Scottish Diabetes Survey 2022

Scottish Diabetes Group

Contents

Table of Contents

Revision information

Version Number	Edited By	Effective Date	Details of Changes Made
1.0	Michael Bluett	13 Sep 2023	First version

Foreword

The 2022 Scottish Diabetes Survey represents a new format for the Survey to take account of the availability to SCI-Diabetes users of more up to date data on dashboards, the need to report on Diabetes Improvement Plan commitments and suggestions/feedback from users of the Survey from across Scotland. We envisage continuing modifications in future years as further data become available and continue to welcome suggestions or requests for further changes.

Sarah Wild
Professor of Epidemiology, University of Edinburgh
Honorary consultant in public health, NHS Lothian and Public Health Scotland
On behalf of the Scottish Diabetes Group

Executive Summary

This report presents the results of the 2022 Scottish Diabetes Survey using a year-end extract of Scottish Care Information-Diabetes (SCI-Diabetes), the national database that collates data from all primary care practices and secondary care clinics in all 14 Health Boards. Data for this survey include people who were alive, had a current diagnosis of diabetes and were registered with a Scottish General Practitioner at the time of data extraction. We report that:

- There were 339,018 people with a diagnosis of diabetes in SCI-Diabetes at the end of 2022 (Table 13). This represents approximately 6.2% of the population of all ages and compares to a prevalence of 6.0% in 2021. The relatively high number of new cases diagnosed in the last two years may be related to effects of the pandemic and the relatively low number of new cases diagnosed in 2020.
- Proportions of people with type 1 or type 2 diabetes who had processes of care or risk factors recorded once or more in the 15-month period between October 2021 and December 2022 are summarised in the table below.

Table 1 **Proportions of people with type 1 or type 2 diabetes in Scotland who had processes of care or risk factors recorded and proportions meeting key treatment targets in the 15 months prior to the end of December 2022**

Process measured within 15 months/target (min age years, otherwise all-age)	Type of diabetes	
	Type 1 (%)	Type 2 (%)
HbA$_{1c}$ recorded	86.0	87.2
Blood pressure recorded	74.0	80.6
Cholesterol recorded (18+)	73.7	75.2
Serum creatinine recorded (12+)	84.8	90.1
Urinary albumin recorded (12+)	56.4	56.0
Body Mass Index recorded (18+)	71.7	72.9
Smoking recorded	53.2	61.0
Eye screening (12+)	67.2	67.3
Foot screening	39.7	42.6
For people with risk factor recorded:		
HbA$_{1c}$ <58 mmol/mol	30.9	53.5
Blood pressure <=140 mmHg	72.3	71.6
Cholesterol <5mmol/l (18+)	69.3	76.1

Note: Urinary albumin recording includes albumin/creatinine ratio (ACR). Total number of people: type 1 n = 35,619, type 2 = 297,504. Numbers excluded in measures for 12+ year olds/no missing date of birth - type 1 = 1,308, type 2 = 101; for 18+ year olds/no missing date of birth - type 1 = 3,400, type 2 = 150.

Section 1: Data Relevant to the Diabetes Improvement Plan

This section provides currently available data relevant to the Diabetes Improvement Plan (https://www.gov.scot/publications/diabetes-improvement-plan-diabetes-care-scotland-commitments-2021-2026/pages/4/). We hope to extend the inclusion of other relevant data in subsequent years.

Commitment 1.1 We will continue to support the implementation of the Framework for the Prevention, Early Detection and Early Intervention of Type 2 Diabetes.

To ensure progress against this commitment we will review the:

•   Percentage of adults with type 2 diabetes who are newly diagnosed with type 2 diabetes

Table 2   Numbers and percentage of people aged 20 years old or older, with type 2 diabetes, whose diabetes was diagnosed in previous year as a percentage of those with a date of diagnosis recorded, by year, Scotland 2018-2022.

Year	Type 2 diabetes (20+ years old)	
	People (n)	%
2022	22,521	7.6
2021	22,190	7.7
2020	16,408	5.9
2019	18,507	6.7
2018	15,963	6.0

Note: Data given for 20+ year olds as not available for 18+ year olds. In 2022, there were 2,057 people of all ages with type 2 diabetes whose date of diagnosis was not recorded.

In 2022, the date of diagnosis was recorded for 99.3% of people of all ages with either type 1 or type 2 diabetes.

•   Percentage of adults with type 2 who achieve optimal glycaemic (HbA$_{1c}$<58mmol/mol) control at 1 year post diagnosis

Table 3   **Proportions and numbers of people with HbA$_{1c}$<58 mmol/mol one year (+/- 90 days) after diagnosis of type 2 and other diabetes for people 18+ years of age who have HbA$_{1c}$ data available for that period, by year, Scotland 2018-2022.**

Year	Achieving measure		Number diagnosed during the year that have HbA$_{1c}$ recorded
	People (n)	%	
2022	9,631	73.5	13,109
2021	6,484	71.8	9,033
2020	5,704	67.6	8,438
2019	7,645	72.0	10,621
2018	7,781	73.2	10,631

Note: At present it has not been possible to estimate proportions of people with missing HbA$_{1c}$ in this period after diagnosis of diabetes.

Commitment 1.3 We will ensure care pathways support individuals to have their processes of care completed while considering the principles of realistic medicine.

To ensure progress against this commitment we will review the:

•   Percentage of people with diabetes who have all age-appropriate processes of care recorded

Table 4   **Proportions of people that have received age-appropriate measures with type 1 or type 2 diabetes in specific age bands, by type and year, Scotland 2018-2022.**

Year	Process measured within previous 15 months (%)			
	Both recommended processes of care for 0-11 year olds	All 6 recommended processes of care for 12-17 year olds	All 9 recommended processes of care for 18+ year olds	
	Type 1 diabetes	Type 1 diabetes	Type 1 diabetes	Type 2 diabetes
2022	94.0	16.1	18.5	18.2
2021	88.9	12.7	13.5	12.4
2020	88.6	9.4	10.2	11.3
2019	94.6	32.8	33.5	39.9
2018	96.4	31.9	32.5	40.1

• Percentage of people with diabetes who have had foot screening

Proportions of people with a record of foot screening in the last 15 months remain low due to reductions during the pandemic and the increase in screening interval for people at low risk. Next year the change in screening intervals will be taken into account when reporting foot screening.

Table 5   Percentage of people with type 1 or type 2 diabetes who have a recorded foot risk score in the previous 15 months by diabetes type and year, Scotland 2018-2022.

Year	Recorded as having foot risk score (%)	
	Type 1 diabetes	Type 2 diabetes
2022	39.7	42.6
2021	33.4	36.7
2020	33.1	38.5
2019	56.5	64.7
2018	55.7	65.4

• Percentage of people with diabetes who have had screening for microalbuminuria

Table 6   Percentage of people with type 1 or type 2 diabetes who have a record of measurement of urinary albumin value or albumin/creatinine ratio within the previous 15 months, by diabetes type and year, Scotland 2018-2022.

Year	Recorded urinary albumin/ACR measurements (%)	
	Type 1 diabetes	Type 2 diabetes
2022	56.4	56.0
2021	52.4	52.8
2020	47.4	49.8
2019	63.5	65.8
2018	62.8	66.2

Note: Urinary Microalbumin: Excludes children under 12 years of age and people whose date of birth has not been recorded (in 2022 type 1 n = 1,308, type 2 n = 101).

Priority 2 - Type 1 Diabetes

To improve the care and outcomes of all people living with type 1 diabetes

Commitment 2.1 We will support early optimisation of glycaemic control in new onset type 1 diabetes.

To ensure progress against this commitment we will review the:

•   Percentage of people with type 1 diabetes who achieve optimal glycaemic control (HbA$_{1c}$<58mmol/mol in adults) at one year post diagnosis with the aim of 58% of people achieving this

Table 7   **Proportions and numbers of people with HbA$_{1c}$<58 mmol/mol one year (+/- 90 days) after diagnosis of type 1 diabetes for people of 18+ years of age who have HbA$_{1c}$ data available for that period by year, Scotland 2018-2022.**

Year	Achieving measure		Number diagnosed during the year and have HbA$_{1c}$ recorded
	People (n)	%	
2022	229	53.0	432
2021	172	53.3	323
2020	138	44.5	310
2019	223	53.5	417
2018	239	53.1	450

Note: At present it has not been possible to estimate proportions of people with missing HbA$_{1c}$ in this period after diagnosis of diabetes.

Commitment 2.2 We will support appropriate and timely access to technologies to improve glycaemic control and quality of life for people living with type 1 diabetes.

•   Percentage of people with type 1 diabetes who have access to flash glucose or continuous glucose monitoring

Table 8   **Percentage of people with type 1 diabetes recorded as using flash glucose or continuous glucose measurement devices, by year, Scotland 2021-2022.**

Year	Recorded as using a flash glucose measurement device or a continuous glucose monitoring device, type 1 diabetes (%)
2022	59.9
2021	52.7

Note: Data have been recorded since 2021. These data were extracted later than for most other sections of this report, with data for 2022 extracted on the 18th May 2023 and data for 2021 extracted on 4th Feb 2022.

- Percentage of people with type 1 diabetes who have access to insulin pump therapy

The use of Continuous Subcutaneous Insulin Infusion (CSII or insulin pump therapy) as a method to manage type 1 diabetes has increased in many developed countries during the last 20 years. The Scottish Diabetes Group, supported by the Government, have emphasised the importance of ensuring individuals who fulfil the clinical criteria for CSII therapy have access to this technology. The results in Table 9 describe the proportion of people recorded as receiving treatment with insulin pumps in Scotland and show that the proportions have increased slightly between 2018 and 2022.

Table 9   Numbers and percentages of people with type 1 diabetes using insulin pumps by age group and year, Scotland 2018-2022.

Year	Aged under 18 years			Aged 18 years or over			All ages		
	People (n)	On pump		People (n)	On pump		People (n)	On pump	
		n	%		n	%		n	%
2022	3,375	1,560	46.2	32,219	4,613	14.3	35,594	6,173	17.3
2021	3,329	1,321	39.7	31,573	4,067	12.9	34,902	5,388	15.4
2020	3,160	1,249	39.5	30,901	3,635	11.8	34,061	4,884	14.3
2019	3,070	1,193	38.9	30,357	3,421	11.3	33,427	4,614	13.8
2018	3,044	1,165	38.3	29,759	3,046	10.2	32,803	4,211	12.8

Commitment 2.5 We will continue to support improvements in care and outcomes for adults living with Type 1 diabetes.

- Percentage of people with type 1 diabetes with optimal glycaemic control

Table 10   Type 1 diabetes (any duration, all age groups): Percentage of people with a record of HbA$_{1c}$ below 58 mmol/mol by year, Scotland 2018-2022.

Year	Recorded as having HbA1c <58 mmol/mol, type 1 diabetes (%)
2022	30.9
2021	30.1
2020	26.1
2019	26.5
2018	27.7

Note: Lower proportions of people had their HbA$_{1c}$ recorded in 2020-2022 than in previous years. However, it appears that proportions with good glycaemic control (defined as HbA$_{1c}$<58mmol/mol) have increased and proportions of people with poor control (defined as HbA$_{1c}$- >=58 mmol/mol) have decreased over time.

• Percentage of people with type 1 diabetes with most recent blood pressure in the last 15 months <130 mmHg (systolic) and ≤80 mmHg (diastolic)

Table 11   Percentage of people with type 1 diabetes and recorded blood pressure in the last 15 months whose most recent blood pressure was <130 mmHg (systolic) and ≤80 mmHg (diastolic), by year, Scotland 2018-2022.

Year	Most recent recorded blood pressure <130 mmHg (systolic) and ≤80 mmHg (diastolic), type 1 diabetes (%)
2022	38.3
2021	37.3
2020	38.7
2019	41.4
2018	42.7

Priority 3 - Person-Centred Care

Commitment 3.1 We will ensure timely and appropriate access to structured education and support for people living with diabetes.

• Percentage of people living with diabetes who are recorded as having ever attended structured education

Table 12   Percentage of people with type 1 or type 2 diabetes who are recorded as having ever attended structured education, by diabetes type and year, Scotland 2018-2022.

Year	Recorded as having ever attended structured education (%)	
	Type 1 diabetes	Type 2 diabetes
2022	24.7	4.9
2021	23.9	4.7
2020	22.7	4.8
2019	21.3	4.8
2018	18.5	4.3

Note: These data are known to be inaccurate and to underestimate the proportions of people that have received structured education. Work is in progress to improve the completeness of recording of receipt of structured education.

Section 2: National Epidemiology and Characteristics of People with Diabetes in Scotland 2022

Overall Prevalence

The numbers and proportion (prevalence) of people with diabetes in Scotland continue to increase (Figure 1, Figure 2 and Table 13). At the end of 2022 there were 339,018 people with a diagnosis of any type of diabetes in Scotland recorded in SCI-Diabetes, reflecting a crude prevalence of 6.2% of the population of all ages. This includes numbers (proportions of the total number of people with diabetes) 35,619 (10.5%) for type 1 diabetes, 297,504 (87.8%) for type 2 diabetes and 5,895 (1.7%) with other forms of diabetes. Crude prevalence is 0.65% for type 1 diabetes, 5.4% for type 2 diabetes and 0.11% for other forms of diabetes.

Increasing numbers of people with diabetes over time mainly reflects the balance between numbers of new (incident) cases and numbers of people with diabetes who die. Other contributing factors were described in previous Surveys. In 2022 and 2021 the annual increases in numbers of people with diabetes were higher than in previous years, which may partly reflect delays to diagnoses that would have been made in 2020 if there had not been a pandemic in addition to other factors suggested under the Incidence (New Cases) section.

