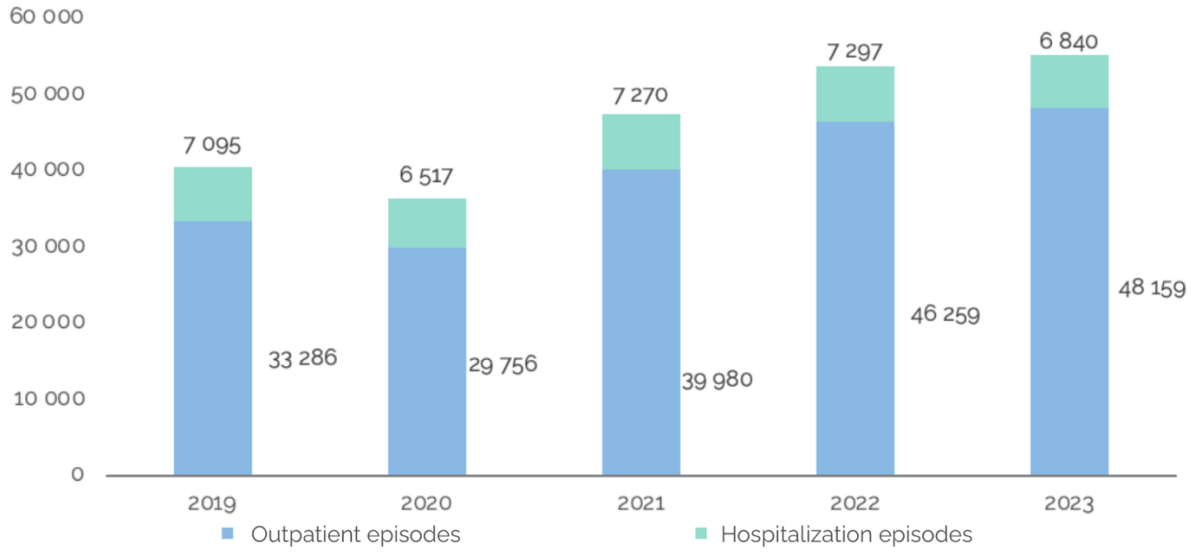


Source: BDMH/ACSS, 2025. PD: primary diagnosis; AD: associated diagnosis.

There has been a steady increase in hospital admissions among people with diabetes.

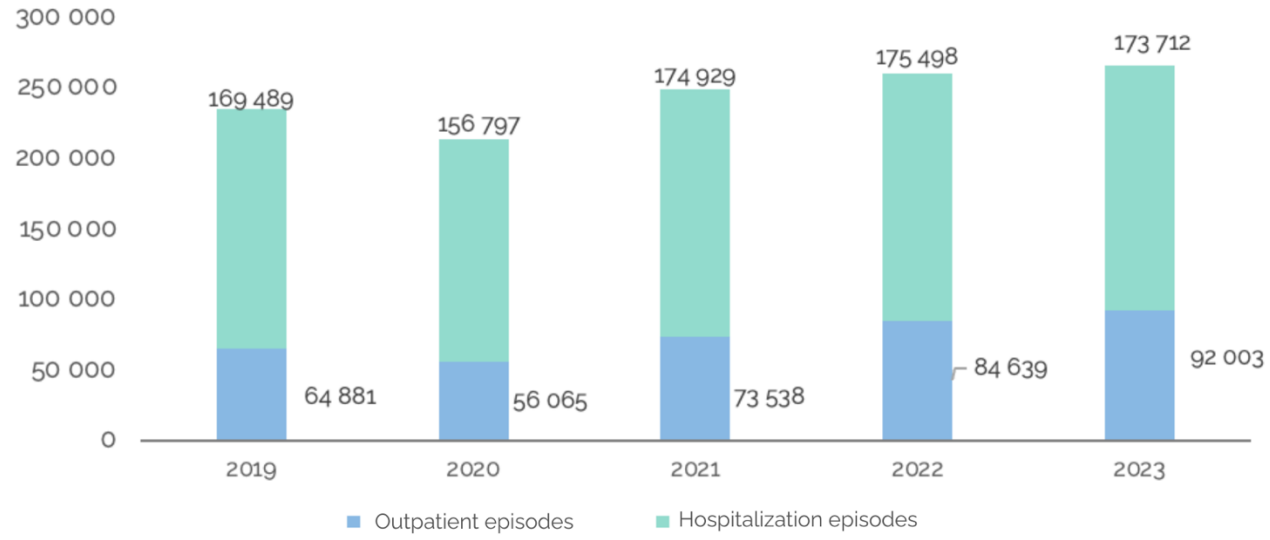
With regard to hospital episodes with a primary diagnosis of diabetes, there has been an increase in outpatient visits, whilst the number of admissions lasting more than 24 hours has remained stable. The hospital admission rate remained among the lowest in the OECD. (6) Of the total number of hospital admissions for people with diabetes, 80% were due to other causes.

Figure 13. Total number of episodes in NHS hospitals with a primary diagnosis of diabetes | 2019 – 2023



Source: BDMH/ACSS, 2025.

Figure 14. Total number of episodes in NHS hospitals with a primary or associated diagnosis of diabetes | 2019 – 2023



Source: BDMH/ACSS, 2025.

In 2023, 15% of outpatient visits and 21% of hospital admissions within the National Health Service (NHS) were attributable to patients with diabetes.

Table 32. Proportion of episodes in NHS hospitals with a diagnosis of diabetes | 2019-2023

		2019	2020	2021	2022	2023
Total number of episodes with a diagnosis of diabetes	**N**	234 370	212 862	248 467	260 137	265 715
	%	14,4%	15,0%	15,8%	15,6%	15,2%
Total number of hospitalizations with a diagnosis of diabetes.	**N**	169 654	157 164	172 554	170 182	173 712
	%	19,3%	20,6%	21,5%	21,2%	21,1%
Episodes (total NHS)	**N**	1 634 327	1 427 132	1 596 154	1 683 812	1 751 080
Hospitalizations (total NHS)	**N**	879 732	761 202	813 753	826 918	822 255

Source: *Business Intelligence* for Hospital Morbidity -BIMH, accessed on 25/09/2025 (ICD10CM/PCS)

Ketoacidosis remained the most common acute complication of diabetes, although the upward trend observed in previous years has come to a halt. On the other hand, there has been an increase in the number of hospital admissions due to hyperosmolarity, and there continues to be a gradual decline in the number of episodes of hypoglycemia resulting in coma.

Table 33. Number of episodes due to acute complications of diabetes (primary or associated diagnosis) | 2019 – 2023

		2019	2020	2021	2022	2023
DM with ketoacidosis without coma	**Hospitalizations (n)**	1 871	1 998	2 500	2 619	2 397
	Outpatient (n)	4	3	4	6	6
	%	0,80%	0,94%	1,01%	1,01%	0,90%
DM with ketoacidosis with coma	**Hospitalizations (n)**	117	120	149	167	145
	Outpatient (n)	2	2	1	3	4
	%	0,05%	0,06%	0,06%	0,07%	0,06%
DM with hyperosmolarity without coma	**Hospitalizations (n)**	1 651	1 553	1 264	1 185	1 612
	Outpatient (n)	42	29	4	3	5
	%	0,72%	0,74%	0,51%	0,46%	0,61%
DM with hyperosmolarity with coma	**Hospitalizations (n)**	120	166	144	149	134
	Outpatient (n)	0	0	0	2	0
	%	0,05%	0,08%	0,06%	0,06%	0,05%
DM with hypoglycemia without coma	**Hospitalizations (n)**	1 641	1 654	1 756	1 900	1 779
	Outpatient (n)	8	2	8	4	9
	%	0,70%	0,78%	0,71%	0,73%	0,67%
DM with hypoglycemia with coma	**Hospitalizations (n)**	146	131	133	125	111
	Outpatient (n)	0	0	0	0	1
	%	0,06%	0,06%	0,05%	0,05%	0,04%
Total episodes with DP and DA diabetes		**234 370**	**212 862**	**248 467**	**260 137**	**265 715**

Source: BDMH/ACSS, 2025, extração em outubro. Note: The total refers to the sum of all hospitalizations of people with diabetes. Note: BDMH search method: ICD 10-CM DP: E08.10, E09.10, E10.10, E11.10, E12.10, E13.10, E08.11, E09.11, E10.11, E11.11, E12.11, E13.11, E08.00, E09.00, E10.00, E11.00, E12.00, E13.00, E08.01, E09.01, E10.01, E11.01, E12.01, E13.01, E08.641, E09.641, E10.641, E11.641, E12.641, E13.641, E08.649, E09.649, E10.649, E11.649, E12.649, E13.649.

Ophthalmic conditions remained the leading cause of hospital admissions, in line with the trend observed in previous years.

Table 34. Number of episodes in users with diabetes (as a primary or associated diagnosis), due to ophthalmic, renal, peripheral circulatory, neurological, arthropathic, and cutaneous manifestations | 2019 – 2023

		2019	2020	2021	2022	2023
DM with ophthalmic manifestations	**Hospitalizations (n)**	9 272	9 144	10 071	10 077	10 111
	Outpatient (n)	34 830	31 303	42 171	48 598	50 784
	%	18,8%	19,0%	21,0%	22,6%	22,9%
DM with renal manifestations	**Hospitalizations (n)**	20 397	20 924	23 522	24 899	25 201
	Outpatient (n)	2 672	2 549	2 766	3 237	4 051
	%	9,8%	11,0%	10,6%	10,8%	11,0%
DM with peripheral circulatory changes	**Hospitalizations (n)**	4 572	5 013	5 899	6 217	6 331
	Outpatient (n)	140	152	300	367	373
	%	2,0%	2,4%	2,5%	2,5%	2,5%
DM with neurological manifestations	**Hospitalizations (n)**	4 028	3 802	4 120	4 062	4 215
	Outpatient (n)	176	165	342	448	555
	%	1,8%	1,9%	1,8%	1,7%	1,8%
DM with diabetic arthropathy	**Hospitalizations (n)**	158	176	170	182	184
	Outpatient (n)	13	2	8	8	20
	%	0,1%	0,1%	0,1%	0,1%	0,1%
DM with skin complications (dermatitis, ulcer)	**Hospitalizations (n)**	2 335	2 236	2 374	2 522	2 580
	Outpatient (n)	22	59	46	77	112
	%	1,0%	1,1%	1,0%	1,0%	1,0%
Total episodes with PD and AD diabetes		**234 370**	**212 862**	**248 467**	**260 137**	**265 715**

Source: BDMH/ACSS, 2024, extracted in October. Note: The total refers to the sum of all hospitalizations of people with diabetes. Note: BDMH search method: ICD 10-CM DP: E08.2, E09.2, E10.2, E11.2, E12.2, E13.2, E08.3, E09.3, E10.3, E11.3, E12.3, E13.3, E08.4, E09.4, E10.4, E11.E12.4, E13.4, E08.51, E08.52, E09.51, E09.52, E10.51, E10.52, E11.51, E11. 52, E12. 51, E12. 52, E13. 51, E13.