Figure 1   Prevalence of diabetes (all types, all ages) by year, Scotland 2013-2022.
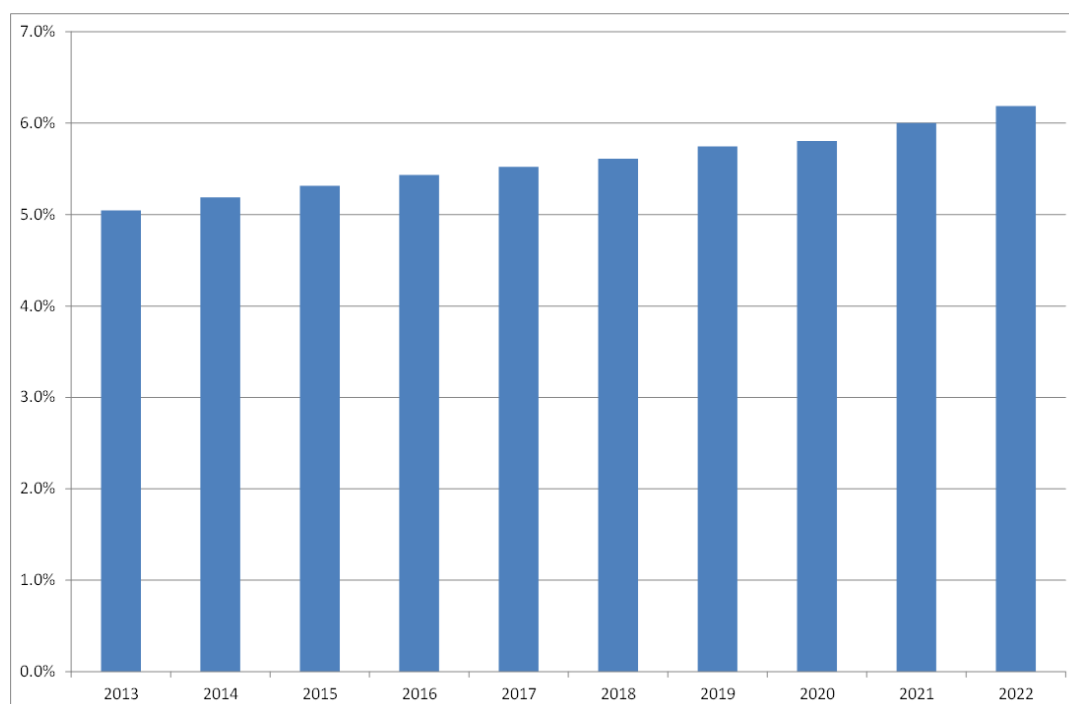
Figure 2   Number of people recorded with a diagnosis of diabetes (all types, all ages) by year, Scotland, 2013-2022.
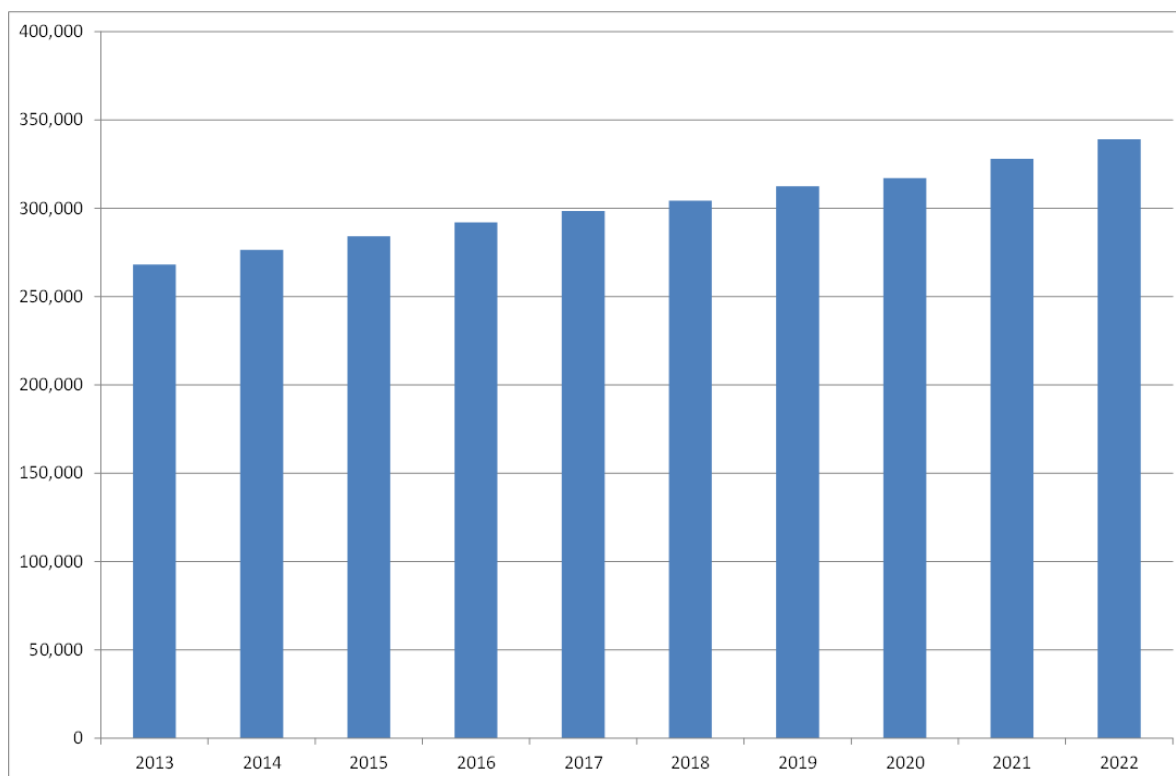

Table 13   Number of people of all ages with all types of diabetes, crude prevalence and annual changes compared to the previous year in numbers/proportions by year, Scotland 2018-2022.

Year	Number of people with diabetes (n)	Crude prevalence (%)	Annual increase (n)	Annual increase (%)	Absolute increase in prevalence (%)
2022	339,018	6.19	11,091	3.38	0.19
2021	327,927	6.00	10,799	3.41	0.19
2020	317,128	5.80	4,738	1.52	0.06
2019	312,390	5.74	8,015	2.63	0.13
2018	304,375	5.61	5,871	1.97	0.09

Note: see previous Surveys for data for earlier years.

The population figures used are based on the mid-year population estimate published by National Records of Scotland for the previous year as population estimates for the same year only become available after the Survey is produced. For example, the 2022 Survey uses numbers of people with diabetes at the end of 2022 but the mid-year population estimate for Scotland from 2021 of 5,479,900 people.

Incidence (New Cases)

Crude incidence figures have been calculated separately for type 1 and type 2 diabetes using numbers of people with diabetes diagnosed during 2022 identified from SCI-Diabetes data as the numerator and people that do not have a diagnosis of diabetes as the denominator. Type of diabetes classification may change subsequently. The higher incidence of type 1 diabetes observed in 2021 that was particularly marked among 5–9 year olds, does not appear to have persisted. Higher incidence of type 1 diabetes in 2020 and 2021 compared to pre-pandemic years has also been observed in other countries.

Incidence of type 2 diabetes increased in both 2021 and 2022 compared to previous years. This may partly reflect the reduction in the numbers of new diagnoses in 2020 because of the pandemic and may also reflect increases in weight and body mass index, in addition to the ageing of the population.

Table 14   **Type 1 diabetes: Number of new cases and incidence rate (per 100,000 population per year) by five-year age groups for under 20-year-olds and ten-year age groups for people over 19 years of age, by year, Scotland 2018-2022.**

Age	2018		2019		2020		2021		2022		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
0-4	60	21	54	20	56	21	58	22	255,297	61	24
5-9	117	39	108	36	122	41	173	58	293,035	112	38
10-14	178	64	161	56	176	60	196	66	303,087	171	56
15-19	89	31	97	34	116	41	117	42	281,659	104	37
20-29	172	23	205	28	181	25	201	28	696,154	178	26
30-39	137	20	145	21	133	19	152	21	730,517	154	21
40-49	86	13	100	15	106	16	98	15	644,393	103	16
50-59	80	11	71	10	99	13	121	17	728,389	109	15
60-69	40	7	47	8	50	9	68	12	579,585	61	11
>=70	34	6	36	6	29	5	29	5	639,984	29	5
Total	**993**	**19**	**1,024**	**20**	**1,068**	**21**	**1,213**	**24**	**5,151,973**	**1,082**	**21**

Note: The Scottish at-risk population figures excludes people with frank diabetes at the end of the previous year and those whose age is unknown (in 2022, n = 125).

Table 15   **Type 2 diabetes: Number of new cases and incidence rate (per 100,000 population per year), by 10-year age group and year, Scotland 2018-2022.**

Age	2018		2019		2020		2021		2022		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
0-9	0	0	*	0	0	0	*	0	548,332	*	1
10-19	17	3	*	4	22	4	*	5	584,746	*	4
20-29	188	26	216	30	254	35	293	41	696,154	294	42
30-39	884	129	1,017	146	977	138	1,254	175	730,517	1,275	175
40-49	2,169	317	2,378	357	2,209	337	3,010	464	644,393	3,070	476
50-59	4,252	584	4,872	665	4,447	606	5,976	817	728,389	5,883	808
60-69	4,268	767	4,901	879	4,264	757	5,884	1,032	579,585	6,102	1,053
>=70	4,202	711	5,123	845	4,257	685	5,773	916	639,984	5,897	921
Total	**15,980**	**312**	**18,530**	**361**	**16,430**	**319**	**22,221**	**432**	**5,151,973**	**22,545**	**438**

Note: * Indicates a number of cases between 1 and 4 or a number that indirectly reveals such a number. The Scottish at-risk population numbers exclude people known to have diabetes at the end of the previous year and those whose age is unknown (in 2022, n = 125).

Key Characteristics of People with Diabetes: Age and Sex Distribution

Larger proportions of people with diagnosed diabetes are male than female; 55.5% (19,761) of those with type 1 diabetes and 56.3% (167,455) of those with type 2 diabetes are male.

Approximately 6% of people with type 1 diabetes are under 15 years of age and under 15% are over 64 years of age. Approximately 3% of people with type 2 diabetes are under 40 years of age and 57% are over 64 years of age.

Table 16   **Age-specific numbers of people recorded as having type 1 or type 2 diabetes, proportion of people with that type of diabetes in each age group (%) and age-specific prevalence, by diabetes type, Scotland 2022.**

Age	Type 1 diabetes			Type 2 diabetes		
	People (n)	%	Age-specific prevalence (%)	People (n)	%	Age-specific prevalence (%)
0-4	144	0.4	0.1	*	0.0	0.0
5-9	657	1.8	0.2	*	0.0	0.0
10-14	1,456	4.1	0.5	13	0.0	0.0
15-19	1,895	5.3	0.7	81	0.0	0.0
20-24	2,347	6.6	0.7	306	0.1	0.1
25-29	2,767	7.8	0.7	928	0.3	0.3
30-34	2,966	8.3	0.8	2,306	0.8	0.6
35-39	2,956	8.3	0.8	4,704	1.6	1.3
40-44	2,801	7.9	0.8	8,481	2.9	2.6
45-49	2,769	7.8	0.8	12,783	4.3	3.8
50-54	3,246	9.1	0.8	22,914	7.7	5.9
55-59	3,441	9.7	0.9	33,340	11.2	8.3
60-64	2,921	8.2	0.8	40,871	13.7	11.3
65-69	2,153	6.0	0.7	43,167	14.5	14.1
70-74	1,430	4.0	0.5	42,689	14.4	14.7
75-79	961	2.7	0.5	38,117	12.8	18.7
80-84	434	1.2	0.3	25,843	8.7	18.1
85-89	188	0.5	0.2	14,802	5.0	17.2
>=90	62	0.2	0.1	6,060	2.0	13.4
Scotland	**35,619**	**100.0**	**0.6**	**297,504**	**100.0**	**5.4**

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Figures in age categories do not precisely match the figures across Scotland due to those whose age is unknown (type 1 n=25, type 2 n=94).

Key Characteristics of People with Diabetes: Ethnicity

Ethnicity is not recorded for approximately one fifth of people with a diagnosis of diabetes in Scotland.

Table 17   **Completeness of recording of ethnic group for people with diabetes (type 1 and type 2 combined) by year, Scotland 2018-2022.**

Year	Ethnic group recorded	
	People (n)	%
2022	265,548	79.7
2021	260,349	80.7
2020	255,219	81.7
2019	253,375	82.3
2018	246,969	82.2

Table 18   **Distribution of ethnic group for type 1 and type 2 diabetes where ethnicity has been recorded, Scotland 2022.**

Ethnic group	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
A - White	29,290	94.7	211,165	90.0
B - Mixed or multiple ethnic groups	723	2.3	6,720	2.9
C - Asian, Asian Scottish or Asian British	479	1.5	12,431	5.3
D - African, Caribbean or Black	189	0.6	2,017	0.9
E - Other ethnic group	256	0.8	2,278	1.0
Not recorded	4,682	13.1	62,893	21.1

Note: Ethnic group percentages are percentages of those recorded. Not recorded percentage is a percentage of the whole population of people with diabetes. Data on the ethnic distribution of people in Scotland as a whole from the 2021 Census are not yet available. In the 2018 Scottish Household Survey 96% of the population identified as white and 2.6 % identified as Asian.

Key Characteristics of People with Diabetes: Proportions of people with selected complications

Proportion of people with diabetes who have a record of key complications of diabetes including cardiovascular disease, foot ulceration and amputation have remained approximately stable in recent years as described in the following tables.

Cardiovascular Disease

Table 19 **Percentage of people with either type 1 or type 2 diabetes who are recorded as having had a previous myocardial infarction (MI) or cardiac revascularisation by type and year, Scotland 2018-2022.**

Year	Type 1 diabetes		Type 2 diabetes	
	Myocardial infarction (%)	Cardiac revascularisation (%)	Myocardial infarction (%)	Cardiac revascularisation (%)
2022	3.5	2.8	9.5	7.4
2021	3.6	2.8	9.6	7.5
2020	3.6	2.8	9.6	7.6
2019	3.6	2.9	9.7	7.6
2018	3.6	2.8	9.6	7.6

Note: Myocardial infarction columns show the percentage of people with diabetes who have ever had a record of a heart attack and survived.

Foot Ulceration

Table 20 **Percentage of people with either type 1 or type 2 diabetes who are recorded as ever having had a foot ulcer by type and year, Scotland 2018-2022.**

Year	Recorded as ever having had a foot ulcer (%)	
	Type 1 diabetes	Type 2 diabetes
2022	7.9	3.9
2021	8.0	4.0
2020	8.3	4.1
2019	8.4	4.2
2018	8.4	4.2

Lower Limb Amputation

Table 21   **Number and percentage of people with diabetes (type 1 and type 2 combined) who had a record of ever having had a major lower limb amputation by year, Scotland 2018-2022.**

Year	Lower limb amputation	
	People (n)	%
2022	1,549	0.5
2021	1,492	0.5
2020	1,465	0.5
2019 (a)	1,555	0.5
2018 (a)	1,401	0.5

Note: (a) During the validation of the Scottish Diabetes Survey 2019, errors in the amputation data were spotted. The errors underestimated the numbers of people with amputations in 2018 and 2019. Data for 2019 were recalculated and are likely to be a close approximation of the actual number, and data for 2018 are likely to be an underestimate.

Mortality

The numbers and proportion of people with diabetes who have died each year in Scotland were higher in 2020-2022 than in previous years.