Table 35. Number of episodes due to acute complications of diabetes in users with diabetes as the primary diagnosis | 2019 – 2023

		2019	2020	2021	2022	2023
DM with ketoacidosis without coma	**Hospitalizations (n)**	1 353	1 377	1 603	1 672	1 486
	Outpatient (n)	1	0	0	0	0
	%	3,4%	3,8%	3,4%	3,1%	2,7%
DM with ketoacidosis with coma	**Hospitalizations (n)**	77	72	79	91	82
	Outpatient (n)	2	1	1	0	3
	%	0,2%	0,2%	0,2%	0,2%	0,2%
DM with hyperosmolarity without coma	**Hospitalizations (n)**	533	611	663	573	550
	Outpatient (n)	19	6	1	0	0
	%	1,4%	1,7%	1,4%	1,1%	1,0%
DM with hyperosmolarity with coma	**Hospitalizations (n)**	65	96	84	82	70
	Outpatient (n)	0	0	0	0	0
	%	0,2%	0,3%	0,2%	0,2%	0,1%
DM with Hypoglycemia without coma	**Hospitalizations (n)**	422	332	321	313	286
	Outpatient (n)	0	0	0	0	0
	%	1,0%	0,9%	0,7%	0,6%	0,5%
	Hospitalizations (n)	76	72	70	46	39

DM with Hypoglycemia with coma	**Outpatient (n)**	0	0	0	0	0
	%	0,2%	0,2%	0,1%	0,1%	0,1%
Total episodes with PD diabetes		**40 381**	**36 273**	**47 250**	**53 556**	**54 999**

Source: BDMH/ACSS, 2024, extracted in October. BDMH search method:: ICD 10-CM DP: E08.10, E09.10, E10.10, E11.10, E12.10, E13.10, E08.11, E09.11, E10.11, E11.11, E12.11, E13.11, E08.00, E09.00, E10.00, E11.00, E12.00, E13.00, E08.01, E09.01, E10.01, E11.01, E12.01, E13.01, E08.641, E09.641, E10.641, E11.641, E12.641, E13.641, E08.649, E09.649, E10.649, E11.649, E12.649, E13.649.

Table 36. Number of episodes, by ophthalmic, renal, peripheral circulatory, neurological, cutaneous manifestations and arthropathy in users with diabetes as the primary diagnosis | 2019 – 2023

		2019	2020	2021	2022	2023
Ophthalmic Manifestations	**Hospitalizations (n)**	202	139	166	127	104
	Outpatient (n)	32 824	29 437	39 514	45 581	47 416
	%	81,8%	81,5%	84,0%	85,3%	86,4%
Renal Manifestations	**Hospitalizations (n)**	546	479	484	513	458
	Outpatient (n)	397	286	419	609	662
	%	2,3%	2,1%	1,9%	2,1%	2,0%
Peripheral Circulatory Disorders	**Hospitalizations (n)**	1 189	1 321	1 638	1 741	1 669
	Outpatient (n)	29	11	31	44	36
	%	3,0%	3,7%	3,5%	3,3%	3,1%
Neurological Manifestations	**Hospitalizations (n)**	101	67	68	68	42
	Outpatient (n)	1	2	1	1	1
	%	0,3%	0,2%	0,1%	0,1%	0,1%
Diabetic Arthropathy	**Hospitalizations (n)**	23	24	20	31	46
	Outpatient (n)	1	0	1	0	3
	%	0,1%	0,1%	0,0%	0,1%	0,1%
Skin complications (dermatitis, ulcer)	**Hospitalizations (n)**	822	720	806	875	881
	Outpatient (n)	6	6	11	14	24
	%	2,1%	2,0%	1,7%	1,7%	1,6%
Total episodes with diabetes as PD		**40 381**	**36 273**	**47 250**	**53 556**	**54 999**

Source: BDMH/ACSS, 2024. BDMH search method:: ICD 10-CM DP: E08.2, E09.2, E10.2, E11.2, E12.2, E13.2, E08.3, E09.3, E10.3, E11.3, E12.3, E13.3, E08.4, E09.4, E10.4, E11.4, E12.4, E13.4, E08.51, E08.52, E09.51, E09.52, E10.51, E10.52, E11.51, E11.52, E12.51, E12.52, E13.51, E13.52.

Among patients admitted with a primary diagnosis of diabetes, the downward trend in the number of hospital admissions for hypoglycemia, both with and without coma, continues.

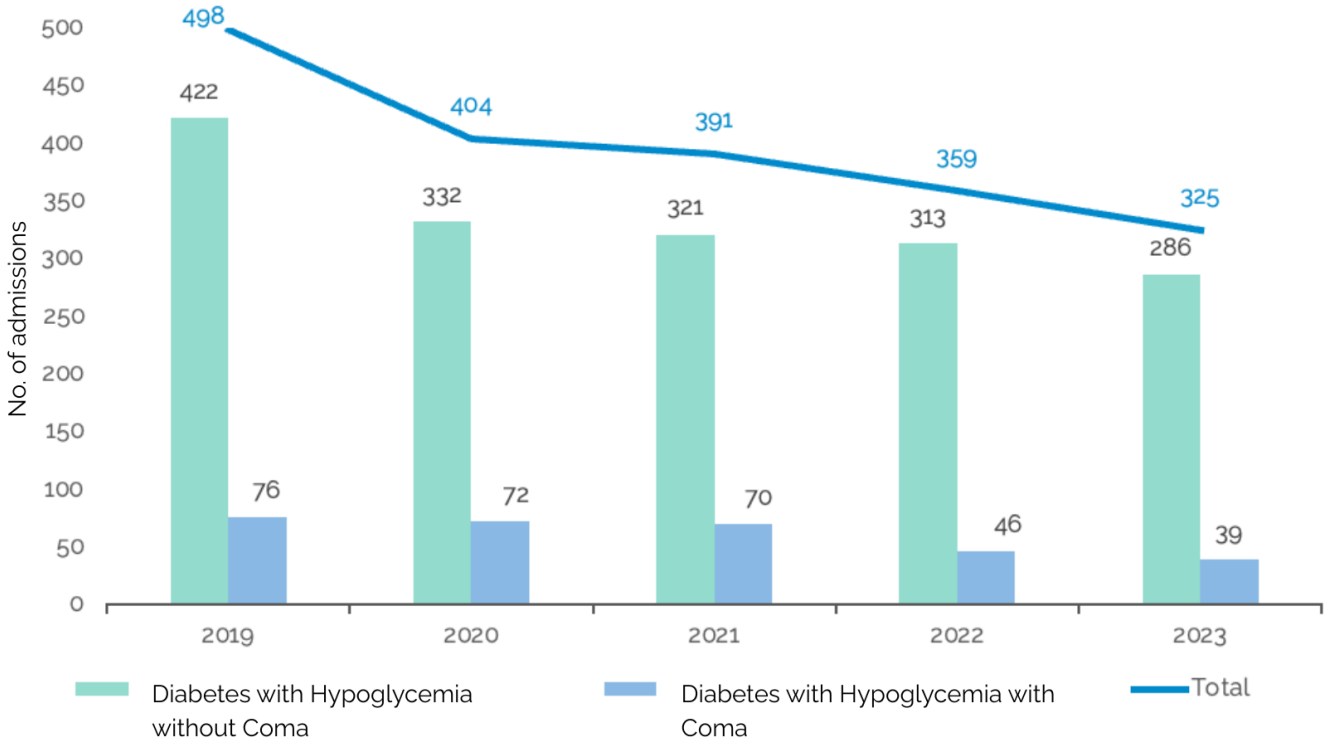
Table 37. Hospitalizations due to hypoglycemia in patients with type 1 and type 2 diabetes (patients admitted with a primary diagnosis of diabetes) | 2019 - 2023

	2019	2020	2021	2022	2023
T1DM	49 (12%)	35 (11%)	39 (12%)	53 (18%)	52 (18%)

Diabetes with Hypoglycemia without Coma	**T2DM**	369 (87%)	287 (86%)	271 (84%)	256 (81%)	233 (81%)
	Others	4 (1%)	10 (3%)	11 (4%)	4 (1%)	1 (0,4%)
	Total	**422**	**332**	**321**	**313**	**286**
Diabetes with Hypoglycemia with Coma	**T1DM**	11 (14%)	9 (13%)	14 (20%)	11 (25%)	9 (23%)
	T2DM	65 (86%)	62 (86%)	55 (79%)	32 (70%)	30 (77%)
	Others	0 (0%)	1 (1%)	1 (1%)	3 (5%)	0 (0%)
	Total	**76**	**72**	**70**	**46**	**39**

Source: BDMH/ACSS, 2025. Research method BDMH: ICD 10-CM DP: E08.641, E09.641, E10.641, E11.641, E12.641, E13.641, E08.649, E09.649, E10.649, E11.649, E12.649, E13.649

Figure 15. Hospitalizations for Hypoglycemia in Patients Admitted with a Primary Diagnosis of Diabetes | 2019 – 2023



Source: BDMH/ACSS, 2025. Research method BDMH: ICD 10-CM DP: E08.641, E09.641, E10.641, E11.641, E12.641, E13.641, E08.649, E09.649, E10.649, E11.649, E12.649, E13.649

Length of hospital stay

In 2023, hospital stays for patients with diabetes as their primary diagnosis lasted an average of 13.8 days, which was longer than the average length of stay in the National Health Service (NHS), which was 8.6 days.

Table 38. Duration of Hospitalizations for Diabetes and Total Hospitalizations in NHS Hospitals | 2019 – 2023

	2019 Average	2020 Average	2021 Average	2022 Average	2023 Average
Diabetes as the principal diagnosis	12,9	13,6	12,9	13,4	13,8

Hospitalizations in NHS (with e without diabetes)	8,2	8,6	8,4	8,6	8,6

Sources: *Business Intelligence* for Hospital Morbidity - BIMH, accessed on 29/10/2025

In-Hospital Lethality

In 2023, the in-hospital mortality rate among people with diabetes (7.3%) was higher than that recorded for all patients (with and without diabetes) admitted to NHS hospitals (6.5%).