Table 22   **Number and percentage of people with diabetes (type 1 and type 2 combined) who died by year, Scotland 2018-2022.**

| Year	Deaths	
	People (n)	%
2022	13,641	3.9
2021	13,784	4.0
2020	13,437	4.1
2019	11,946	3.7
2018	11,531	3.7

Note: These data were calculated from all people with diabetes who died in the prior year expressed as a percentage of all people with diabetes still alive at the end of the year plus those who died during the year. This does not take account of the fact that the size of the population changes during the year as people develop diabetes or die.

Section 3: National Completion of Processes of Care and Achievement of Treatment Targets by Type of Diabetes

Processes of Care

Completion of processes of care (recording of measurement of risk factors or of screening for eye or foot disease) fell in 2020 and 2021. These proportions had still not returned to pre-pandemic levels in 2022 as shown in Figure 3, Figure 4, Table 23 and Table 24.

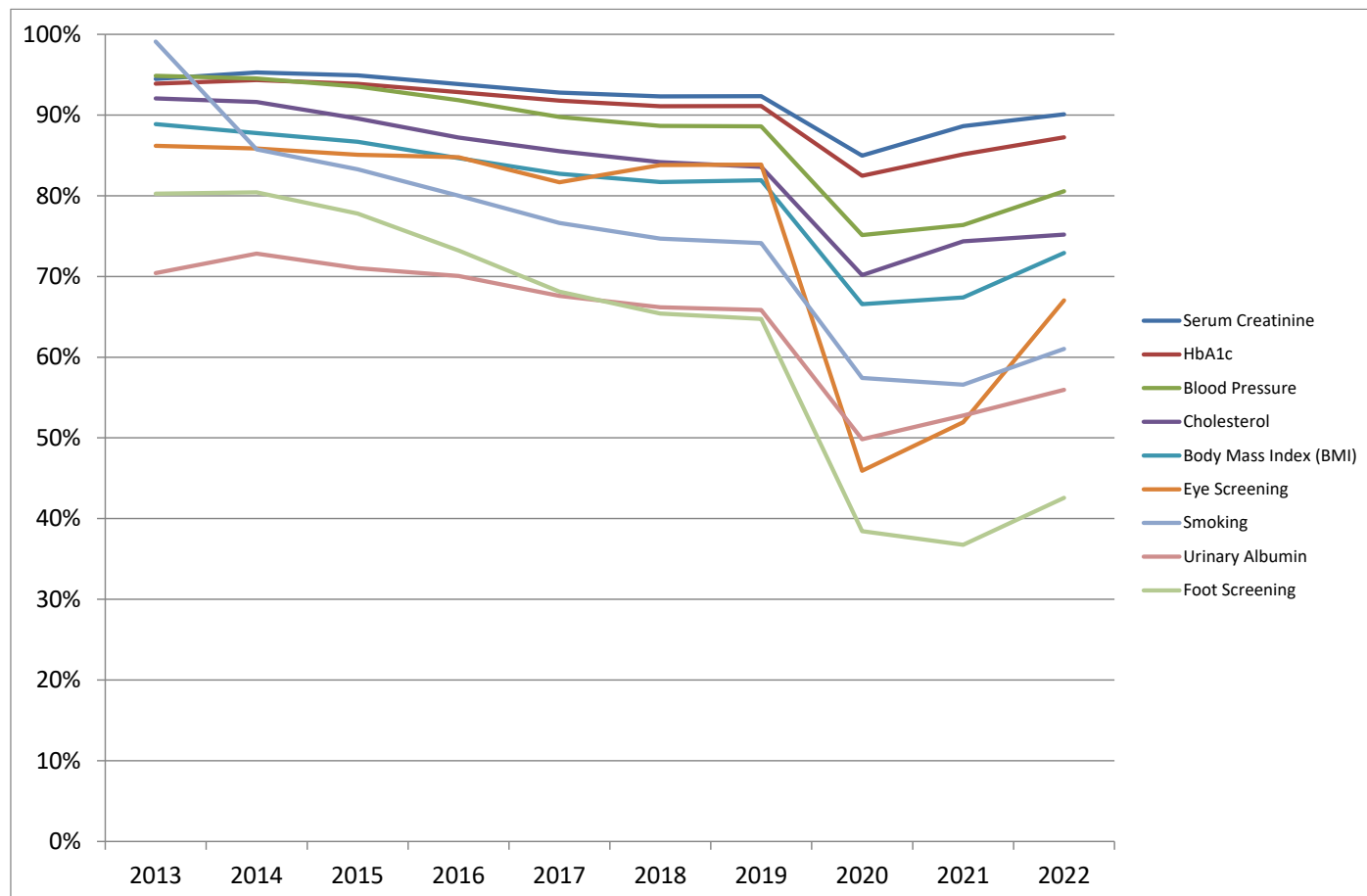**Figure 3   Completion of processes of care for people with type 1 diabetes, Scotland 2013-2022.**
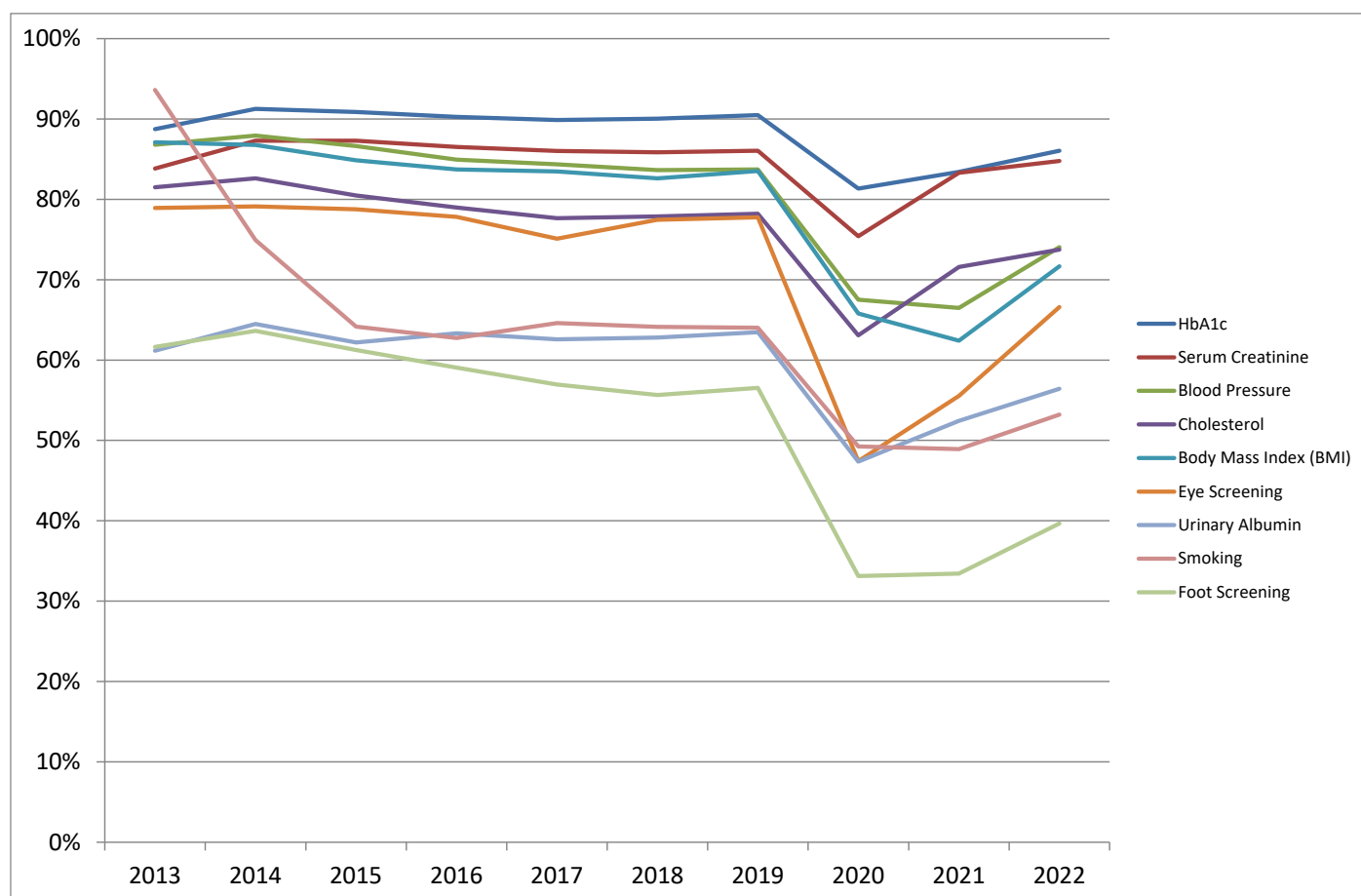
Note: BMI and Cholesterol: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 n = 3,400). Eye Screening, Serum Creatinine and Urinary Microalbumin: Excludes children under 12 years of age and people whose date of birth has not been recorded (in 2022 n = 1,308). In some cases, urinary albumin was estimated from albumin / creatinine ratio (ACR). For smoking recording, data for the year 2013 are calculated based on whether smoking status has ever been recorded, whereas data from 2014 onwards is calculated based on whether smoking status was recorded in the last 15 months.

Table 23 **Completion of processes of care during the previous 15 months for people with type 1 diabetes by year, Scotland 2013-2022.**

Year	Processes of Care recorded during the previous 15 months (%)								
	Blood Pressure	Body Mass Index (BMI)	Cholest-erol	Eye Screening	Foot Screening	HbA$_{1c}$	Serum Creat-inine	Smoking	Urinary Albumin
2022	74.0	71.7	73.7	66.6	39.7	86.0	84.8	53.2	56.4
2021	66.5	62.4	71.6	55.5	33.4	83.4	83.3	48.9	52.4
2020	67.5	65.8	63.1	47.4	33.1	81.3	75.4	49.3	47.4
2019	83.7	83.5	78.2	77.8	56.5	90.5	86.1	64.0	63.5
2018	83.6	82.6	77.9	77.5	55.7	90.0	85.8	64.1	62.8
2017	84.3	83.5	77.7	75.1	56.9	89.9	86.0	64.6	62.6
2016	84.9	83.7	79.0	77.8	59.1	90.3	86.5	62.7	63.3
2015	86.6	84.9	80.5	78.8	61.2	90.9	87.3	64.2	62.2
2014	87.9	86.8	82.6	79.1	63.6	91.3	87.3	74.9	64.5
2013	86.8	87.1	81.5	78.9	61.6	88.7	83.8	93.6(a)	61.2

Note: BMI and Cholesterol: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 n = 3,400). Eye Screening, Serum Creatinine and Urinary Microalbumin: Excludes children under 12 years of age and people whose date of birth has not been recorded (in 2022 n = 1,308). In some cases, urinary albumin was estimated from albumin / creatinine ratio (ACR). a) For smoking recording, data for the year 2013 are calculated based on whether smoking status has ever been recorded, whereas data from 2014 onwards is calculated based on whether smoking status was recorded in the last 15 months.

Figure 4   **Completion of processes of care for people with type 2 diabetes by year, Scotland 2013-2022.**

Note: BMI and Cholesterol: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 n = 150). Eye Screening, Serum Creatinine and Urinary Microalbumin: Excludes children under 12 years of age and people whose date of birth has not been recorded (in 2022 n = 101). In some cases, urinary albumin was estimated from albumin / creatinine ratio (ACR). For smoking recording, data for the year 2013 are calculated based on whether smoking status has ever been recorded, whereas data from 2014 onwards is calculated based on whether smoking status was recorded in the last 15 months.

Table 24   Completion of processes of care during the previous 15 months for people with type 2 diabetes by year, Scotland 2013-2022.

Year	Processes of Care recorded during the previous 15 months (%)								
	Blood Pressure	Body Mass Index (BMI)	Cholest-erol	Eye Screening	Foot Screening	HbA$_{1c}$	Serum Creat-inine	Smoking	Urinary Albumin
2022	80.6	72.9	75.2	67.0	42.6	87.2	90.1	61.0	56.0
2021	76.4	67.4	74.4	51.9	36.7	85.1	88.6	56.6	52.8
2020	75.1	66.6	70.2	45.9	38.5	82.5	85.0	57.4	49.8
2019	88.6	81.9	83.6	83.8	64.7	91.1	92.3	74.1	65.8
2018	88.6	81.7	84.2	83.8	65.4	91.1	92.3	74.7	66.2
2017	89.8	82.7	85.5	81.7	68.1	91.8	92.8	76.6	67.6
2016	91.8	84.7	87.2	84.8	73.2	92.8	93.8	80.0	70.1
2015	93.5	86.7	89.6	85.1	77.8	93.9	94.9	83.3	71.0
2014	94.5	87.8	91.6	85.8	80.4	94.3	95.3	85.8	72.8
2013	94.9	88.9	92.1	86.2	80.3	93.9	94.5	99.1(a)	70.4

Note: BMI and Cholesterol: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 150). Eye Screening, Serum Creatinine and Urinary Microalbumin: Excludes children under 12 years of age and people whose date of birth has not been recorded (n = 101). In some cases, urinary albumin was estimated from albumin / creatinine ratio (ACR). a) For smoking recording, data for the year 2013 are calculated based on whether smoking status has ever been recorded, whereas data from 2014 onwards is calculated based on whether smoking status was recorded in the last 15 months.

Glycaemic Control

The proportion of people with type 1 diabetes with HbA$_{1c}$ <58 mmol/mol was over 30% in 2022 (Table 25) and is the highest it has been in the last 10 years (see green-shaded regions in Figure 5). However approximately 1 in 7 people with type 1 diabetes and almost 1 in 8 people with type 2 diabetes did not have an HbA$_{1c}$ recorded in 2022 (Table 25 and Table 26). These are smaller proportions than for 2021 but completeness of recording has still not recovered to pre-pandemic levels.