Table 39. In-hospital mortality of patients hospitalized with diabetes (as the primary diagnosis) | 2019 – 2023

	2019	2020	2021	2022	2023
Number of patients admitted (PD of diabetes and destination after discharge Deceased)	429	479	518	553	497
Number of patients hospitalized (PD of Diabetes)	7 095	6 517	7 270	7 297	6 840
In-hospital mortality of hospitalized patients (diabetes disease)	6,0	7,4	7,1	7,6	7,3

Source: *Business Intelligence* for Hospital Morbidity -BIMH, accessed on 29/10/2025

Table 40. In-hospital mortality rate of all patients admitted to SUS hospitals (with any diagnosis) | 2019–2023

	2019	2020	2021	2022	2023
Number of patients admitted with a destination after discharge deceased	54 087	56 776	59 893	58 341	53 470
Number of hospitalized users	881 914	762 755	814 429	819 366	819 538
In-hospital mortality of hospitalized patients	6,1	7,4	7,4	7,1	6,5

Source: *Business Intelligence* for Hospital Morbidity -BIMH, accessed on 29/10/2025

7. Diabetes-related Mortality

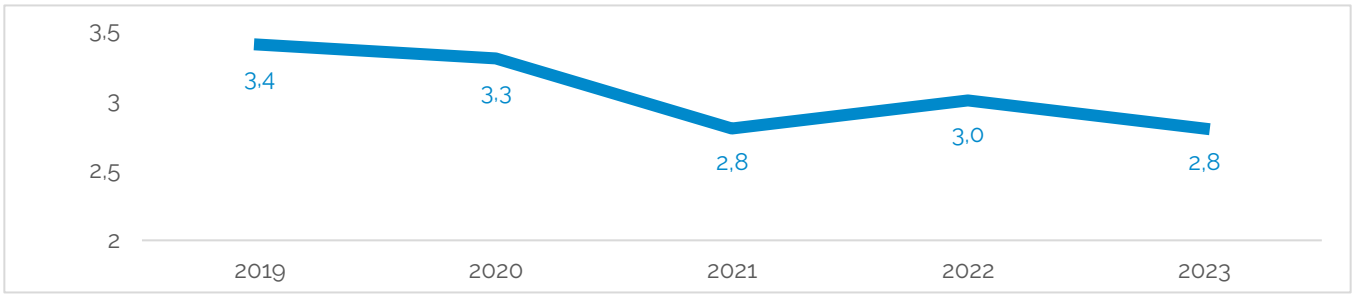
Deaths attributed to diabetes totalled 3,257 in Portugal in 2023, accounting for 2.8% of all causes of death. Analysis by age group shows that 9.1% of these deaths occurred among people under the age of 70.

Table 41. Deaths from diabetes by age group in Portugal | 2019 – 2023

	2019		2020		2021		2022		2023	
	N	%	N	%	N	%	N	%	N	%
<70 years	423	11,0	459	11,2	364	10,5	374	10,1	297	9,1
70-74 years	395	10,3	356	8,7	317	9,1	306	8,2	258	7,9
75-79 years	515	13,4	566	13,8	452	13,0	514	13,8	434	13,3
≥ 80 years	2 501	65,2	2 729	66,4	2 338	67,4	2 524	67,9	2 268	69,6
Total	**3 834**	**100,0**	**4 110**	**100,0**	**3 471**	**100,0**	**3 718**	**100,0**	**3 257**	**100,0**

Source: Deaths by cause of death, INE (2025). Note: Data for the years 2021 and 2022 are sourced from SICO and refer to the total number of deaths (includes deaths of residents abroad).

Figure 16. Evolution of diabetes as a cause of death (%) in Portugal | 2019 – 2023



Source: Deaths by cause of death, INE (2025)

There has been a decline in the number of deaths attributed to diabetes among people under the age of 70. However, in 2023, on average, 8.2 years of life were lost for every death occurring below that age, totalling 2,433 potential years of life lost.

The premature mortality rate from diabetes (< 70 years) is higher among men, although there has been a significant reduction over the years in both sexes.

Table 42. Evolution of total and premature mortality indicators due to diabetes in Portugal | 2019 – 2023

	2019	2020	2021	2022	2023
Both sexes					
Deaths at all ages	3 834	4 110	3 471	3 718	3 257
Deaths in people under 70 years of age	423	459	364	374	297
Potential years of life lost	3 303	3 488	2 770	3 040	2 433
Potential years of life lost due to death under 70 years of age.	7,8	7,6	7,6	8,1	8,2
Crude death rate at all ages	37,0	39,6	33,4	35,5	30,8
Crude death rate for those under 70 years of age.	4,9	5,3	4,2	4,3	3,4
Standardized death rate at all ages	30,1	31,4	25,9	27,3	23,3
Age-standardized death rate <70 years	4,3	4,6	3,6	3,7	2,9
Male					
Deaths at all ages	1655	1796	1525	1599	1376
Deaths in people under 70 years of age	271	302	233	231	203
Potential years of life lost	2313	2255	1783	2003	1658
Potential years of life lost due to death under 70 years of age.	8,5	7,5	7,7	8,7	8,2
Crude death rate at all ages	33,7	36,4	30,8	32,0	27,2
Crude death rate for those under 70 years of age.	6,4	7,2	5,5	5,5	4,8
Standardized death rate at all ages	33,6	35,3	29,2	30,0	25,2
Age-standardized death rate <70 years	6,0	6,5	5,0	4,9	4,2
Female					
Deaths at all ages	2179	2314	1946	2119	1881
Deaths in people under 70 years of age	152	157	131	143	94
Potential years of life lost	990	1233	988	1038	775
Potential years of life lost due to death under 70 years of age.	6,5	7,9	7,5	7,3	8,2
Crude death rate at all ages	40,0	42,5	35,7	38,7	34,0
Crude death rate for those under 70 years of age.	3,4	3,5	3,0	3,2	2,1

Standardized death rate at all ages	27,4	28,3	23,3	25,0	21,6
Age-standardized death rate <70 years	2,9	3,0	2,5	2,6	1,7

Source: Deaths by cause of death, INE (2025). Note: Rates per 100,000 inhabitants. For the calculation of the standardized mortality rate, the European standard population (2013 version) defined by EUROSTAT was used.

The records of causes of death suggest that renal complications accounted for 16% and peripheral circulatory complications for 6% of deaths attributed to diabetes. There were also 99 deaths attributed to episodes of ketoacidosis (3%).

Table 43. Registry of causes of death from diabetes in Portugal | 2019 – 2023

	2019		2020		2021		2022		2023	
	N	%	N	%	N	%	N	%	N	%
Diabetes without mention of complications	551	14,4	675	16,4	769	22,2	958	25,8	791	24,3
Diabetes with renal complications	662	17,3	568	13,8	493	14,2	547	14,7	523	16,1
Diabetes with other specified complications	1 450	37,8	1 465	35,6	1225	35,3	1125	30,3	949	29,1
Diabetes with peripheral circulatory complications	247	6,4	253	6,2	192	5,5	210	5,6	206	6,3
Diabetes with multiple complications	710	18,5	896	21,8	596	17,2	675	18,2	615	18,9
Diabetes with ketoacidosis	98	2,6	124	3,0	128	3,7	117	3,1	99	3,0
Diabetes with coma	55	1,4	90	2,2	39	1,1	36	1,0	49	1,5
Diabetes with unspecified complications	43	1,1	28	0,7	21	0,6	40	1,1	16	0,5
Diabetes with ophthalmological complications	6	0,2	3	0,1	5,0	0,1	6,0	0,2	5	0,2
Diabetes with neurological complications	12	0,3	8	0,2	3,0	0,1	4,0	0,1	4	0,1
Total	**3 834**	**100,0**	**4 110**	**100,0**	**3471**	**100,0**	**3718**	**100,0**	**3257**	**100,0**

Source: Deaths by cause of death, SICO/DGS (2025). Research method: diabetes E10-E14 (ICD 10 codes, diabetes with coma E100, E110, E120, E130, E140; with ketoacidosis E101, E111, E121, E131, E141; with renal complications E102, E112, E122, E132, E142; with ophthalmological complications E103, E113, E123, E133, E143; with neurological complications E104, E114, E124, E134, E144; E136, E146; with multiple complications E107, E117, E127, E137, E147; with unspecified complications E108, E118, E128, E138, E148; without mention of complications E109, E119, E129, E139, E149). Note: The data for the years 2021 and 2022 have SICO source and refer to the total number of deaths (includes deaths of residents abroad).

Among those under 70, 12.8% of deaths attributed to diabetes were due to renal complications, 6.4% to peripheral circulatory complications, 5.7% to ketoacidosis, and 63.3% to other specific complications or multiple complications.

Diabetes is a major cardiovascular risk factor and underlies cases of acute myocardial infarction and stroke. However, death records for diabetes do not reflect these cases.

Table 44. Register of Causes of Premature Death (<70 years) due to diabetes in Portugal | 2019– 2023

	2019		2020		2021		2022		2023	
	N	%	N	%	N	%	N	%	N	%
Diabetes without mention of complications	45	10,6	79	17,4	62	17,0	54	14,4	40	13,5
Diabetes with renal complications	56	13,2	55	12,1	41	11,3	34	9,1	38	12,8
Diabetes with other specified complications	134	31,6	133	29,2	130	35,7	113	30,2	90	30,3
Diabetes with peripheral circulatory complications	35	8,3	32	7,0	27	7,4	20	5,3	19	6,4
Diabetes with multiple complications	118	27,8	122	26,8	81	22,3	125	33,4	86	29,0
Diabetes with ketoacidosis	19	4,5	21	4,6	21	5,8	22	5,9	17	5,7
Diabetes with coma	7	1,7	7	1,5	0	0,0	1	0,3	4	1,3
Diabetes with unspecified complications	5	1,2	5	1,1	2	0,5	3	0,8	2	0,7
Diabetes with ophthalmological complications	1	0,2	0	0,0	0,0	0,0	1,0	0,3	0,0	0,0
Diabetes with neurological complications	4	0,9	1	0,2	0,0	0,0	1,0	0,3	1,0	0,3
Total	**424**	**100,0**	**455**	**100,0**	**364**	**100,0**	**374**	**100,0**	**297**	**100,0**

Source: Deaths by cause of death, SICO/DGS (2025). Research method: diabetes E10-E14 (ICD 10 codes, diabetes with coma E100, E110, E120, E130, E140; with ketoacidosis E101, E111, E121, E131, E141; with renal complications E102, E112, E122, E132, E142; with ophthalmological complications E103, E113, E123, E133, E143; with neurological complications E104, E114, E124, E134, E144; E136, E146; with multiple complications E107, E117, E127, E137, E147; with unspecified complications E108, E118, E128, E138, E148; without mention of complications E109, E119, E129, E139, E149). Note: The data for the years 2021 and 2022 have SICO source and refer to the total number of deaths (includes deaths of residents abroad).

In 2023, there was a reduction in the number of hospital admissions and deaths due to diabetic ketoacidosis compared with the previous year, although figures have fluctuated over the last decade.

Table 45. Discrimination of diabetes type in cases of death due to diabetic ketoacidosis | 2019– 2023

	2019		2020		2021		2022		2023	
	Total Deaths n	Deaths <70 years n	Total Deaths n	Deaths <70 years n	Total Deaths n	Deaths <70 years n	Total Deaths n	Deaths <70 years n	Total Deaths n	Deaths <70 years n
T1DM	0	0	1	1	0	0	7	4	2	0
T2DM	32	4	49	7	34	3	34	6	36	8
Diabetes of unspecified cause	66	15	74	13	94	18	77	11	61	9
Total	98	19	124	21	128	21	118	21	99	17

Source: Deaths by cause of death, SICO/DGS (2025). Search method: diabetes E10-E14 (ICD 10 codes; E101; E111; E121; E141). Note: Data for the years 2021 and 2022 are sourced from SICO and refer to the total number of deaths (includes deaths of residents abroad).