Figure 5　　**Percentage of people with type 1 diabetes with a record of HbA$_{1c}$ in each HbA$_{1c}$ category by year, Scotland 2013-2022.**
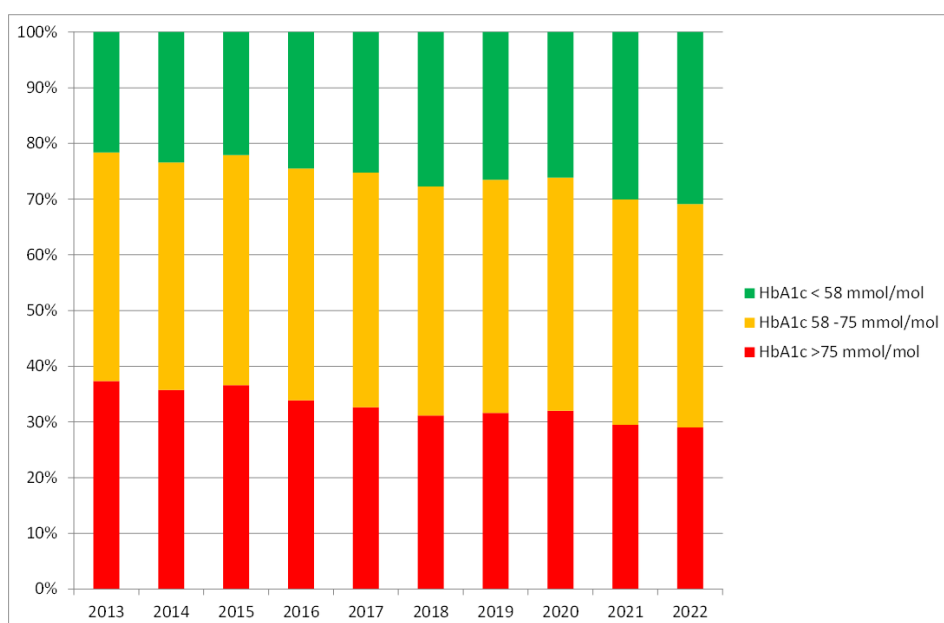
Table 25　　**Number and percentage of people with type 1 diabetes with a record of HbA$_{1c}$ in each HbA$_{1c}$ category, percentage with HbA$_{1c}$ not recorded and the number of people with type 1 diabetes by year, Scotland 2018-2022.**

| Year | HbA$_{1c}$ category (mmol/mol) | | | | | | Not recorded (%) | Population (n) |
| | <58 | | 58-75 | | >75 | | | |
	n	%	n	%	n	%		
2022	9,465	30.9	12,296	40.1	8,889	29.0	14.0	35,619
2021	8,756	30.1	11,789	40.5	8,588	29.5	16.6	34,928
2020	7,249	26.1	11,601	41.8	8,876	32.0	18.7	34,087
2019	8,027	26.5	12,666	41.9	9,570	31.6	9.5	33,452
2018	8,191	27.7	12,160	41.1	9,205	31.1	10.0	32,828

Note: Lower proportions of people had their HbA$_{1c}$ recorded in 2020-2022 than in previous years. However, it appears that proportions with good glycaemic control have increased and with poor control have decreased. Data for 2013-2017 are available in previous Surveys.

Figure 6   Percentage of people with type 2 diabetes with a record of HbA$_{1c}$ in each HbA$_{1c}$ category by year, Scotland 2013-2022.
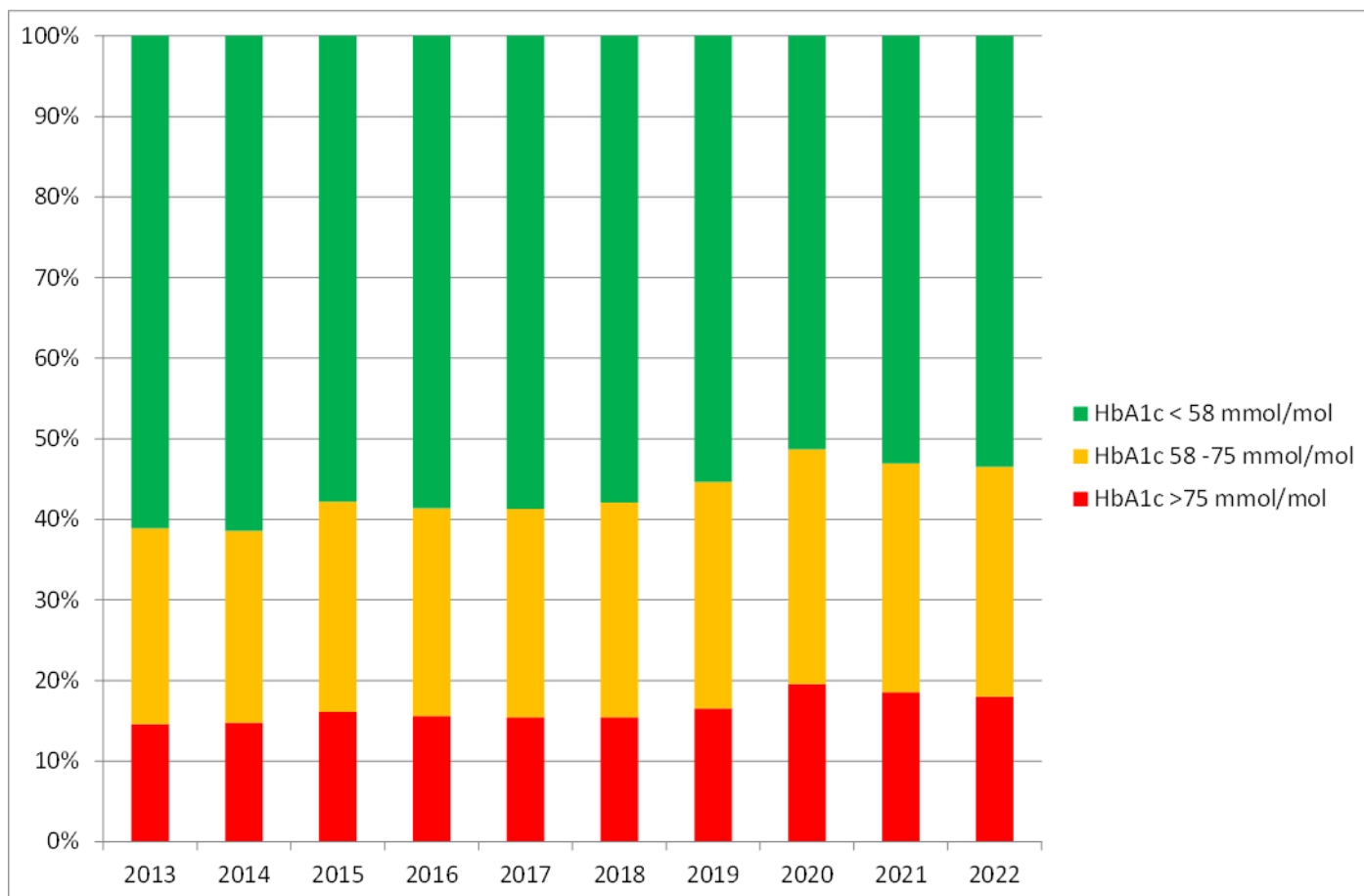

Table 26   Number and percentage of people with type 2 diabetes with a record of HbA$_{1c}$ in each HbA$_{1c}$ category, percentage with HbA$_{1c}$ not recorded and the number of people with type 2 diabetes by year, Scotland 2018-2022.

Year	HbA$_{1c}$ category (mmol/mol)						Not recorded (%)	Population (n)
	<58		58-75		>75			
	n	%	n	%	n	%		
2022	138,798	53.5	74,011	28.5	46,699	18.0	12.8	297,504
2021	129,852	53.0	69,545	28.4	45,417	18.6	14.9	287,606
2020	117,776	51.3	66,838	29.1	44,871	19.6	17.5	278,239
2019	138,374	55.3	70,314	28.1	41,390	16.6	8.9	274,442
2018	141,143	57.9	64,905	26.6	37,694	15.5	8.9	267,615

Note: Lower proportions of people had their HbA$_{1c}$ recorded in 2020-2022 than in previous years. Data for 2013-2017 are available in previous Surveys.

Blood Pressure

Table 27 Percentage of people with diabetes with systolic blood pressure (SBP) ≤140 mmHg as a percentage of those recorded and % not recorded by type of diabetes and year, Scotland 2018-2022.

Year	Type 1 diabetes				Type 2 diabetes			
	Systolic BP category (%)		Not recorded (%)	Population (n)	Systolic BP category (%)		Not recorded (%)	Population (n)
	<= 140	> 140			<= 140	> 140		
2022	72.3	27.7	26.0	35,619	71.6	28.4	19.4	297,504
2021	73.2	26.8	33.5	34,928	70.5	29.5	23.6	287,606
2020	73.8	26.2	32.5	33,087	69.9	30.1	24.9	278,239
2019	75.1	24.9	16.3	33,452	74.0	26.0	11.4	274,442
2018	76.3	23.7	16.4	32,828	74.3	25.7	11.4	267,615

Note: This data is for all ages, but only children of 12 years of age and older are expected to have their blood pressure measured. Age-appropriate estimates will be provided in subsequent years.

Total Cholesterol

Approximately 1 in 4 people with type 1 or type 2 diabetes did not have a cholesterol recorded in 2022 (Table 28). Of the people with cholesterol recorded the proportions meeting the target of <5 mmol/l have remained approximately constant over the last five years.

Table 28 Number and percentage of adults with type 1 or type 2 diabetes with cholesterol <5 mmol/l, by type of diabetes and year (denominator those with recording of cholesterol within the previous 15 months), Scotland 2018-2022.

Year	Type 1 diabetes				Type 2 diabetes			
	Cholesterol category (%)		Not Recorded (%)	Total Eligible (n)	Cholesterol category (%)		Not Recorded (%)	Total Eligible (n)
	<= 5	> 5			<= 5	> 5		
2022	69.3	30.7	26.3	32,219	76.1	23.9	24.8	297,354
2021	70.2	29.8	28.4	31,573	77.2	22.8	25.6	287,450
2020	69.3	30.7	36.9	30,901	77.2	22.8	29.8	278,097
2019	71.0	29.0	21.8	30,357	78.8	21.2	16.4	274,300
2018	69.4	30.6	22.1	29,759	78.5	21.5	15.8	267,484

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 type 1 n = 3,400, type 2 n = 150).

Kidney Function

Serum Creatinine

Approximately 1 in 7 people with type 1 diabetes and 1 in 10 people with type 2 diabetes did not have a serum creatinine recorded in 2022 (Table 29). Almost half of people with either type 1 or type 2 diabetes did not have urinary albumin level recorded (Table 30).

Table 29 **Percentage of people with type 1 and type 2 diabetes who had a record of serum creatinine within the previous 15 months and total eligible population, by diabetes type and year, Scotland 2018-2022.**

Year	Type 1 diabetes		Type 2 diabetes	
	Recorded within previous 15 months (%)	Total eligible population (n)	Recorded within previous 15 months (%)	Total eligible population (n)
2022	84.8	34,311	90.1	297,403
2021	83.3	33,647	88.6	287,503
2020	75.4	32,891	85.0	278,138
2019	86.1	32,226	92.3	274,340
2018	85.8	31,604	92.3	267,517

Note: Excludes children under 12 years of age and people whose date of birth has not been recorded (in 2022 type 1 n = 1,308, type 2 n = 101).

Urinary Albumin Excretion

Table 30 **Percentage of people with type 1 or type 2 diabetes who had a record of measurement of urinary albumin or albumin / creatinine ratio within the previous 15 months and total eligible population, by diabetes type and year, Scotland 2018-2022.**

Year	Type 1 diabetes		Type 2 diabetes	
	Recorded within previous 15 months (%)	Total eligible population (n)	Recorded within previous 15 months (%)	Total eligible population (n)
2022	56.4	34,311	56.0	297,403
2021	52.4	33,647	52.8	287,503
2020	47.4	32,891	49.8	278,138
2019	63.5	32,226	65.8	274,340
2018	62.8	31,604	66.2	267,517

Note: Excludes children under 12 years of age and people whose date of birth has not been recorded (in 2022 type 1 n = 1,308, type 2 n = 101).

Body Mass Index (BMI)

Table 31 **Percentage (%) of adults with type 1 diabetes and a record of BMI in the previous 15 months in different BMI categories and percentage with BMI not recorded by BMI category and by year, Scotland 2018-2022.**

| Year | BMI category (kg/m2) | | | | | | Not recorded (%) | Total Eligible (n) |
| | <25 | | 25-29.99 | | >30 | | | |
	n	%	n	%	n	%		
2022	7,664	33.2	8,278	35.9	7,147	31.0	28.3	32,219
2021	6,651	33.8	7,170	36.4	5,883	29.9	37.6	31,573
2020	7,191	35.4	7,473	36.8	5,668	27.9	34.2	30,901
2019	9,011	35.5	9,327	36.8	7,016	27.7	16.5	30,357
2018	8,893	36.2	9,054	36.8	6,637	27.0	17.4	29,759

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 n = 3,400).

Table 32 **Percentage (%) of adults with type 2 diabetes and a record of BMI in the previous 15 months in different BMI categories and percentage with BMI not recorded by BMI category and by year, Scotland 2018-2022.**

| Year | BMI category (kg/m2) | | | | | | Not recorded (%) | Total Eligible (n) |
| | < 25 | | 25-29.99 | | > 30 | | | |
	n	%	n	%	n	%		
2022	28,356	13.1	68,150	31.4	120,298	55.5	27.1	297,354
2021	24,603	12.7	60,062	31.0	109,042	56.3	32.6	287,450
2020	23,432	12.7	57,753	31.2	103,959	56.2	33.4	278,097
2019	28,903	12.9	71,316	31.7	124,464	55.4	18.1	274,300
2018	28,368	13.0	69,526	31.8	120,595	55.2	18.3	267,484

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 n = 150).

Smoking Status

Smoking status was recorded within the last 15 months for 56.6% of adults with type 1 diabetes and 61.1% for people with type 2 diabetes, similar to 2020 and 2021 (Table 33), but lower proportions than for 2019, when approximately 75% of people with type 2 diabetes had smoking status recorded. Of those with a record of smoking status, 17.2% of adults with type 1 and 15.1% for adults with type 2 had a record of being a current smoker. The requirement for recording of smoking status within the last 15 months for lifelong non-smokers is being reviewed for future Surveys.

Table 33   **Percentage of adults with type 1 or type 2 diabetes who were recorded as current smokers (denominator those with a record of smoking status) in the previous 15 months by diabetes type and year, Scotland 2018-2022.**

Year	Type 1 diabetes			Type 2 diabetes		
	Current smoker (%)	Not recorded (%)	Population (n)	Current smoker (%)	Not recorded (%)	Population (n)
2022	17.2	43.4	32,219	15.1	38.9	303,157
2021	17.4	47.9	31,572	15.5	43.3	292,766
2020	18.4	46.7	30,901	15.9	42.3	282,826
2019	19.1	30.9	30,355	15.7	25.6	278,715
2018	19.7	31.1	29,759	16.0	25.1	271,340

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (in 2022 type 1 n = 3,400, type 2 n = 150).

Foot Risk Score

Note that the final column in Table 34 and Table 35 duplicates the data given in Table 5 for completion of Foot Screening.