8. Outpatient consumption of medicines and medical devices

The rise in the incidence and prevalence of diabetes is accompanied by an increase in the consumption of medicines used to treat it. At the same time, the adoption of innovative treatments, which help to manage the condition and improve the quality of life of people living with diabetes, is leading to rising costs.

Therapy

In 2024, 38% of patients with a recorded diagnosis of type 2 diabetes were being treated with metformin. This figure represents the lowest in the analysed time series (2020–2024), reversing the upward trend of previous years. This may be related to the use of other drugs, currently used as first-line treatment, in accordance with a personalised therapy.

Table 46. Proportion of users with registered type 2 diabetes on metformin therapy in Primary Health Care in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	49	45	53	54	45
Central Region	%	41	39	42	43	33
LVT Region	%	38	35	40	41	34
Alentejo Region	%	40	36	41	39	28
Algarve Region	%	26	24	28	29	27
Mainland Portugal	%	42	39	45	46	38

Source: SPMS – SIM@NHS 2023, extracted on February 8th. Research method: Code SIARS 2013.042.01 FL proportion of type 2 diabetes in metformin therapy.

There was also a decline in the use of DPP-4 inhibitors, which in 2024 accounted for 23% of prescribed non-insulin antidiabetic treatments.

Table 47. Ratio between the sum of Defined Daily Doses (DDD) prescribed for DPP4 inhibitors and the sum of DDD prescribed for non-insulin antidiabetic drugs, in patients with type 2 diabetes, Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	31	29	25	23	21
Central Region	%	38	36	31	28	25
LVT Region	%	34	32	28	26	24
Alentejo Region	%	38	36	32	29	26
Algarve Region	%	39	36	31	28	25
Mainland Portugal	%	34	32	28	25	23

Source: SPMS – SIM@NHS 2023, extracted on February 8th. Research method: Code SIARS BI 2013.276.01 FL Prescribed DPP-4 and oral antidiabetic drugs due to DDD ratio.

In 2024, 4.9% of patients diagnosed with type 2 diabetes were being treated with insulin. This proportion may have fallen following the introduction of new drugs.

Table 48. Proportion of users with registered type 2 diabetes on insulin therapy in Primary Health Care in Mainland Portugal | 2020 – 2024

		2020	2021	2022	2023	2024
Northern Region	%	5.4	4.8	6.1	6.3	5.5
	N	15 687	14 568	19 130	20 705	19 426
Central Region	%	5.9	5.4	6.0	6.0	5.0
	N	8 697	8 168	9 200	9 505	8 252
LVT Region	%	4.3	3.9	4.7	4.7	4.3
	N	10 977	9 959	12 325	12 739	11 519
Alentejo Region	%	4.4	3.9	4.6	4.4	3.7
	N	1 962	1 768	2 164	2 124	1 787
Algarve Region	%	2.8	2.4	3.2	3.3	3.6
	N	870	805	1 096	1 168	1 301
Mainland Portugal	%	5.0	4.5	5.4	5.5	4.9
	N	38 193	35 268	43 915	46 241	42 285

Source: SPMS – SIM@NHS 2024, extracted on February 17th. Research method: Code SIARS BI 2013.041.01 FL Proportion of type 2 diabetes in insulin therapy.

In 2024, of all patients registered with diabetes in primary care (111,023), were receiving insulin treatment, which corresponds to 11.9%. As mentioned earlier, it is acknowledged that there may be errors in the coding of the type of diabetes. However, the figure given represents patients receiving insulin treatment.

Table 49. Users on insulin therapy: registered users with insulin-treated type 2 diabetes and type 1 diabetes | 2020-2024

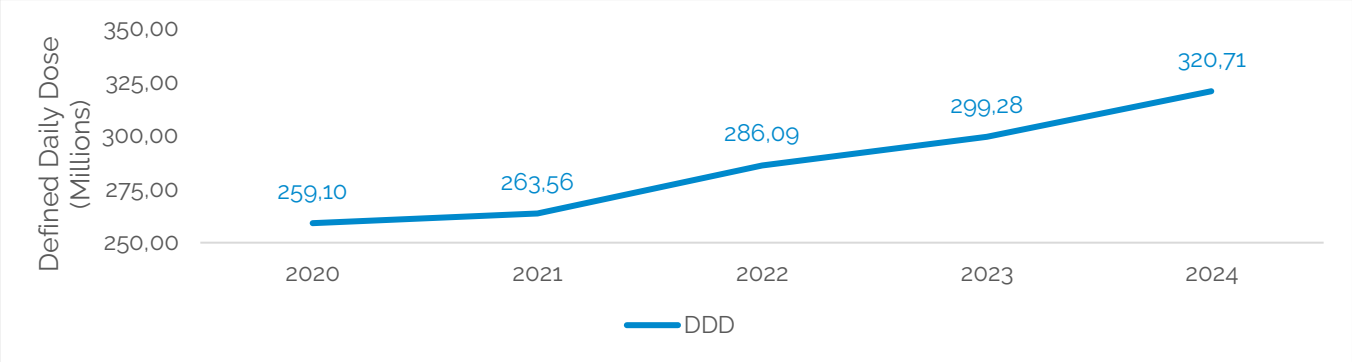
		2021	2022	2023	2024
Insulin-treated type 2 diabetes	**N**	35 268	43 915	46 241	42 285
Type 1 diabetes	**N**	69 480	69 452	70 296	68 738
Total	**%***	12,2	12,8	12,8	11,9
	N	104 748	113 367	116 537	111 023

Source: SPMS – SIM@NHS 2024, extracted on February 17th. Research method: Code SIARS BI 2013.041.01 FL Proportion of type 2 diabetes patients on insulin therapy. Code SIARS BI 212 MORB.212.01 FL. Proportion of users with "insulin-dependent diabetes". *Note: Proportion of users with diabetes on insulin treatment.

Consumption and costs of outpatient medicines and medical devices

As mentioned, consumption of non-insulin antidiabetic medicines and insulin continues to rise. However, some of these medicines may be used for other therapeutic indications in people without diabetes; consequently, it is not possible to estimate consumption by people with diabetes. Furthermore, the costs incurred by patients for medicines not reimbursed by the National Health Service have not been considered.

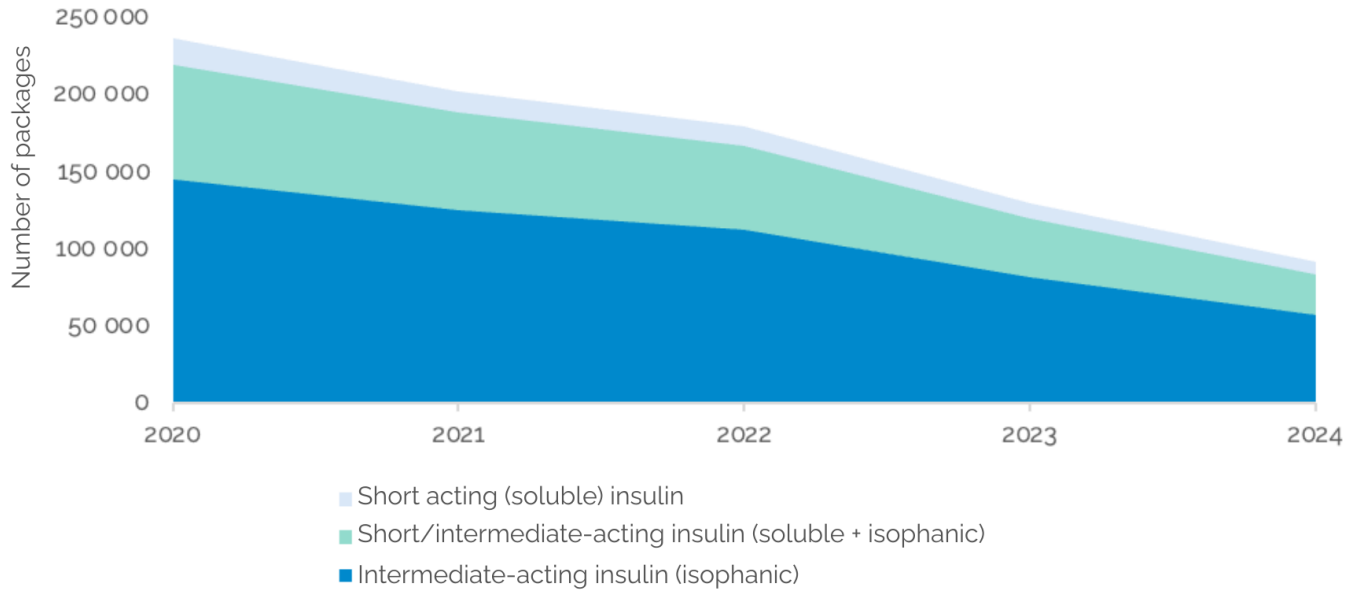
Figure 17. Evolution of medication consumption in outpatient settings within the National Health Service (non-insulin antidiabetic drugs, insulin and glucagon, excluding drug combinations) in Mainland Portugal – Defined Daily Dose dispensed in a year | 2020 – 2024



Source: INFARMED 2025, CCF (Invoice Verification Center). Note: DDD: Defined Daily Dose dispensed over one year in an outpatient setting in mainland Portugal, within the National Health Service (NHS).

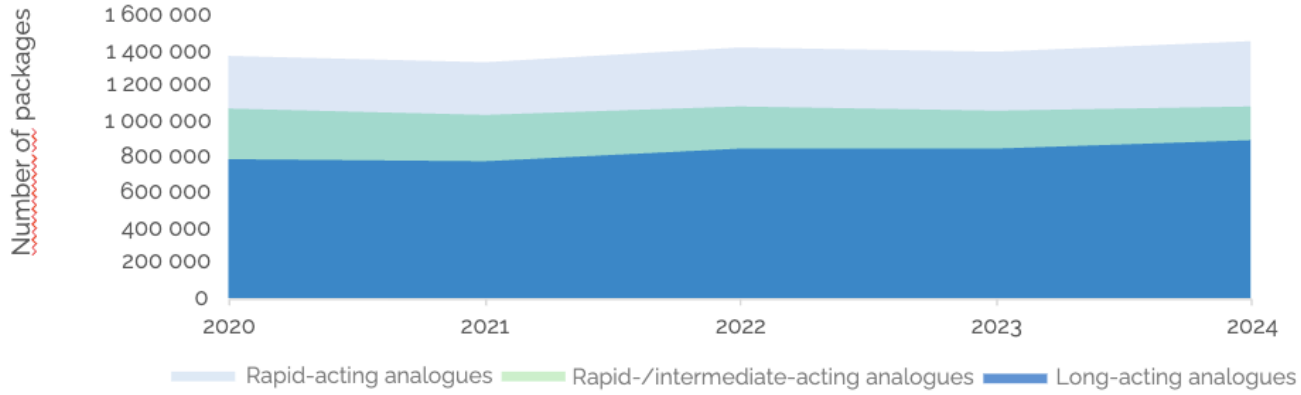
Over the years, there has been a steady decline in the use of human insulins. However, overall, in 2024, insulin consumption increased by 1.3%, driven mainly using insulin analogues. Among these, long-acting analogues were the most widely used, accounting for more than half of all insulin packs consumed and representing 48.4% of insulin expenditure. Between 2020 and 2024, total insulin consumption, measured by the number of packs, fell by approximately 3.9%, whilst costs rose by around 2%.

Figure 18. Consumption of human insulin packaging in the NHS in Mainland Portugal | 2020 – 2024



Source: INFARMED 2025, CCF (Invoice Verification Center).

Figure 19. Consumption of insulin analogue packaging in the National Health Service in Mainland Portugal | 2020 – 2024



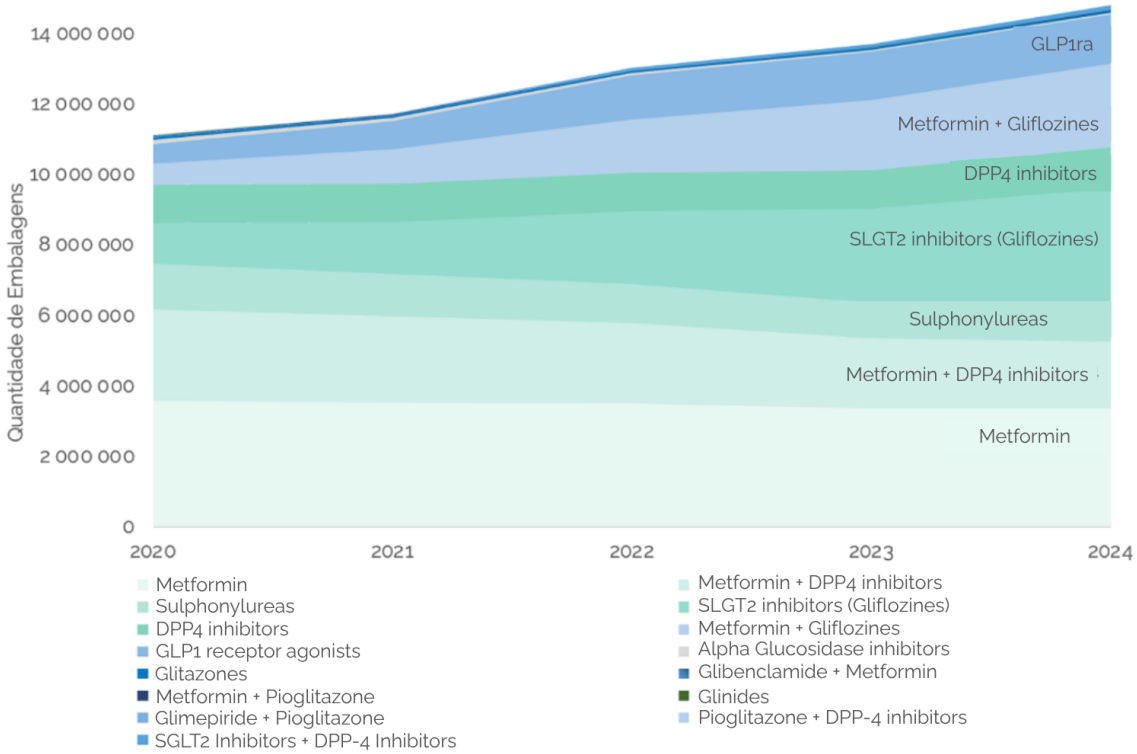
Source: INFARMED 2025, CCF (Invoice Verification Center).

Between 2020 and 2024, the consumption of non-insulin antidiabetic drugs rose by 33.2%, whilst the costs associated with these medicines increased by 76.3%.

DPP-4 inhibitors (alone or in combination) accounted for around 21.7% of the packages of non-insulin antidiabetic drugs consumed and 16.2% of the associated costs in 2024.

In contrast, SGLT2 inhibitors (alone or in combination) showed significant growth between 2020 and 2024, with consumption of packages rising from 1,748,355 to 5,767,217 (around 229.8%) and costs increasing by approximately 313.9% over the same period. This class (SGLT2 inhibitors, either alone or in combination) was responsible for the increase in costs for non-insulin antidiabetics observed between 2023 and 2024 (around €124 million). It should be noted, however, that they are used for clinical indications other than diabetes.

Figure 20. Consumption of non-insulin antidiabetic drug packaging in the National Health Service in Mainland Portugal | 2020 – 2024



Source: INFARMED 20245, CCF (Invoice Verification Center).

Table 50. Spending on non-insulin antidiabetic drugs: retail price and costs to the NHS, in Mainland Portugal | 2020 – 2024

	Retail Price Value (Millions of €)					NHS Charges (Millions of €)				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Non-insulin antidiabetic agents										
Metformin	13,0	12,8	12,7	12,6	13,2	9,2	9,1	9,1	9,1	9,7
Sulphonylureas	7,3	6,5	6,0	5,6	5,6	5,6	5,2	4,9	4,5	4,2
Alpha-glucosidase inhibitors	0,7	0,6	0,5	0,4	0,3	0,6	0,5	0,4	0,3	0,3
Glinides	0,5	0,4	0,2	0,0	0,0	0,5	0,4	0,2	0,0	0,0
Glitazones	0,9	0,9	0,9	0,8	0,8	0,6	0,6	0,6	0,6	0,7
DPP-4 inhibitors	43,2	43,1	41,8	33,5	35,9	39,8	39,7	37,8	27,9	30,5
GLP-1 agonists	43,5	61,9	96,5	107,8	107,4	39,5	56,3	87,6	97,8	97,6
SGLT2 inhibitors	51,9	66,4	92,3	118,8	220,5	47,4	60,7	84,5	108,8	202,1
Total non-insulin antidiabetic agents	**161,2**	**192,7**	**250,8**	**279,4**	**383,6**	**143,3**	**172,4**	**225,0**	**249,1**	**345,0**
Combinations of non-insulin antidiabetic agents										
Glimepiride + Pioglitazone	0,3	0,2	0,2	0,2	0,2	0,7	0,2	0,2	0,2	0,2
Metformin + Pioglitazone	0,8	0,6	0,3	0,3	0,2	0,3	0,6	0,3	0,3	0,2
Glibenclamide + Metformin	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Metformin + DPP-4 inhibitors	118,1	108,5	96,5	45,8	41,0	108,1	99,5	87,5	32,9	28,5
Metformin + SGLT2 inhibitors	27,2	43,9	68,1	88,6	107,0	24,8	40,0	62,1	80,8	97,7
Pioglitazone + DPP-4 inhibitors	0,2	0,2	0,2	0,3	0,3	0,1	0,2	0,2	0,3	0,3
SGLT2 Inhibitors + DPP-4 Inhibitors	0,2	0,1	3,6	6,5	10,7	0,2	0,1	3,3	5,9	9,9
Total combinations of ADNIs	**146,9**	**153,6**	**169,1**	**141,7**	**159,5**	**134,3**	**140,6**	**153,7**	**120,4**	**136,8**
Total	**308,0**	**346,3**	**420,0**	**421,1**	**543,2**	**277,6**	**313,0**	**378,7**	**369,5**	**481,8**

ADNIs: Non-insulin antidiabetics agents. Source: INFARMED, 2025, CCF (Invoice Verification Center).

In 2024, the costs to the NHS amounted to €73.2 million for insulins and €481.8 million for non-insulin antidiabetics, corresponding to approximately 100% of the costs for insulins and 88.7% of the costs for non-insulin antidiabetics.

Between 2020 and 2024, expenditure on non-insulin antidiabetics increased by approximately €235 million (76%), driven by the growing use of new drugs, specifically an increase of €64 million in expenditure on GLP-1 receptor agonists and €259 million on SGLT2 inhibitors. As mentioned, it is not possible to determine the amount attributed to the use of these drugs in people without diabetes, particularly with regard to SGLT2 inhibitors, whose approved clinical indications include heart failure and chronic kidney disease, regardless of the presence of diabetes.

It should be noted that during this period (2020–2024), there was an increase in the number of people diagnosed with diabetes (a 12.4% rise in diabetes registrations, corresponding to 103,672 people), which will contribute to higher medicine consumption; and although prescriptions per person may have increased, the growth in medicine consumption was proportionally greater (a 24% increase in DDD per year).

At the same time, during the period under review, there was a significant improvement in glycemic control (47% vs. 70% of people with HbA1c ≤8%), a stabilisation in hospital admissions for diabetes despite the growing number of people diagnosed with the condition, a reduction in hospital admissions for hypoglycemia and renal complications (with diabetes as the primary diagnosis), a progressive reduction in hospital admissions for acute myocardial infarction and stroke in people with diabetes, and a reduction in diabetes-related mortality

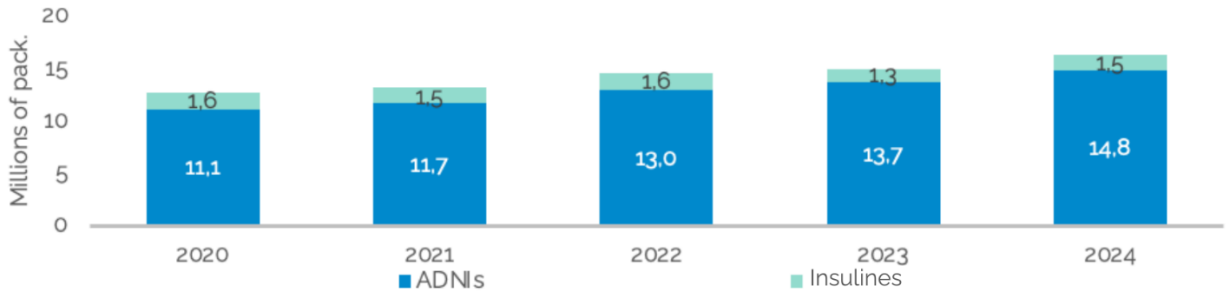
(particularly among those under 70). There has also been a slowdown in the growth of the total number of people on renal replacement therapy, regardless of a diagnosis of diabetes. (5)

Table 51. Insulin costs: Retail Price Value and NHS costs in Mainland Portugal | 2020 – 2024

	Retail Price Value (Millions of €)					NHS Charges (Millions of €)				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Human Insulins										
Short-acting insulin (soluble)	0,6	0,4	0,4	0,3	0,2	0,6	0,4	0,4	0,3	0,2
Intermediate-acting insulin (isophane)	4,8	4,2	3,7	2,7	1,9	4,8	4,2	3,7	2,7	1,9
Short-acting/intermediate-acting insulin (soluble + isophane)	2,4	2,0	1,8	1,2	0,8	2,4	2,0	1,8	1,2	0,8
Total Human Insulins	**7,8**	**6,6**	**5,9**	**4,2**	**3,0**	**7,7**	**6,6**	**5,9**	**4,2**	**3,0**
Insulin Analogues										
Rapid-acting analogues	11,9	11,9	13,4	13,4	14,2	11,9	11,5	13,4	13,4	14,2
Long-acting analogues	43,4	42,6	45,5	45,5	48,4	43,4	42,6	45,5	45,4	48,4
Rapid/intermediate-acting analogues	11,7	10,6	9,7	8,5	7,7	11,6	10,6	9,7	8,5	7,7
Total Insulin Analogues	**67,0**	**65,1**	**68,6**	**67,4**	**70,2**	**66,9**	**64,7**	**68,6**	**67,3**	**70,2**
Total Insulins	**74,8**	**71,7**	**74,5**	**71,6**	**73,2**	**74,7**	**71,3**	**74,4**	**71,6**	**73,2**