Table 34 **Type 1 diabetes: Percentage of people with active foot disease, high, moderate or low foot risk score recorded in the previous 15 months by year, Scotland 2018-2022.**

Year	Recorded as having active foot disease (%)	Recorded as having high foot risk score (%)	Recorded as having moderate foot risk score (%)	Recorded as having low foot risk score (%)	Foot risk score recorded (%)
2022	3.4	8.1	7.9	80.6	39.7
2021	3.6	9.5	7.6	79.2	33.4
2020	3.8	9.6	8.0	78.5	33.1
2019	2.7	7.8	7.7	81.8	56.5
2018	2.6	7.4	7.9	82.1	55.7

Note: Active foot disease and risk score percentages are percentages of those recorded. Recorded percentage is a percentage of the whole population of people with diabetes. Data are derived from people of all ages but as only adults are expected to have their feet screened these proportions will underestimate the proportions of adults of who have had their feet screened.

Table 35 **Type 2 diabetes: Percentage of people with active foot disease, high, moderate or low foot risk score recorded in the previous 15 months by year, Scotland 2018-2022.**

Year	Recorded as having active foot disease (%)	Recorded as having high foot risk score (%)	Recorded as having moderate foot risk score (%)	Recorded as having low foot risk score (%)	Foot risk score recorded (%)
2022	2.0	5.4	12.3	80.3	42.6
2021	2.4	6.0	12.2	79.4	36.7
2020	2.2	6.3	12.8	78.6	38.5
2019	1.4	6.0	13.1	79.4	64.7
2018	1.3	6.2	13.7	78.8	65.4

Note: Active foot disease and risk score percentages are percentages of those recorded. Recorded percentage is a percentage of the whole population of people with diabetes. Data are derived from people of all ages but as only adults are expected to have their feet screened these proportions will underestimate the proportions of adults of who have had their feet screened.

Diabetic Retinal Screening

Table 36 shows the proportion of people who were either screened, were getting eye-care via specialist services, or were deliberately (for clinical or social reasons) suspended from screening as a proportion of the total number of people who had a record of date of birth and were over 12 years of age. Almost 1 in 3 with type 1 diabetes or type 2 diabetes did not have a record of eye screening (compared to approximately 20% or 1 in 5 in 2019).

Further information is available from the Scottish Diabetic Eye Screening collaborative https://www.ndrs.scot.nhs.uk/ (latest annual report 2018/9 and performance report Q4 2019 at time of writing).

Table 36 **Percentage of people with type 1 or type 2 diabetes who were recorded as having had diabetic eye-screening, ophthalmology care or an appropriate suspension from screening (depending on methodology at the time of the report) by diabetes type and year, Scotland 2018-2022.**

Year	Recorded within previous 15 months (%)	
	Type 1 diabetes	Type 2 diabetes
2022	67.4	67.6
2021	56.8	52.8
2020	50.2	47.3
2019	80.9	84.8
2018	80.2	84.7

Note: Excludes children under 12 years and people whose date of birth has not been recorded (in 2022 type 1 n = 1,308, type 2 n = 101).

Section 4: National Paediatric Section

Data on incidence and prevalence of diabetes in children in Scotland are described in the Overall Prevalence and Incidence (New Cases) sections. This section describes the completion of age-appropriate standard processes of care and recording of use of technology specifically in the paediatric population with type 1 diabetes. Numbers of children with type 2 diabetes in Scotland are increasing and data for this group may be presented in subsequent Surveys. Please note that different age categories are used for different parts of this section and that we plan to use consistent categories in subsequent Surveys that align with the age-appropriate care processes described below. For this Survey data on body mass index (BMI) were not available for children.

Completion of Processes of Care for Children with Diabetes

Table 37   Summary of age-appropriate care processes for children

Age (years)	Care processes applicable
0-11	HbA$_{1c}$ and BMI
12+	HbA$_{1c}$, BMI, BP, smoking status, eye screening*, urinary albumin**
All ages	Thyroid function, coeliac disease screening

Note: * Retinopathy screening = Latest DRS Screening Status is "Attended - Successfully Screened" or "Attended - Unsuccessfully Screened". If the patient has been suspended from eye screening this is counted as having received this "process of care". **Urinary Albumin test = any of the following: albumin / creatinine ratio (ACR), microalbumin concentration, protein / creatinine ratio (PCR) or total urinary protein, timed overnight albumin excretion rate, or 24hr albumin excretion rate.

Table 38   Number and percentage of people with type 1 diabetes aged under 18 years old receiving all applicable processes of care, by age group and year, Scotland 2018-2022.

Year	Aged 0-11 years			Aged 12-17 years		
	Achieving measure		All aged (n)	Achieving measure		All aged (n)
	n	%		n	%	
2022	1,242	94.0	1,321	354	16.1	2,197
2021	1,150	88.9	1,294	277	12.7	2,176
2020	1,066	88.6	1,203	195	9.4	2,073
2019	1,166	94.6	1,233	641	32.8	1,952
2018	1,180	96.4	1,224	610	31.9	1,911

Table 39   **Number and percentage of people with type 1 diabetes aged under 18 years old with a recorded HbA$_{1c}$ within the previous 15 months, by age group and year, Scotland 2018-2022.**

Year	Aged 0-11 years			Aged 12-17 years		
	Achieving measure		All aged (n)	Achieving measure		All aged (n)
	n	%		n	%	
2022	1,266	95.8	1,321	2,110	96.0	2,197
2021	1,235	95.4	1,294	2,075	95.4	2,176
2020	1,146	95.3	1,203	1,989	95.9	2,073
2019	1,190	96.5	1,233	1,909	97.8	1,952
2018	1,193	97.5	1,224	1,865	97.6	1,911

Table 40   **Number and percentage of children between 12 and 15 years of age with diabetes eligible for diabetic eye screening (DES) who were screened within the last 15 months by year, Scotland 2018-2022.**

Year	Screened		Aged 12-15 years
	n	%	
2022	1,119	83.3	1,343
2021	947	71.1	1,332
2020	764	56.9	1,343
2019	1,114	92.6	1,203
2018	1,002	86.5	1,158

Note: Only eligible children, from their 12th birthday until the day before their 16th birthday, are included in these figures.

Table 41   **Number and percentage of children between 12 and 15 years of age with diabetes with a recorded blood pressure within the previous 15 months by year, Scotland 2018-2022.**

Year	Recorded		Aged 12-15 years
	n	%	
2022	1,390	80.3	1,732
2021	1,408	81.1	1,737
2020(a)	1,131	46.7	2,423
2019(a)	1,307	56.8	2,302
2018(a)	1,289	57.0	2,261

Note: Only children of 12 years of age and older are expected to have their blood pressure measured. a) Data from earlier Surveys (2018 until 2020) are included but are not comparable as the data covered children from their 5th birthday until the day before their 16th birthday for these years.

Table 42 **Number and percentage of children between 12 and 15 years of age with diabetes with a recorded albumin / creatinine ratio (ACR) within the previous 15 months by year, Scotland 2018-2022.**

| Year | Recorded | | Aged 12-15 years |
	n	%	
2022	623	44.1	1,413
2021	632	45.0	1,403
2020(a)	718	29.8	2,413
2019(a)	841	36.8	2,283
2018(a)	824	36.6	2,250

Note: Only children of 12 years of age and older are expected to have their ACR measured. a) Data from earlier Surveys (2018 until 2020) are included but are not comparable as the data covered children from their 5th birthday until the day before their 16th birthday for these years.

Table 43 **Number and percentage of people under 16 years of age with diabetes recorded as having had thyroid screening (TSH) within the previous 15 months by year, Scotland 2018-2022.**

| Year | Screened | | Aged under 16 years |
	n	%	
2022	1,843	70.2	2,625
2021	1,831	70.8	2,587
2020	1,674	65.9	2,541
2019	1,616	67.3	2,401
2018	1,561	66.1	2,360

Table 44 **Number and percentage of people under 16 years of age with diabetes recorded as having had coeliac screening (TTG) within the previous 15 months by year, Scotland 2018-2022.**

| Year | Screened | | Aged under 16 years |
	n	%	
2022	535	20.4	2,625
2021	689	26.6	2,587
2020	617	24.3	2,541
2019	565	23.5	2,401
2018	566	24.0	2,360

Use of Insulin Pumps

In 2011 a national target was set that, by March 2013, 25% of all those in Scotland under 18 years of age with type 1 diabetes should have access to an insulin pump. This target was met by nearly all Health Boards. However, considerable variation in the proportions treated with a pump exists between Boards.

Table 45   Number and percentage of people under 18 years of age with type 1 diabetes recorded as using an insulin pump by year, Scotland 2018-2022.

Year	Recorded as using an insulin pump		Aged under 18 years
	n	%	
2022	1,560	46.2	3,375
2021	1,321	39.7	3,329
2020	1,249	39.5	3,160
2019	1,193	38.9	3,070
2018	1,165	38.3	3,044

Note: There was marked variation between 34.1% and 70.3% in proportions between mainland Health Boards in 2022.

Section 5: Regional Epidemiology and Key Characteristics of People with Diabetes

Prevalence Regional Detail

Age-adjusted prevalence is based on direct age/sex standardisation using the Scottish population as the reference population. Population figures are based on mid-year population estimates published by National Records of Scotland from the previous year so that, for example, the 2022 survey uses diabetes data from 2022 but mid-year population estimates from 2021. Table 46, Figure 7 and Figure 8 show crude and age-adjusted figures for the prevalence of diabetes of all types.

The age-adjusted figures take account of the fact that the average age of the resident population differs between boards and that older populations have higher diabetes prevalence.

Adjusting for age results in decreases in prevalence for Boards with older than average populations and increases in prevalence for Boards with younger than average populations compared to crude prevalence.

Table 46   **Crude and age-adjusted prevalence of diabetes (all types), by NHS board, ranked by age-adjusted prevalence, Scotland 2022.**

NHS board	Population (n)	Number on the diabetes register at the end of the year (n)	Crude prevalence (%)	Age-adjusted prevalence (%)
Orkney	22,540	1,328	5.9	5.1
Shetland	22,940	1,237	5.4	5.1
Borders	116,020	7,386	6.4	5.4
Western Isles	26,640	1,734	6.5	5.4
Highland	324,280	20,625	6.4	5.6
Grampian	586,530	32,787	5.6	5.7
Tayside	417,650	25,407	6.1	5.7
Lothian	916,310	48,679	5.3	5.9
Dumfries and Galloway	148,790	10,655	7.2	6.0
Fife	374,730	24,685	6.6	6.3
Forth Valley	305,710	20,126	6.6	6.5
Ayrshire and Arran	368,690	26,922	7.3	6.6
Greater Glasgow and Clyde	1,185,040	71,556	6.0	6.6
Lanarkshire	664,030	45,891	6.9	6.9
Scotland	**5,479,900**	**339,018**	**6.2**	**6.2**

Figure 7   Crude diabetes prevalence (all types) by NHS board, ranked by prevalence, Scotland 2022.
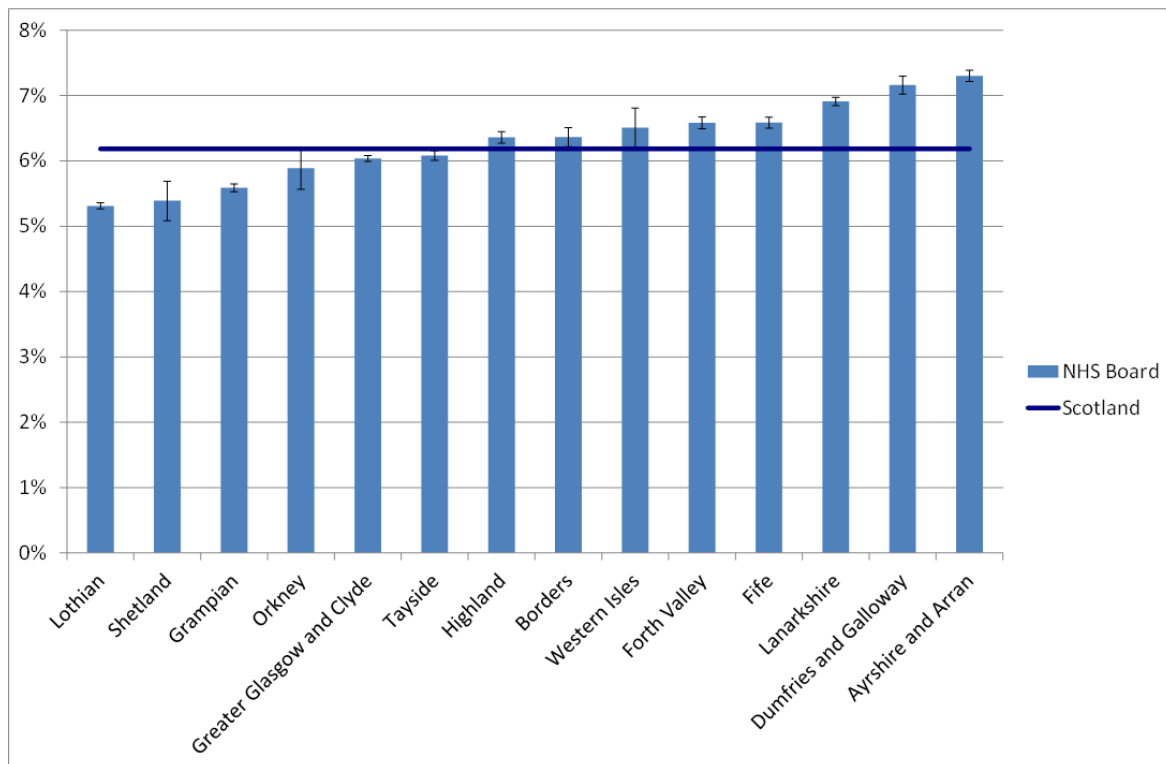
Note: Vertical capped lines show 95% confidence intervals.