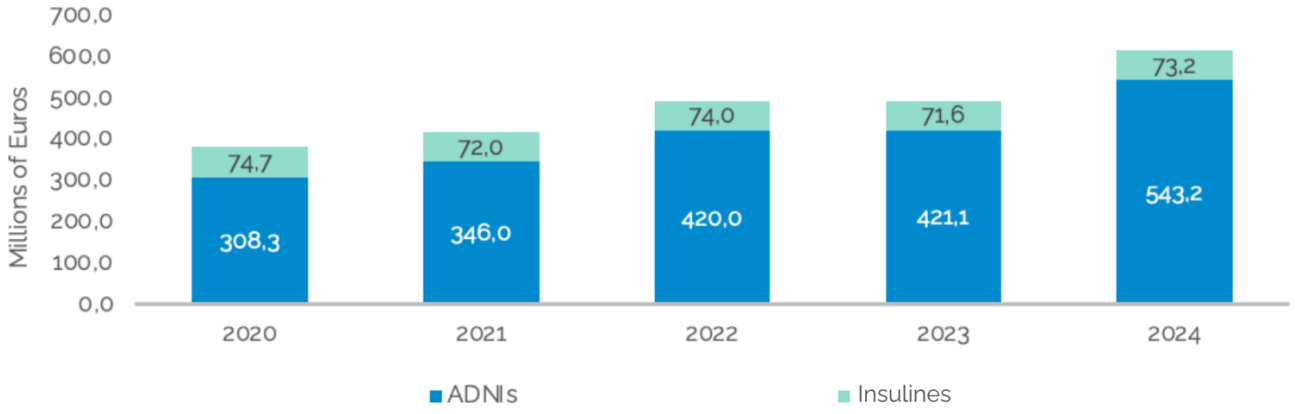
Source: INFARMED 2025, CCF (Invoice Verification Center).

Figure 21. Evolution of the consumption of non-insulin antidiabetic agents and insulins in the NHS - Number of Packages - in Mainland Portugal | 2020 – 2024



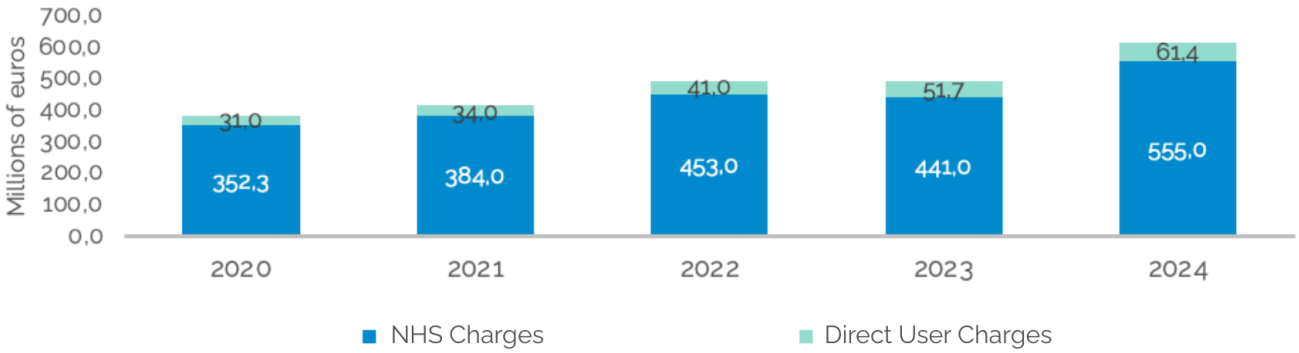
Source: INFARMED 2025, CCF (Invoice Verification Center).

Figure 22. Evolution of costs with non-insulin antidiabetic agents and insulins: Retail Price Value in Mainland Portugal | 2020 – 2024



Source: INFARMED 2025, CCF (Invoice Verification Center).

Figure 23. Evolution of NHS costs and direct user costs with non-insulin antidiabetic agents and insulins in Mainland Portugal | 2020 – 2024



Source: INFARMED 2025, CCF (Invoice Verification Center).

Between 2020 and 2024, consumption of glucagon fell by approximately 11.6%, whilst associated expenditure fell by around 16.7%.

Table 52. Glucagon Consumption in the National Health Service in Mainland Portugal | 2020 – 2024

	Quantity of packages				
	2020	**2021**	**2022**	**2023**	**2024**
Total Glucagon	5 971	5 752	6 187	5 553	5 277

Source: INFARMED 2025, CCF (Invoice Processing Center). CCMNHS (National Health Service Control and Monitoring Center)

Table 53. Glucagon Expenditures - Retail Price Value and NHS Charges | 2020 – 2024

	Retail Price Value (Millions of €)					NHS Charges (Millions of €)				
	2020	**2021**	**2022**	**2023**	**2024**	**2020**	**2021**	**2022**	**2023**	**2024**
Total Glucagon	0,12	0,11	0,12	0,11	0,10	0,05	0,04	0,05	0,04	0,04

Source: INFARMED 2025, CCF (Invoice Processing Center). CCMNHS (National Health Service Control and Monitoring Center)

Consumption and expenditure on test strips for measuring capillary blood glucose levels continued to decline between 2020 and 2024, by approximately 22.9%. In contrast, there has been a rise in the use of Continuous Glucose Monitoring (CGM) sensors and a corresponding increase in expenditure on this technology (92%).

Table 54. Consumption of test strips and sensors in the NHS | 2020 – 2024

	Quantity of Packages				
	2020	**2021**	**2022**	**2023**	**2024**
Blood glucose test strips	2 444 122	2 338 450	2 190 404	2 019 374	1 885 025
Sensors for interstitial glucose assessment	541 177	668 035	821 678	930 868	1 040 463
Beta-ketonemia test strips	27 783	29 084	30 239	27 702	24 811
Total	3 013 834	3 036 378	3 043 035	2 978 713	2 950 918

Source: INFARMED 2025, CCF (Invoice Verification Center).

Table 55. Costs of test strips and sensors: Retail Price Value and NHS charges in Mainland Portugal | 2020 – 2024

	Retail Price Value (Millions of €)					Charges NHS (Millions of €)				
	2020	**2021**	**2022**	**2023**	**2024**	**2020**	**2021**	**2022**	**2023**	**2024**
Blood glucose test strips	43,2	41,3	38,8	35,8	33,5	36,7	35,1	33,0	30,4	28,5
Sensors for interstitial glucose assessment	28,7	35,4	43,6	49,4	55,1	24,4	30,1	37,1	42,0	46,9
Beta-ketonemia test strips	0,4	0,4	0,4	0,4	0,3	0,3	0,3	0,3	0,3	0,3
Total	72,3	77,1	82,8	85,2	89,0	61,4	65,5	70,4	72,8	75,6

Source: INFARMED 2024, CCF (Invoice Verification Center).

Continuous Subcutaneous Insulin Infusion ("insulin pump")

In 2024, the uptake of continuous subcutaneous insulin infusion (CSII) devices remained low. A total of 836 automated insulin delivery (AID) systems and 206 non-integrated adhesive devices with CGM were purchased.

Table 56. Consumption and expenditure on continuous subcutaneous insulin infusion devices in the NHS in Mainland Portugal | 2020 – 2024

		Amount (n)					Cost (M€)				
		2020	**2021**	**2022**	**2023**	**2024**	**2020**	**2021**	**2022**	**2023**	**2024**
New devices	**Normal debit systems**	768	264	503	0	9	0,7	0,2	0,5	NA	0,0
	Adhesive systems	0	0	150	2	206	NA	NA	0,5	0,01	0,7
	AID systems	0	0	337	368	836	NA	NA	2,4	2,6	4,8
	Total	768	264	990	370	1 051	0,7	0,2	3,4	2,6	5,5
One-year consumable sets	**Normal debit systems**	2 535	3 312	3 215	3 722	3233	2,3	3,0	2,9	3,4	2,7

	Adhesive systems	0	0	0	147	156	NA	NA	NA	0,4	0,4
	AID systems	0	0	0	323	962	NA	NA	NA	1,3	3,6
	Total	2 535	3 312	3 215	4 192	4 351	2,3	3,0	2,9	5,0	6,8
Total Costs (Millions of €)							3,0	3,2	6,3	7,7	12,2

Source: DGS/PND 2024.

9. Cost of Diabetes in Portugal

The rising costs associated with medicines and devices for the treatment and monitoring of diabetes, alongside the stabilisation of costs relating to hospital admissions, are set to continue, totalling €680.2 million in 2024. Added to these costs is a portion of the expenditure where diabetes is an associated diagnosis.

Among the direct costs identified in 2024, medicines accounted for most of the expenditure (€545.9 million), followed by test strips and glucose sensors (€89.0 million). The incorporation of technological innovation in the field of diabetes has accounted for a significant portion of the rise in costs for medicines and devices, and this trend is expected to continue. At the same time, there has been an improvement in glycemic control, a reduction in the rate of hospital admissions due to diabetes, and a reduction in mortality and years of life lost due to diabetes.

Among hospital admissions with a primary diagnosis of diabetes (€32.9 million), the majority of costs were attributed to chronic complications (€15.2 million) and lower limb amputations (€9.5 million). It should be noted that costs relating to outpatient episodes are not included and that the coding of hospital admissions for 2024 will not yet be complete.

Table 57. Identified costs of diabetes in Mainland Portugal (M€) | 2020 – 2024

	2020	2021	2022	2023	2024
Medicines and medical devices					
Non-insulin antidiabetic agents and insulins in outpatient care – total user + NHS	383,0 M€	418,0 M€	494,4 M€	492,7 M€	616,4 M€
Glucagon	0,1 M€	0,1 M€	0,1 M€	0,1 M€	0,1 M€
Glucose test strips and sensors – total user + NHS	72,3 M€	77,2 M€	82,8 M€	85,6 M€	89,0 M€
Continuous Subcutaneous Insulin Infusion Systems	3,3 M€	3,2 M€	6,3 M€	7,7 M€	12,2 M€
Subtotal – Medicines and medical devices	**458,7 M€**	**498,5 M€**	**583,7 M€**	**586,1 M€**	**717,8 M€**
Hospitalizations					
Hospitalizations for uncontrolled diabetes	3,6 M€	4,0 M€	3,9 M€	3,8 M€	3,8 M€
Hospitalizations for acute complications of diabetes	5,0 M€	5,3 M€	5,0 M€	4,3 M€	4,4 M€
Hospitalizations for chronic complications of diabetes	13,8 M€	15,5 M€	16,8 M€	15,4 M€	15,2 M€
Lower limb amputation in patients with diabetes	9,8 M€	10,1 M€	10,3 M€	9,9 M€	9,5 M€

Subtotal - Hospitalizations with Diabetes as the Primary Diagnosis	**32,2 M€**	**35,0 M€**	**36,1 M€**	**33,5 M€**	**32,9 M€**
Total	**491,0 M€**	**533,5 M€**	**619,7 M€**	**619,6 M€**	**750,7 M€**
Total (values updated for 2024)	**572,9 M€**	**614,8 M€**	**661,8 M€**	**634,5 M€**	**750,7 M€**

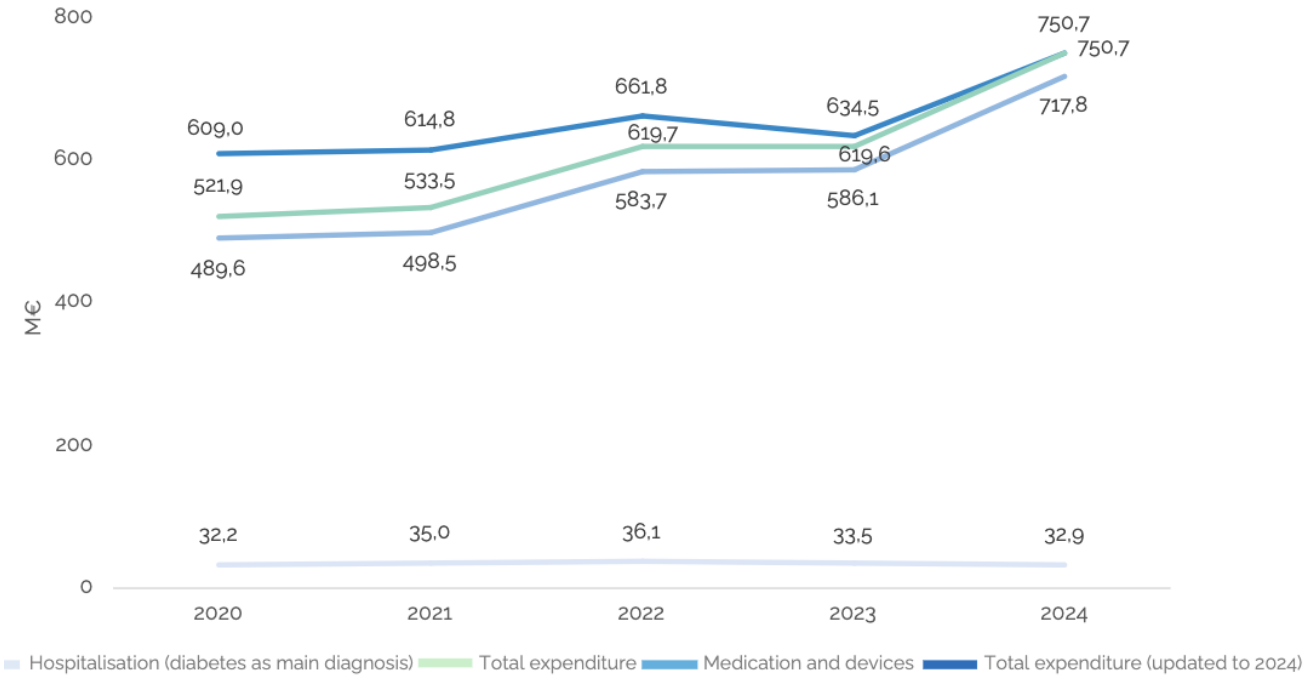
Source: ACSS, DPS, BDMH, 2025. Continuous Subcutaneous Insulin Infusion ("Insulin Pumps"); Drugs: insulins and Non-insulin antidiabetics agents; Monitoring: test strips and glucose sensors. Indicator specifications according to doc. 2019.03.18_Specification of ICD-10-CM/PCS Diabetes Indicators and inclusion, in all indicators, of users under 18 years of age and the diagnoses E08xxx and E09xxxx (E12 does not exist in CD10CM/PC). Values updated according to the inflation rate in Mainland Portugal, as of December 2024.

Table 58. Identified costs of hospitalizations with an associated diagnosis of diabetes | 2020 – 2024

	2020	2021	2022	2023	2024
Hospitalizations with a diagnosis associated of diabetes.	435,9 M€	490,2 M€	478,4 M€	466,5 M€	451,7 M€

Source: ACSS, DPS, BDMH, 2025. Note: Costs of Hospitalizations where diabetes is an associated diagnosis; note that the total cost estimate for these Hospitalizations is presented, however, these costs are not entirely attributable to diabetes. This indicator corresponds to all episodes with a record of any of the diabetes codes considered in the other indicators, without an additional diagnosis. Includes users under 18 years of age and diagnoses E08xxx and E09xxxx (E12 does not exist in CD10CM/PC).

Figure 24. Evolution of identified diabetes costs in Mainland Portugal (M€) | 2020 – 2024



Note: DM – Diabetes mellitus; DP – Primary Diagnosis. Source: ACSS, DPS, BDMH, and DGS 2025.

It is estimated that the identified costs account for 50–64% of the total. (7) (8)

According to IDF estimates, in 2024, diabetes-related costs in Portugal amounted to approximately USD 2,158 (€2,043) per person with diabetes, and there were an estimated 1.095 million people with diabetes aged between 20 and 79, corresponding to approximately €2,236 million for all people with diabetes in that age group.

Chapter II- Health Promotion and Disease Prevention

Portugal has a high prevalence of diabetes. Around one million people have been diagnosed with diabetes, and a further million are at increased risk of developing the condition in the coming years. Furthermore, it is estimated that 44% of people with diabetes aged between 20 and 79 remain undiagnosed.

In this context, it is essential to strengthen initiatives to promote health literacy and healthy lifestyles, to prevent or delay the onset of diabetes.

The PND has carried out activities with this aim in mind:

- **"Falar abertamente da diabetes" program:** the partnership with RTP continued as part of the "Praça da Alegria" program's segment entitled "Falar abertamente da diabetes" ("Talking Openly About Diabetes"), the first season of which began in November 2022. In 2024, a second season was launched, retaining the same format. In total, 24 videos were produced and broadcast between November 2022 and May 2025, featuring members of the PND team and guests, addressing various topics related to diabetes. This content was also shared on the DGS and RTP social media channels and remains available on the official DGS/PND website.





• **National Competition – Diabetes and Schools 2024/2025**: this competition aims to promote knowledge and awareness of diabetes within the school community, encouraging children from different educational levels to create films. The competition is organised by the National Diabetes Program (PND) of the Directorate-General for Health, in collaboration with the National School Health Program and the Directorate-General for Education. In 2024/2025, the 5th edition of the National Competition "Diabetes and Schools" took place, under the theme "Diabetes: physical, mental and social well-being", maintaining the structure of three levels of participation — primary, lower and upper secondary, and upper secondary education — as in previous years.
A first prize and an honourable mention were awarded at each level of education. The award ceremonies took place at the end of the 2024/2025 school year at each of the winning educational institutions. Winners: Level 1 (Years 1 to 4): video "Open War on Diabetes" by Corvo Primary School, Arcozelo (Sophia de Mello Breyner School Group); Level 2 (Years 5 to 9): video "Diabetes and a Healthy Mind" by Fernando Pessoa Primary School, Santa Maria da Feira; level 3 (Years 10 to 12): video "Diabetes and Physical, Social and Mental Well-being" by Rocha Peixoto Secondary School, Póvoa de Varzim.

- **Running and walking for diabetes:** in 2024, the PND organised the "3rd Walk for Diabetes" in partnership with Covilhã Municipal Council, held on 10 November, which was attended by around 600 people. Preparations are underway for the PND's "4th Running and Walking for Diabetes Event" in 2025, in partnership with Lisbon City Council, scheduled for 16 November, with 1,500 participants registered. The main aim of these events is to raise public awareness of the importance of physical activity in promoting health and general well-being, as well as in the prevention and management of diabetes.



- **"Mais Saúde, Menos Diabetes" Program:** The project, promoted by the National Program for Diabetes, is supported by the National Program for the Promotion of Healthy Eating (PNPAS), the National Program for the Promotion of Physical Activity (PNPAF) and the Health Literacy Division of the Directorate-General for Health. Implementation of the face-to-face version of the diabetes prevention educational program "Mais Saúde, Menos Diabetes" in pilot groups and analysis of the results. A randomised study protocol was also drawn up, in partnership with the Faculty of Human Kinetics (FMH), with the aim of assessing the impact of integrating physical exercise into the program, in both face-to-face and online formats, with a view to increasing the effectiveness of the intervention. This project is in the early stages of implementation. National management of the "Mais Saúde, Menos Diabetes" program is centralised within the PND/DGS, with the intention of future implementation by Local Health Units (ULS), under the local management of the PND's Local Coordination Teams.

- Collaboration with the National Health Plan (PNS) 2030 and the integration of the "Mais Saúde, Menos Diabetes" and "Diabetes em Movimento" programs into the Social Pact for Sustainable Health. Participation in initiatives under the "PNS on the Move" program in the autonomous regions of the Azores and Madeira.
- Collaboration with the National Telehealth Centre on updating information on diabetes for publication on the NHS website.
- Collaboration with the **Rotary Anti-Diabetes Front (FRAD)**, District 1960, in organising the forum 'Diabetes – a growing challenge' and delivering presentations on the epidemiology, prevention and management of diabetes.

Chapter III- Promotion of Good Practices, Quality and Safety

To achieve good health outcomes, in addition to prevention, it is essential to provide high-quality care. In the context of diabetes, this care involves early diagnosis and treatment, along with the prevention and management of complications, targeted rehabilitation and a consequent increase in healthy life expectancy.

The provision of quality care in the field of diabetes depends, to a large extent, on the coordination between different levels of care and the coordinated action of the multidisciplinary teams involved, which play a strategic role in an integrated, person-centred approach to diabetes, enabling an effective response to the needs of the population.