Figure 8   Age-adjusted diabetes prevalence (all types) by NHS board, ranked by prevalence, Scotland 2022.
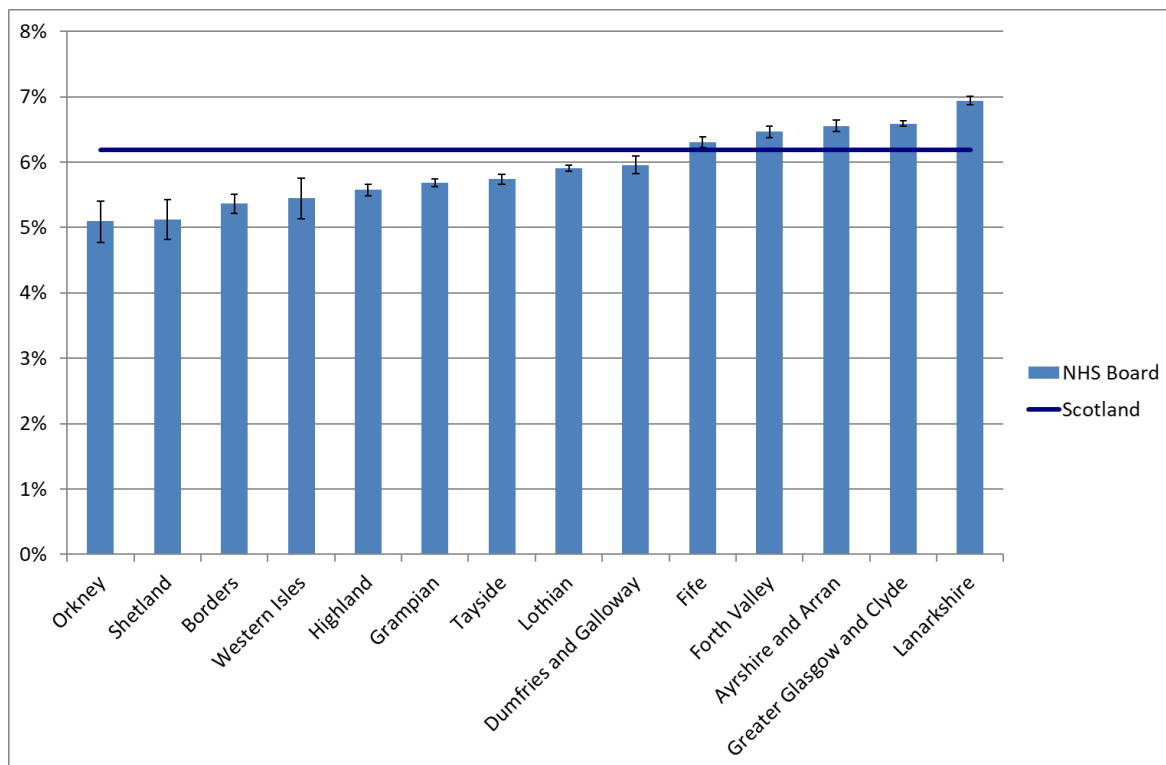
Note: Vertical capped lines show 95% confidence intervals.

Figure 9 **Age-adjusted diabetes prevalence (all types) by NHS board and year, Scotland 2017-2022.**
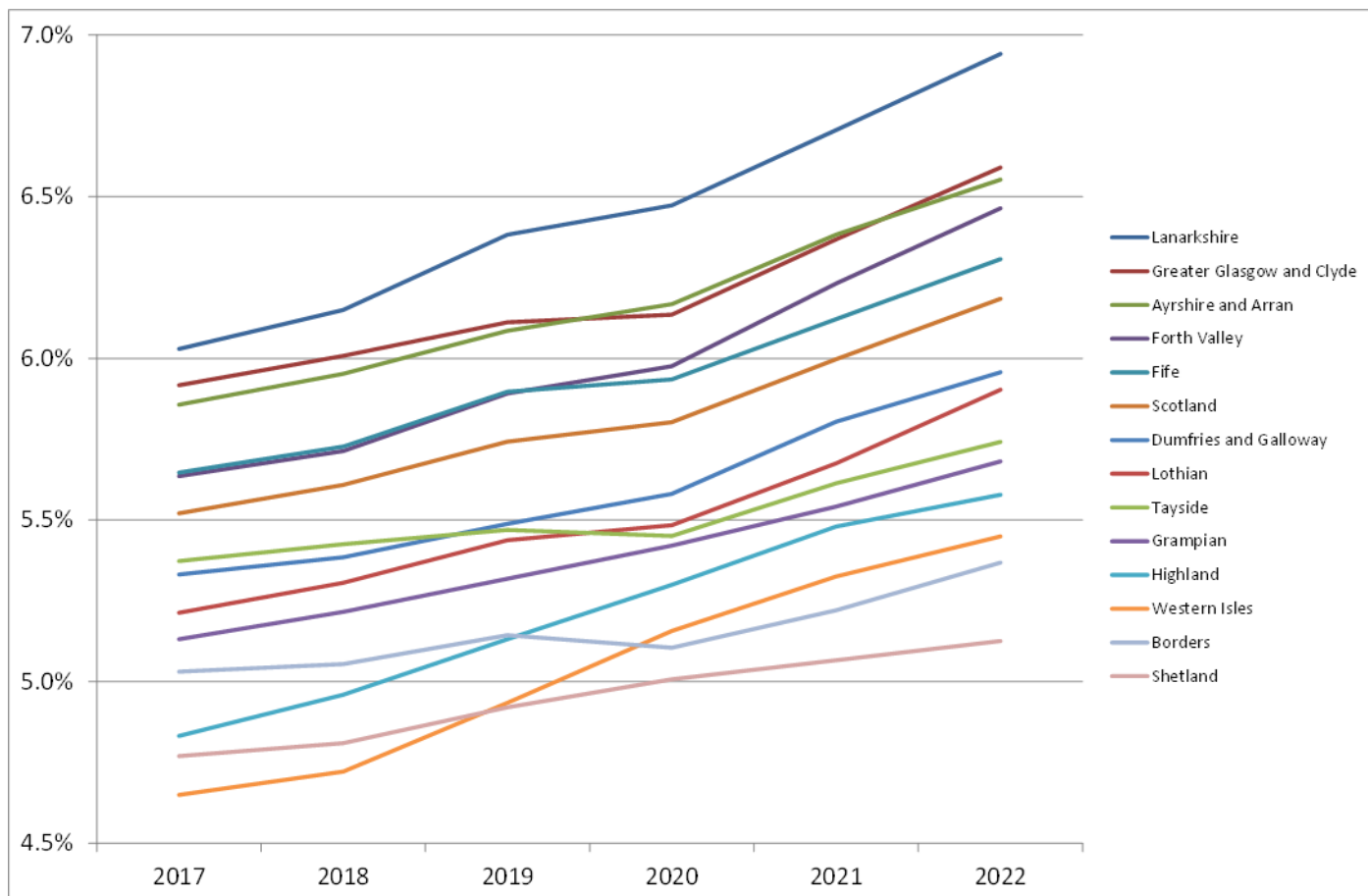
Monogenic Diabetes

Differences in prevalence of monogenic diabetes by NHS board suggest differences in testing for this form of diabetes.

Figure 10   Prevalence per 100,000 people of monogenic diabetes, by NHS board, Scotland 2022.
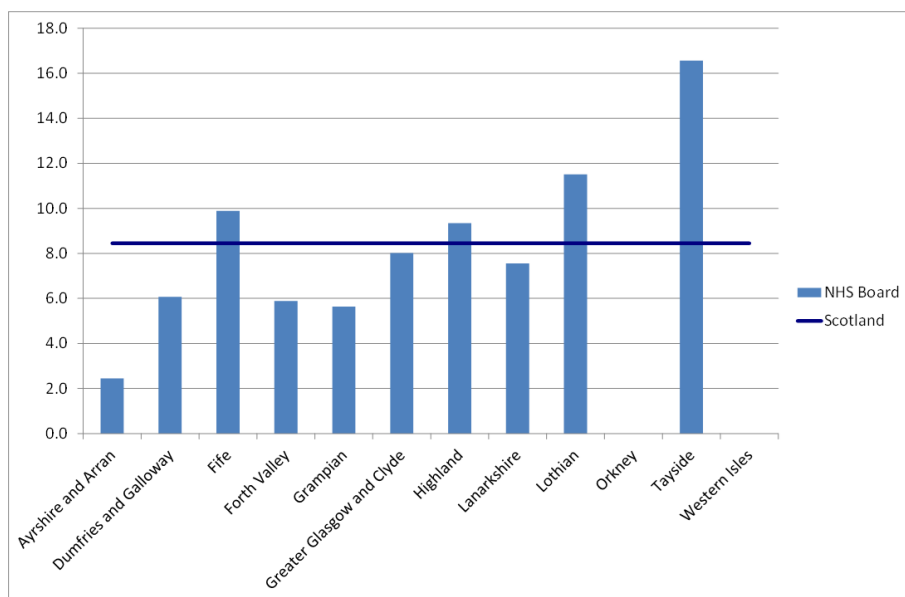
Note: Bars for boards with hidden data due to small numbers are not shown.

Table 47   Numbers of people with monogenic diabetes and prevalence per 100,000 people, by NHS board, Scotland 2022.

NHS board	Monogenic diabetes (n)	Prevalence
Ayrshire and Arran	9	2.4
Borders	*	*
Dumfries and Galloway	9	6.1
Fife	37	9.9
Forth Valley	18	5.9
Grampian	33	5.6
Greater Glasgow and Clyde	95	8.0
Highland	30	9.3
Lanarkshire	50	7.6
Lothian	105	11.5
Orkney	0	0.0
Shetland	*	*
Tayside	69	16.6
Western Isles	0	0.0
Scotland	**462**	**8.5**

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Generation of this data was delayed compared to the remainder of the report, with the data above generated on the 18th May 2023 and data in the Scottish Diabetes Survey 2021 generated on 4th Feb 2022.

Mortality

Table 48   **The number and crude percentage of those diagnosed with diabetes (all diabetes types) who have died within the last year, by NHS board, ranked by mortality, Scotland 2022.**

NHS board	Deaths	
	People (n)	% of population
Orkney	45	3.3
Shetland	44	3.4
Greater Glasgow and Clyde	2,733	3.7
Lothian	1,871	3.7
Grampian	1,265	3.7
Lanarkshire	1,772	3.7
Highland	835	3.9
Borders	304	4.0
Forth Valley	840	4.0
Fife	1,033	4.0
Tayside	1,105	4.2
Western Isles	78	4.3
Dumfries and Galloway	481	4.3
Ayrshire and Arran	1,235	4.4
Scotland	**13,641**	**3.9**

Note: These data were calculated from all people with diabetes who died in the prior year expressed as a percentage of all people with diabetes still alive at the end of the year plus those who died during the year. This does not take account of the fact that the size of the population changes during the year as people develop diabetes or die. Also, note that comparisons between NHS boards do not account for important differences in age structure which result in higher mortality in boards with older populations.

Section 6: Other Statistics

My Diabetes My Way

"My Diabetes My Way" (www.mydiabetesmyway.scot.nhs.uk) is the NHS Scotland interactive diabetes website that helps to support people who have diabetes and their carers.

Table 49 **Numbers of people with type 1 and type 2 diabetes registered to access and actively accessing their clinical information using the "My Diabetes My Way" website by year, Scotland 2018-2022.**

Year	Registered Users				Active Users	
	Type 1 diabetes (n)	Type 2 diabetes (n)	Total people (n)	Yearly change (%)	People (n)	Yearly change (%)
2022	15,989	47,165	63,154	9.6	33,373	8.0
2021	15,196	42,433	57,629	10.4	30,909	8.8
2020	14,345	37,866	52,211	10.3	28,422	12.9
2019	13,327	34,016	47,343	17.9	25,425	21.1
2018	12,120	28,021	40,141	28.2	21,118	31.6

At the end of 2022, 33,373 people had accessed their results using "My Diabetes My Way" (Table 49). During the final 3 months of 2022, a total of 9,671 people (29% of all active users) had logged in. Healthcare providers across NHS Scotland are encouraged to raise awareness of My Diabetes My Way services amongst their patient cohorts.

My Diabetes My Way is currently offering to complete a mail-out on behalf of GP Practices to make unregistered people aware of the service. This mail-out will be completed at no cost to the practice on verification of a patient list, provided by SCI-Diabetes.

Further information and awareness materials may be requested by emailing the My Diabetes My Way project team on mydiabetes.myway@nhs.scot.

Erratum: My Diabetes My Way active users in the Scottish Diabetes Survey 2021:

During the final 3 months of 2021, a total of 8,681 people (28.1% of all active users) had logged in (rather than the stated 7,756 people). From 2021 onwards, the numbers of logged-in people include those using the mobile app.

My Diabetes My Way Regional Detail

The table below shows the number of people who had registered to access their own clinical information using the website by the end of year. Records access is a key objective of the Scottish Diabetes Improvement Plan.

Table 50   Number and percentage of people with type 1 and type 2 diabetes registered to access their clinical information using the "My Diabetes My Way" website by NHS board, ranked by decreasing total percentage of registered users, Scotland 2022.

NHS board	Type 1 diabetes			Type 2 diabetes			Total		
	n	%	Pop.	n	%	Pop.	n	%	Pop.
Grampian	2,048	52.9	3,868	5,903	20.7	28,552	7,951	24.5	32,420
Greater Glasgow and Clyde	3,426	47.8	7,171	12,487	19.8	63,177	15,913	22.6	70,348
Orkney	95	66.0	144	202	17.2	1,172	297	22.6	1,316
Borders	401	50.2	799	1,224	18.9	6,460	1,625	22.4	7,259
Shetland	67	42.9	156	193	18.1	1,069	260	21.2	1,225
Tayside	963	39.5	2,437	4,206	18.7	22,482	5,169	20.7	24,919
Lothian	2,724	50.2	5,429	6,174	14.8	41,763	8,898	18.9	47,192
Western Isles	60	25.2	238	263	17.7	1,484	323	18.8	1,722
Fife	796	32.4	2,456	3,465	15.8	21,967	4,261	17.4	24,423
Forth Valley	1,334	62.2	2,145	2,119	12.0	17,721	3,453	17.4	19,866
Lanarkshire	2,162	45.1	4,799	5,425	13.5	40,187	7,587	16.9	44,986
Ayrshire and Arran	860	33.9	2,535	2,939	12.1	24,234	3,799	14.2	26,769
Dumfries and Galloway	371	34.1	1,087	1,017	10.8	9,390	1,388	13.2	10,477
Highland	682	29.0	2,355	1,548	8.7	17,846	2,230	11.0	20,201
Scotland	**15,989**	**44.9**	**35,619**	**47,165**	**15.9**	**297,504**	**63,154**	**19.0**	**333,123**

Note: The above figures show the number of people who had registered to access their diabetes data at the end of 2022. Registration may be initiated by the patient via the My Diabetes My Way website, or by a clinician using SCI-Diabetes. Following registration, a patient must provide their consent to proceed and verify their email address. At this stage, a username and password are emailed to the patient.

NHS Research Scotland (NRS) Diabetes Research Register

The NRS Diabetes Research Register allows patient with diabetes living in Scotland to give their permission to be matched to and contacted about taking part in diabetes-related research.

Table 51   Numbers of people with type 1 and type 2 diabetes who had joined the NRS Diabetes Register by NHS board, Scotland 2022.