With the aim of promoting best practice, quality and safety in the care of people with diabetes, the PND carried out the following activities in 2024–2025:

- Preparation of the **report on the National Diabetes Program: Challenges and Strategies 2024** (9)**.** This document presents an overview of the epidemiology of diabetes in Portugal for the years 2022–2023, the activities carried out by the PND in 2023–2024, and the action plan for the three-year period 2025–2027. Publication of a letter in the journal Endocrinology Insights, entitled "Epidemiological Characterisation of Diabetes in Portugal 2024: Nationwide Trends and Public Health Implications – Report of the National Program for Diabetes". (10)
- Preparation of the report **"Monitoring and Evaluation of Diabetic Retinopathy Screening in 2024": 2025 Report** (11)**.**
- Organisation of the **event "National Diabetes Program: innovation in diabetes".** This event took place on 14 November 2024 in the Aula Magna of the Faculty of Medicine at the University of Lisbon, to mark World Diabetes Day, and featured the presentation of the National Diabetes Program's report "Challenges and Strategies 2024". The event involved a number of scientific societies, namely the Portuguese Society of Diabetology, the Portuguese Society of Endocrinology, Diabetes and Metabolism, the Portuguese Society of Paediatric Endocrinology and Diabetology, the Diabetes Mellitus Study Group of the Portuguese Society of Internal Medicine, the Diabetology Study Group of the Portuguese Association of General and Family Medicine, and the Paediatric Endocrinology and Diabetology Society of the Portuguese Paediatric Society. Two round-table discussions were held on "The Role of Society and the Organisation of Person-Centred Care" and "Screening and Prevention of Type 1 Diabetes".
- Collaboration with SPMS on the development of a **Dashboard** featuring diabetes indicators for hospital outpatient teams, following a proposal put forward by the PND.
- The publication of Decree-Law 102/2023, of November 7, which mandates the widespread creation of the organizational and operational model for NHS health services in Local Health Units (ULS), necessitated the creation of a new governance structure for the National Diabetes Program (PND/DGS), replacing the Functional Coordinating Units for Diabetes (UCFD). Therefore, the PND developed a new proposal, culminating in the publication of Order No. 3390/2025, of March 17, which "Determines the updating of the governance structure of the National Diabetes Program (PND) and the operation of diabetes consultations." This structure is based on two levels of coordination: the national level, through the PND/DGS management; and the local level, through the Local Coordination Teams of the National Diabetes Program (ECL-PND). These ECL-PND include effective and advisory members. Some of the innovative elements contained in the decree are the creation of ECL-PND in each ULS, as well as in the social and private sectors; the existence of protected time for ECL-PND activities; and the inclusion in the ECL-PND of representatives of users and municipalities within the ULS's area of coverage.

- Scientific coordination of the drafting and publication of **DGS Regulation No. 06/2024 of 13 August 2024 on the organisation of healthcare for people with type 1 diabetes mellitus**. This Standard repealed Regulatory Circular No. 15/2008 of 1 August 2008 and No. 17/DSCS/DGID of 4 August 2008 on "Integrated Diabetes Management – Application to Treatment Centres for Continuous Subcutaneous Insulin Infusion".
- Coordination of the **Continuous Subcutaneous Insulin Infusion (CSII) Program**. Within the framework of this Program, the PND undertook the following activities:
    - ✓ Coordination with CSII Treatment Centres (CT-PSCI) and Ministry of Health bodies;
    - ✓ Preparation of national monitoring reports on the treatment program;
    - ✓ Assessment of compliance with the technical requirements for applications for new CT-PSCI centres. Since 2024, mainland Portugal has had 31 CT-PSCI centres spread across the various regions;
    - ✓ Preparatory work for the transition to the PSCI device procurement model in community pharmacies;
    - ✓ Contributed to the drafting of Ministerial Order No. 18/2025/1 of 21 January, which "Establishes the exceptional funding scheme for continuous subcutaneous insulin infusion (CSII) devices, as well as monitoring systems". This Order implements the Proposal to update the strategy for access to treatment with Continuous Subcutaneous Insulin Infusion (CSII) devices (12) drawn up by the Working Group appointed by Order No. 13339/2022 of 17 November and amended by Order No. 3584/2023 of 21 March, and access to Automated Insulin Delivery Systems (AID Systems) for all those for whom such systems are indicated and justified, in accordance with the provisions of Order No. 6440/2023 – Diário da República No. 113/2023, 2nd Series, of 13 June 2023;
    - ✓ Coordination, monitoring and liaison between the various stakeholders to optimise the implementation strategy for the PSCI treatment program.
- Scientific coordination of the **guidance on "Prevention, Diagnosis and Treatment of People with Diabetic Foot"**, currently being prepared by the Department of Health Quality.
- Review and coordination with the scientific coordination team and the Department of Health Quality to draft the **guideline on "Prevention, Diagnosis and Treatment of Diabetic Kidney Disease in Adults"**.
- Co-coordination of the Diabetes in Motion Program in association with the National Program for the Promotion of Physical Activity (PNPAF). It is a community-based physical exercise program for people with type 2 diabetes. In October 2024, the 2024/2025 season began, implemented in 54 municipalities. In May 2024, the 1st National Meeting of "Diabetes in Motion" was held in the Municipality of Covilhã, with the participation of approximately 800 people, including users with type 2 diabetes, health professionals, and representatives of the institutions that implement the program locally. In the 2025/2026 season, the program is taking place in 60 municipalities.
- The Directorate-General of Health, through the PND, continues to coordinate the '**Care4Diabetes' Joint Action** at national level, a European initiative focused on promoting healthy lifestyles among people with type 2 diabetes mellitus, thereby strengthening their active role in self-management of the condition. Throughout 2024 and 2025, implementation activities for the project's pilot groups in Portugal continued. Analysis of the results from the first six months of the project's implementation. The Local Health Units (ULS) of Santo António, Estuário do Tejo, Baixo Alentejo and Algarve participated as collaborating entities. The Portuguese Diabetes Association (APDP) is also participating in this project as an affiliated organisation. This initiative aims to implement the 'Reverse Diabetes2Now' best practice across Europe, developed by the non-governmental organisation Voeding Leeft, based in the Netherlands.

- A public tender was launched for the procurement of services to carry out a **"Study on the Prevalence of Diabetes in Portugal"**. The final report of the tender panel's assessment in 2025 concluded that neither of the two bids received met the requirements, and both were therefore rejected. A new tender is currently being prepared.
- The proposal for a **pilot study on the implementation of population-based screening for type 1 diabetes in children**, drawn up by the PND and approved by the management of the DGS, is currently at the stage of drafting a cooperation agreement with the implementing Local Health Units (ULS).
- Collaboration with the National School Health Program of the Directorate-General of Health (DGS) and the Directorate-General of Education (DGE) in drafting a proposal for joint DGS-DGE guidance on **"Exceptions to Decree-Law No. 95/2025 of 14 August, regarding the use of equipment or any other mobile electronic communication devices with internet access, namely mobile phones or tablets"**. Proposal drawn up following the publication of Decree-Law No. 95/2025, of 14 August, which "Regulates Law No. 51/2012 of 5 September, which approves the Student Statute and School Ethics, restricting the use of electronic mobile communication devices with internet access on school premises by pupils in the 1st and 2nd cycles of basic education". The proposed guidance is based on the assumption that, upon presentation of an Individual Health Plan validating the health condition and the need to use a mobile phone or tablet, this must be applied mandatorily at all times and in all educational contexts (on school premises, during visits, in physical education, during assessments or otherwise).
- Proposal to update the **Individual Health Plan for children and young people with type 1 diabetes**, in collaboration with the DGS School Health Program and the Directorate-General for Education.
- Work is currently underway on the 2nd edition of the **"Training Manual to support health and education professionals: Children and young people with type 1 diabetes mellitus"**. This manual is a tool designed to support the training of health and education professionals regarding children and young people with type 1 diabetes mellitus in schools. It complies with Joint Guideline No. 6/2016, dated 23 November, issued by the Directorate-General of Health and the Directorate-General for Education, on Children and Young People with Type 1 Diabetes Mellitus (T1DM) in Schools.
- Collaboration with the Department of Health Quality at the DGS on preparatory work (methodological document and index) for the development of the **Integrated Care Pathway for people with diabetes**.
- Prior consultation with the market regarding the implementation of a Value-Based Healthcare (VBHC) model in diabetes management.
- Creating and updating content for the PND microsite.
- **Inter-institutional collaboration and engagement with civil society**, through participation in the following initiatives organised by other organisations:
    - ✓ **Central Health System Administration**. "Annual Report. Access to healthcare in NHS facilities and affiliated organisations 2023." The PND contributed to the relevant chapter of the report on access.
    - ✓ **INFARMED – National Authority for Medicines and Health Products.** Member of the working group that drafted an opinion on AID Systems. Consultancy on the prescription of GLP-1 agonists and continuous glucose monitoring systems.
    - ✓ **SPMS – Shared Services of the Ministry of Health.** Collaboration on the revision of the diabetes module in SClinico (Primary Health care/Hospital care). Provision of information on CSII devices, continuous glucose monitoring and related consumables for the implementation of the Electronic Prescription of Medicines (EPM).
    - ✓ **National Association of Pharmacies.** A webinar is planned: "From innovation to practice: insulin pumps in community pharmacies". This joint initiative by the Directorate-General for Health and the National Association of Pharmacies will address the technical characteristics of the PSCI

systems available in Portugal and the role of the pharmacist in dispensing and validating these systems, as well as in supporting people with diabetes.

- ✓ **Faculty of Medicine, University of Lisbon.** Contributed to the study entitled "Characterisation of premature mortality due to diabetes in Portugal", which analysed mortality data for people with diabetes aged under 70 between 2013 and 2022.
- ✓ ***International Diabetes Federation.*** *Sharing data on type 1 diabetes in children and young people for publication.*
- ✓ **Organisation for Economic Co-operation and Development (OECD)**. Collaboration on the review of diabetes data in Portugal.
- ✓ Collaboration with the Office of International Relations and Cooperation in response to requests from international organisations regarding diabetes.
- ✓ Active participation in interviews, news reports and scientific meetings on diabetes

Final Notes

The results presented in this report highlight progress, but also persistent challenges that require an integrated, sustained approach centred on the individual and the community in which they live.

Positive trends in glycemic control and other cardiovascular risk factors, the rate of hospital admissions for diabetes, and the gradual reduction in the number of hospital admissions for acute myocardial infarction or stroke suggest improvements in access to and the quality of outpatient care. There has also been a sustained reduction in premature mortality (<70 years) associated with diabetes, although the disease continues to account for around 3% of all deaths in Portugal.

Screening for diabetic nephropathy achieved 74% coverage in primary care centres, and diabetic foot assessments were carried out in 83% of patients, reinforcing the commitment to active monitoring of complications. However, screening for retinopathy showed a decline in population coverage in 2024, increasing the risk of severe eye disease. Despite the high proportion of patients undergoing foot examinations, the number of major amputations remains high and shows significant regional disparities, highlighting coordination and access constraints in this area.

In 2025, with the transition to a model for the procurement of 'insulin pumps' via community pharmacies, access to automated insulin delivery systems was achieved, with a significant increase in the number of people with type 1 diabetes receiving this type of treatment.

At organisational level, in 2025, with the publication of Order No. 3390/2025, which provides for the updating of the PND's governance structure and the appointment of Local Coordination Teams (ECL-PND), will strengthen the level of local diabetes coordination, representing an essential step towards consolidating efficient coordination between the different levels of healthcare, promoting greater integration between primary and hospital care and improving the quality of care provided.

In 2026, the PND will continue to invest in technological innovation, epidemiological research and the systematic evaluation of health outcomes, in close collaboration with Local Health Units and the various stakeholders in the field of diabetes. The focus on health literacy, the promotion of healthy lifestyles and early diagnosis must remain a national strategic priority.

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