NHS board	People on the NRS Diabetes Register (n)			Percentage of people with type 1 or type 2 diabetes on the NRS Diabetes Register (%)	People with type 1 or type 2 diabetes (n)
	Type 1 diabetes	Type 2 diabetes	Total		
Ayrshire and Arran	36	85	121	0.4	26,922
Borders	19	28	47	0.6	7,386
Dumfries and Galloway	116	413	529	5.0	10,655
Fife	420	2,493	2,913	11.8	24,685
Forth Valley	94	171	265	1.3	20,126
Grampian	170	533	703	2.1	32,787
Greater Glasgow and Clyde	795	2,628	3,423	4.8	71,556
Highland	459	632	1,091	5.3	20,625
Lanarkshire	259	586	845	1.8	45,891
Lothian	951	1,453	2,404	4.9	48,679
Orkney	*	*	*	*	1,328
Shetland	*	*	*	*	1,237
Tayside	598	4,320	4,918	19.4	25,407
Western Isles	*	*	15	0.9	1,734
Scotland	**3,931**	**13,352**	**17,283**	**5.1**	**339,018**

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures.

Individuals can sign up to the NRS Diabetes Register directly at:
https://www.nhsresearchscotland.org.uk/research-areas/diabetes/get-involved

NRS Diabetes offer a mail-out on behalf of GP Practices to give patients the opportunity to join the register. Signing up is a simple process which can be completed by email or by posting back a registration leaflet to NRS Diabetes for free. Mail-outs will be completed by NRS Diabetes at no cost or extra work to the practice. The only step required is for the practice to verify an externally produced list to remove any unsuitable patients.

To receive further information, registration leaflets or awareness materials or, if you are a researcher interested in using the register, please contact NRS Diabetes at administrator-sdrn@dundee.ac.uk.

Acknowledgements

The data for this survey were provided by the Diabetes Managed Clinical Networks in each health board and collated by Andrew Taylor from the SCI-Diabetes Team. Michael Bluett produced the tables and graphs and edited the report. Chairs of sub-groups of the Scottish Diabetes Group and members of the previous Scottish Diabetes Data Group were asked to comment on Survey content. We are grateful for the suggestions received have attempted to include them all, either in this Survey or in plans for subsequent Surveys.

List of Tables

List of Figures

Appendix 1: SCI-Diabetes Data Sources

SCI-Diabetes is NHS Scotland's diabetes patient management system. It is used in all fourteen health boards and holds data on all people with diabetes living in Scotland. Its purpose is to ensure that people receive the best possible care for their diabetes by providing authorised members of the healthcare team with the information they require to effectively manage their patients.

Security and Confidentiality

SCI-Diabetes is available to members of the NHS Scotland healthcare team within the confines of the NHS intranet. SCI-Diabetes can only be accessed via a secure connection and data are never shared with any unauthorised third parties. Most NHS Boards have Diabetes Managed Clinical Networks that have the responsibility for managing access to SCI-Diabetes. In other NHS Boards this access is managed by eHealth colleagues.

Data Sources

SCI-Diabetes is used directly by many professionals, but it also receives data from a variety of data sources to maintain its shared electronic record for diabetes. A breakdown of the main sources in May 2023 is as follows:

- Community Health Index (master patient index)
- All ~900 general practices across Scotland (EMIS, Vision)
- 42 hospitals (direct data entry on SCI-Diabetes)
- 13 of 14 NHS boards linking to local laboratory data (SCI Store – see below)
- National Diabetic Eye Screening (DES – OptoMize) System
- Inpatient Management: 9 NHS boards linking to local patient administration system for admission, discharge and transfer data (TrakCare)
- Connected Ward Meters: 3 NHS boards linking ward-based blood glucose measurements. Priority implementation area for national diabetes inpatient management programme
- Scottish Ambulance Service: 4 NHS boards linking ambulance service data for ambulance callouts for hypoglycaemic events.
- Winscribe: 4 NHS Boards linking with Winscribe for digital dictation and letter generation.

Registration onto the system can be initiated via the primary and secondary care feeds, registration onto the DES system or web patient administration forms. As part of the DES registration process, primary care users are expected to review their SCI-Diabetes lists periodically to ensure that all people eligible for screening are held.

The current SCI-Store (laboratory data) and Inpatient Management Implementation matrices are shown below:

Table 52   Progress towards links from SCI Store to SCI-Diabetes, Scotland, May 2023.

NHS board	Implementation Requested	Status	Comments
Ayrshire and Arran	Yes	Live	
Borders	Yes	Live	
Dumfries and Galloway	Yes	Live	
Fife	Yes	Live	
Fife/Tayside	Yes	Live	
Forth Valley	Yes	Live	
Grampian	Yes	Live	
Greater Glasgow and Clyde	Yes	Live	
Highland	Yes	Not scheduled	Argyll & Bute data obtained from GG&C SCI-Store.
Lanarkshire	Yes	Live	
Lothian	Yes	Live	
Orkney	Yes	Live	
Shetland	Yes	Live	
Tayside	Yes	Live	
Western Isles	Yes	Live	

Table 53   Progress towards links from Patient Administration Systems to SCI-Diabetes, Scotland, May 2023.

NHS board	Implementation Requested	Status	Comments
Ayrshire and Arran	Yes	Live	TrakCare
Borders	Yes	Live	TrakCare
Dumfries and Galloway	Yes	Not scheduled	TOPAS
Fife	Yes	Live	TrakCare
Forth Valley	No	Live	TrakCare
Grampian	Yes	Live	TrakCare
Greater Glasgow and Clyde	Yes	Live	TrakCare
Highland	Yes	Live	TrakCare
Lanarkshire	Yes	Live	TrakCare
Lothian	Yes	Live	TrakCare
Orkney	No	Not scheduled	
Shetland	No	Not scheduled	
Tayside	Yes	Live	TrakCare
Western Isles	No	Not scheduled	Cortix

SCI-Diabetes is supporting a national Healthcare Improvement Programme focusing on inpatient diabetes. To provide accurate reporting it is essential that SCI-Diabetes receives data from all hospital patient administration systems and, where relevant, connected ward-based

blood glucose meters from systems supplied by Roche and Abbott. At present, NHS Tayside and NHS Lothian and NHS Borders provide full support for diabetes inpatient management.

In addition to incoming feeds, SCI-Diabetes data are also transferred to external systems:
- National Diabetic Eye Screening: to maintain the call-recall system
- My Diabetes My Way: people accessing their own information
- SCI-Diabetes Audit Server: for regional and national reporting
- Back-Population of over 95% of GP systems: in support of a single-point of data entry

More information about the Scottish Care Information – Diabetes Collaboration (SCI-DC) programme and SCI-Diabetes is available at http://www.sci-diabetes.scot.nhs.uk/

Appendix 2: Spine Charts Displaying Health Board Performance

A change was made in this year's survey for spine indicators in the Blood Pressure, HbA1c and Cholesterol Targets category. In previous years the percentage was calculated as the proportion of all people with a given type of diabetes (including those Not Recorded), whereas this year the percentage is the proportion of those measured (excluding those Not Recorded). Age restrictions in this section match those used in the Processes of Care section.

Diabetes Health Board Spine Chart (Ayrshire and Arran) 2022

Category	Indicator	Number	Measure	National average	Worse Scotland Comparator Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	2,535	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	24,234	5.8	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	9	2.4	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	1,191	52.1	71.7	
	T2: % Have recorded BMI (18+ year olds)	17,030	70.3	72.9	
	T1: % Have recorded HbA1c	2,112	83.3	86.0	
	T2: % Have recorded HbA1c	20,560	84.8	87.2	
	T1: % Have recorded BP	1,566	61.8	74.0	
	T2: % Have recorded BP	19,015	78.5	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	1,616	70.7	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	18,108	74.7	75.2	
	T1: % Have recorded smoking status	1,135	44.8	53.2	
	T2: % Have recorded smoking status	14,884	61.4	61.0	
	T1: % Have recorded creatinine (12+ year olds)	2,031	82.9	84.8	
	T2: % Have recorded creatinine (12+ year olds)	21,589	89.1	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	690	28.2	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	9,510	39.2	56.0	
	T1: % Have recorded eye screening (12+ year olds)	1,767	72.6	67.2	
	T2: % Have recorded eye screening (12+ year olds)	17,290	72.3	67.3	
	T1: % Have recorded foot risk	633	25.0	39.7	
	T2: % Have recorded foot risk	9,637	39.8	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	202	8.0	8.9	
	T2 & recorded smoking status: % Are current smokers	2,274	9.4	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	1,254	80.1	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	14,219	74.8	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	631	29.9	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	11,760	57.2	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	680	32.2	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	3,605	17.5	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	1,124	69.6	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	13,686	75.6	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	128	82.6	63.6	
	T1: % Have access to an insulin pump	361	14.2	17.3	

Spine chart key: sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
● Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ◄——— Scotland Average ———► 'Better 'Area

5th percentile   25th percentile   75th percentile   95th percentile
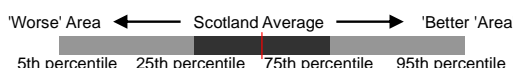
Diabetes Health Board Spine Chart (Borders) 2022

Category	Indicator	Number	Measure	National average	Worse Scotland Comparator Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	799	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	6,460	4.6	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	*	*	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	530	72.5	71.7	
	T2: % Have recorded BMI (18+ year olds)	5,125	79.4	72.9	
	T1: % Have recorded HbA1c	689	86.2	86.0	
	T2: % Have recorded HbA1c	5,823	90.1	87.2	
	T1: % Have recorded BP	606	75.8	74.0	
	T2: % Have recorded BP	5,574	86.3	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	550	75.2	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	5,372	83.2	75.2	
	T1: % Have recorded smoking status	460	57.6	53.2	
	T2: % Have recorded smoking status	4,407	68.2	61.0	
	T1: % Have recorded creatinine (12+ year olds)	676	87.8	84.8	
	T2: % Have recorded creatinine (12+ year olds)	6,058	93.8	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	247	32.1	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	1,189	18.4	56.0	
	T1: % Have recorded eye screening (12+ year olds)	506	66.4	67.2	
	T2: % Have recorded eye screening (12+ year olds)	4,295	67.9	67.3	
	T1: % Have recorded foot risk	366	45.8	39.7	
	T2: % Have recorded foot risk	3,626	56.1	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	67	8.4	8.9	
	T2 & recorded smoking status: % Are current smokers	563	8.7	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	420	69.3	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	4,235	76.0	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	205	29.8	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	3,081	52.9	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	185	26.9	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	975	16.7	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	365	66.4	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	3,954	73.6	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	918	86.1	63.6	
	T1: % Have access to an insulin pump	150	18.8	17.3	

Spine chart key: sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage
that have recorded BP"
* indicates a figure between 1 and 4 or a figure that
indirectly reveals such figures

Spine chart key:
- 🔵 Statistically significantly 'worse' than National average
- ⚪ Statistically not significantly different from National average
- 🟢 Statistically significantly 'better' than National average

'Worse' Area ◄—— Scotland Average ——► 'Better' Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Dumfries and Galloway) 2022

Category	Indicator	Number	Measure	National average	Worse ——— Scotland Comparator ——— Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	1,087	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	9,390	5.1	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	9	6.1	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	881	90.6	71.7	
	T2: % Have recorded BMI (18+ year olds)	7,089	75.5	72.9	
	T1: % Have recorded HbA1c	1,030	94.8	86.0	
	T2: % Have recorded HbA1c	8,545	91.0	87.2	
	T1: % Have recorded BP	930	85.6	74.0	
	T2: % Have recorded BP	7,971	84.9	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	880	90.5	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	7,525	80.2	75.2	
	T1: % Have recorded smoking status	804	74.0	53.2	
	T2: % Have recorded smoking status	5,282	56.3	61.0	
	T1: % Have recorded creatinine (12+ year olds)	948	91.2	84.8	
	T2: % Have recorded creatinine (12+ year olds)	8,721	92.9	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	825	79.4	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	5,859	62.4	56.0	
	T1: % Have recorded eye screening (12+ year olds)	862	83.7	67.2	
	T2: % Have recorded eye screening (12+ year olds)	7,239	78.3	67.3	
	T1: % Have recorded foot risk	610	56.1	39.7	
	T2: % Have recorded foot risk	4,492	47.8	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	126	11.6	8.9	
	T2 & recorded smoking status: % Are current smokers	812	8.6	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	644	69.2	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	5,471	68.6	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	305	29.6	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	4,538	53.1	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	275	26.7	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	1,543	18.1	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	636	72.3	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	5,471	72.7	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	1,889	79.3	63.6	
	T1: % Have access to an insulin pump	286	26.3	17.3	

Spine chart key: sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
🔵 Statistically significantly 'worse' than National average
⚪ Statistically not significantly different from National average
🟢 Statistically significantly 'better' than National average

'Worse' Area ◄——— Scotland Average ———► 'Better 'Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Fife) 2022

Category	Indicator	Number	Measure	National average	Worse Scotland Comparator Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	2,456	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	21,967	5.6	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	37	9.9	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	1,619	72.8	71.7	
	T2: % Have recorded BMI (18+ year olds)	15,256	69.5	72.9	
	T1: % Have recorded HbA1c	2,073	84.4	86.0	
	T2: % Have recorded HbA1c	18,745	85.3	87.2	
	T1: % Have recorded BP	1,861	75.8	74.0	
	T2: % Have recorded BP	17,824	81.1	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	1,584	71.2	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	16,866	76.8	75.2	
	T1: % Have recorded smoking status	1,600	65.1	53.2	
	T2: % Have recorded smoking status	11,709	53.3	61.0	
	T1: % Have recorded creatinine (12+ year olds)	2,003	84.7	84.8	
	T2: % Have recorded creatinine (12+ year olds)	19,515	88.9	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	1,340	56.7	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	12,697	57.8	56.0	
	T1: % Have recorded eye screening (12+ year olds)	1,794	76.4	67.2	
	T2: % Have recorded eye screening (12+ year olds)	16,717	77.2	67.3	
	T1: % Have recorded foot risk	224	9.1	39.7	
	T2: % Have recorded foot risk	3,763	17.1	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	281	11.4	8.9	
	T2 & recorded smoking status: % Are current smokers	1,787	8.1	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	1,204	64.7	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	12,076	67.8	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	630	30.4	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	9,630	51.4	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	634	30.6	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	3,704	19.8	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	1,131	71.4	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	12,906	76.5	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	110	77.5	63.6	
	T1: % Have access to an insulin pump	538	21.9	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage
that have recorded BP"
* indicates a figure between 1 and 4 or a figure that
indirectly reveals such figures

Spine chart key:
○ (blue) Statistically significantly 'worse' than National average
○ (white) Statistically not significantly different from National average
● (green) Statistically significantly 'better' than National average

'Worse' Area ◄——— Scotland Average ———► 'Better 'Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Forth Valley) 2022

Category	Indicator	Number	Measure	National average	Worse / Scotland Comparator / Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	2,145	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	17,721	5.7	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	18	5.9	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	1,377	72.1	71.7	
	T2: % Have recorded BMI (18+ year olds)	12,347	69.7	72.9	
	T1: % Have recorded HbA1c	1,833	85.5	86.0	
	T2: % Have recorded HbA1c	15,192	85.7	87.2	
	T1: % Have recorded BP	1,558	72.6	74.0	
	T2: % Have recorded BP	13,351	75.3	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	1,459	76.4	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	12,703	71.7	75.2	
	T1: % Have recorded smoking status	1,424	66.4	53.2	
	T2: % Have recorded smoking status	10,819	61.1	61.0	
	T1: % Have recorded creatinine (12+ year olds)	1,776	86.3	84.8	
	T2: % Have recorded creatinine (12+ year olds)	15,570	87.9	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	959	46.6	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	8,047	45.4	56.0	
	T1: % Have recorded eye screening (12+ year olds)	1,325	64.5	67.2	
	T2: % Have recorded eye screening (12+ year olds)	12,380	69.9	67.3	
	T1: % Have recorded foot risk	1,266	59.0	39.7	
	T2: % Have recorded foot risk	7,823	44.1	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	250	11.7	8.9	
	T2 & recorded smoking status: % Are current smokers	1,547	8.7	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	1,103	70.8	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	9,636	72.2	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	607	33.1	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	7,582	49.9	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	510	27.8	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	3,101	20.4	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	960	65.8	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	9,395	74.0	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	4,664	66.2	63.6	
	T1: % Have access to an insulin pump	442	20.6	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage
that have recorded BP"
* indicates a figure between 1 and 4 or a figure that
indirectly reveals such figures

Spine chart key:
● Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ◄—— Scotland Average ——► 'Better' Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Grampian) 2022

Category	Indicator	Number	Measure	National average	Worse Scotland Comparator Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	3,868	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	28,552	5.0	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	33	5.6	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	2,720	78.0	71.7	
	T2: % Have recorded BMI (18+ year olds)	22,779	79.8	72.9	
	T1: % Have recorded HbA1c	3,424	88.5	86.0	
	T2: % Have recorded HbA1c	25,593	89.6	87.2	
	T1: % Have recorded BP	3,086	79.8	74.0	
	T2: % Have recorded BP	24,669	86.4	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	2,620	75.1	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	23,490	82.3	75.2	
	T1: % Have recorded smoking status	1,951	50.4	53.2	
	T2: % Have recorded smoking status	18,434	64.6	61.0	
	T1: % Have recorded creatinine (12+ year olds)	3,153	84.7	84.8	
	T2: % Have recorded creatinine (12+ year olds)	26,363	92.3	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	2,213	59.4	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	18,617	65.2	56.0	
	T1: % Have recorded eye screening (12+ year olds)	2,468	66.5	67.2	
	T2: % Have recorded eye screening (12+ year olds)	18,708	66.5	67.3	
	T1: % Have recorded foot risk	1,505	38.9	39.7	
	T2: % Have recorded foot risk	13,316	46.6	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	336	8.7	8.9	
	T2 & recorded smoking status: % Are current smokers	2,506	8.8	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	2,211	71.6	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	16,868	68.4	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	941	27.5	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	12,597	49.2	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	1,085	31.7	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	5,410	21.1	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	1,891	72.2	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	18,019	76.7	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	1,648	81.7	63.6	
	T1: % Have access to an insulin pump	574	14.8	17.3	

Spine chart key: sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage
that have recorded BP"
* indicates a figure between 1 and 4 or a figure that
indirectly reveals such figures

Spine chart key:
○ (blue) Statistically significantly 'worse' than National average
○ (white) Statistically not significantly different from National average
● (green) Statistically significantly 'better' than National average

'Worse' Area ◄—— Scotland Average ——► 'Better' Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Greater Glasgow and Clyde) 2022

Category	Indicator	Number	Measure	National average	Worse ⸱ Scotland Comparator ⸱ Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	7,171	0.6	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	63,177	5.9	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	95	8.0	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	4,826	74.3	71.7	
	T2: % Have recorded BMI (18+ year olds)	44,577	70.6	72.9	
	T1: % Have recorded HbA1c	6,218	86.7	86.0	
	T2: % Have recorded HbA1c	54,019	85.5	87.2	
	T1: % Have recorded BP	5,356	74.7	74.0	
	T2: % Have recorded BP	48,704	77.1	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	5,111	78.7	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	47,331	75.0	75.2	
	T1: % Have recorded smoking status	3,515	49.0	53.2	
	T2: % Have recorded smoking status	37,041	58.6	61.0	
	T1: % Have recorded creatinine (12+ year olds)	5,945	86.2	84.8	
	T2: % Have recorded creatinine (12+ year olds)	56,180	88.9	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	4,364	63.3	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	34,520	54.6	56.0	
	T1: % Have recorded eye screening (12+ year olds)	4,893	71.2	67.2	
	T2: % Have recorded eye screening (12+ year olds)	45,260	71.9	67.3	
	T1: % Have recorded foot risk	3,372	47.0	39.7	
	T2: % Have recorded foot risk	24,535	38.8	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	596	8.3	8.9	
	T2 & recorded smoking status: % Are current smokers	6,124	9.7	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	3,874	72.3	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	37,063	76.1	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	2,068	33.3	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	30,139	55.8	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	1,739	28.0	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	9,068	16.8	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	3,397	66.5	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	35,741	75.5	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	2,304	60.9	63.6	
	T1: % Have access to an insulin pump	1,059	14.8	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
🔵 Statistically significantly 'worse' than National average
⚪ Statistically not significantly different from National average
🟢 Statistically significantly 'better' than National average

'Worse' Area ⬅ Scotland Average ➡ 'Better' Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Highland) 2022

Category	Indicator	Number	Measure	National average	Worse Scotland Comparator Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	2,355	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	17,846	4.7	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	30	9.3	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	1,612	75.2	71.7	
	T2: % Have recorded BMI (18+ year olds)	14,281	80.1	72.9	
	T1: % Have recorded HbA1c	2,079	88.3	86.0	
	T2: % Have recorded HbA1c	16,135	90.4	87.2	
	T1: % Have recorded BP	1,896	80.5	74.0	
	T2: % Have recorded BP	15,459	86.6	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	1,572	73.4	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	13,352	74.9	75.2	
	T1: % Have recorded smoking status	1,489	63.2	53.2	
	T2: % Have recorded smoking status	12,153	68.1	61.0	
	T1: % Have recorded creatinine (12+ year olds)	1,910	83.7	84.8	
	T2: % Have recorded creatinine (12+ year olds)	16,319	91.5	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	1,218	53.4	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	10,679	59.8	56.0	
	T1: % Have recorded eye screening (12+ year olds)	1,605	70.5	67.2	
	T2: % Have recorded eye screening (12+ year olds)	12,079	68.2	67.3	
	T1: % Have recorded foot risk	1,305	55.4	39.7	
	T2: % Have recorded foot risk	10,697	59.9	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	225	9.6	8.9	
	T2 & recorded smoking status: % Are current smokers	1,596	8.9	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	1,499	79.1	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	10,390	67.2	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	649	31.2	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	8,813	54.6	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	543	26.1	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	2,601	16.1	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	1,091	69.4	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	10,058	75.3	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	2,981	62.8	63.6	
	T1: % Have access to an insulin pump	313	13.3	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
○ Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ◄─── Scotland Average ───► 'Better 'Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Lanarkshire) 2022

Category	Indicator	Number	Measure	National average	Worse / Scotland Comparator / Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	4,799	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	40,187	6.1	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	50	7.6	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	2,732	63.7	71.7	
	T2: % Have recorded BMI (18+ year olds)	26,814	66.8	72.9	
	T1: % Have recorded HbA1c	3,989	83.1	86.0	
	T2: % Have recorded HbA1c	34,254	85.2	87.2	
	T1: % Have recorded BP	3,338	69.6	74.0	
	T2: % Have recorded BP	30,223	75.2	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	2,890	67.4	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	29,747	74.1	75.2	
	T1: % Have recorded smoking status	2,248	46.8	53.2	
	T2: % Have recorded smoking status	23,599	58.7	61.0	
	T1: % Have recorded creatinine (12+ year olds)	3,805	82.9	84.8	
	T2: % Have recorded creatinine (12+ year olds)	35,635	88.8	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	2,376	51.7	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	21,063	52.5	56.0	
	T1: % Have recorded eye screening (12+ year olds)	2,202	48.4	67.2	
	T2: % Have recorded eye screening (12+ year olds)	18,285	45.9	67.3	
	T1: % Have recorded foot risk	1,719	35.8	39.7	
	T2: % Have recorded foot risk	15,750	39.2	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	373	7.8	8.9	
	T2 & recorded smoking status: % Are current smokers	3,580	8.9	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	2,510	75.2	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	22,651	74.9	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	1,105	27.7	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	17,904	52.3	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	1,282	32.1	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	6,671	19.5	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	1,977	68.4	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	23,096	77.6	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	1,586	62.8	63.6	
	T1: % Have access to an insulin pump	719	15.0	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
● Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ←——— Scotland Average ———→ 'Better 'Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Lothian) 2022

Category	Indicator	Number	Measure	National average	Worse — Scotland Comparator — Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	5,429	0.6	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	41,763	5.1	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	105	11.5	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	3,772	76.0	71.7	
	T2: % Have recorded BMI (18+ year olds)	30,648	73.4	72.9	
	T1: % Have recorded HbA1c	4,654	85.7	86.0	
	T2: % Have recorded HbA1c	37,097	88.8	87.2	
	T1: % Have recorded BP	4,111	75.7	74.0	
	T2: % Have recorded BP	34,434	82.5	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	3,797	76.5	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	33,345	79.9	75.2	
	T1: % Have recorded smoking status	3,011	55.5	53.2	
	T2: % Have recorded smoking status	25,337	60.7	61.0	
	T1: % Have recorded creatinine (12+ year olds)	4,407	83.9	84.8	
	T2: % Have recorded creatinine (12+ year olds)	38,011	91.0	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	3,549	67.5	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	26,337	63.1	56.0	
	T1: % Have recorded eye screening (12+ year olds)	3,282	62.8	67.2	
	T2: % Have recorded eye screening (12+ year olds)	26,228	63.6	67.3	
	T1: % Have recorded foot risk	1,937	35.7	39.7	
	T2: % Have recorded foot risk	18,485	44.3	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	476	8.8	8.9	
	T2 & recorded smoking status: % Are current smokers	3,986	9.5	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	2,803	68.2	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	23,642	68.7	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	1,564	33.6	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	20,295	54.7	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	1,156	24.8	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	5,928	16.0	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	2,727	71.8	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	25,905	77.7	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	1,575	67.0	63.6	
	T1: % Have access to an insulin pump	1,259	23.2	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
- (blue) Statistically significantly 'worse' than National average
- (white) Statistically not significantly different from National average
- (green) Statistically significantly 'better' than National average

'Worse' Area ⟵ Scotland Average ⟶ 'Better' Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Orkney) 2022

Category	Indicator	Number	Measure	National average	Worse — Scotland Comparator — Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	144	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	1,172	4.4	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	0	0.0	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	124	90.5	71.7	
	T2: % Have recorded BMI (18+ year olds)	1,037	88.5	72.9	
	T1: % Have recorded HbA1c	140	97.2	86.0	
	T2: % Have recorded HbA1c	1,123	95.8	87.2	
	T1: % Have recorded BP	124	86.1	74.0	
	T2: % Have recorded BP	1,082	92.3	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	124	90.5	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	1,053	89.8	75.2	
	T1: % Have recorded smoking status	127	88.2	53.2	
	T2: % Have recorded smoking status	868	74.1	61.0	
	T1: % Have recorded creatinine (12+ year olds)	138	97.2	84.8	
	T2: % Have recorded creatinine (12+ year olds)	1,123	95.8	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	100	70.4	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	948	80.9	56.0	
	T1: % Have recorded eye screening (12+ year olds)	118	83.1	67.2	
	T2: % Have recorded eye screening (12+ year olds)	884	77.4	67.3	
	T1: % Have recorded foot risk	88	61.1	39.7	
	T2: % Have recorded foot risk	692	59.0	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	17	11.8	8.9	
	T2 & recorded smoking status: % Are current smokers	101	8.6	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	107	86.3	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	808	74.7	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	64	45.7	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	641	57.1	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	29	20.7	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	154	13.7	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	86	69.4	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	798	75.8	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	1,209	52.6	63.6	
	T1: % Have access to an insulin pump	25	17.4	17.3	

Spine chart key: sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
● Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ← Scotland Average → 'Better' Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Shetland) 2022

Category	Indicator	Number	Measure	National average	Worse — Scotland Comparator — Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	156	0.7	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	1,069	4.4	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	*	*	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	128	90.8	71.7	
	T2: % Have recorded BMI (18+ year olds)	956	89.4	72.9	
	T1: % Have recorded HbA1c	152	97.4	86.0	
	T2: % Have recorded HbA1c	1,011	94.6	87.2	
	T1: % Have recorded BP	148	94.9	74.0	
	T2: % Have recorded BP	1,001	93.6	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	112	79.4	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	445	41.6	75.2	
	T1: % Have recorded smoking status	139	89.1	53.2	
	T2: % Have recorded smoking status	784	73.3	61.0	
	T1: % Have recorded creatinine (12+ year olds)	144	94.7	84.8	
	T2: % Have recorded creatinine (12+ year olds)	1,017	95.1	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	110	72.4	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	783	73.2	56.0	
	T1: % Have recorded eye screening (12+ year olds)	99	65.1	67.2	
	T2: % Have recorded eye screening (12+ year olds)	697	65.4	67.3	
	T1: % Have recorded foot risk	95	60.9	39.7	
	T2: % Have recorded foot risk	628	58.7	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	19	12.2	8.9	
	T2 & recorded smoking status: % Are current smokers	102	9.5	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	125	84.5	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	746	74.5	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	60	39.5	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	631	62.4	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	21	13.8	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	128	12.7	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	84	75.0	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	313	70.3	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	365	45.8	63.6	
	T1: % Have access to an insulin pump	17	10.9	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
● Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ◄——— Scotland Average ———► 'Better 'Area

5th percentile   25th percentile   75th percentile   95th percentile

Diabetes Health Board Spine Chart (Tayside) 2022

Category	Indicator	Number	Measure	National average	Worse　　Scotland Comparator　　Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	2,437	0.6	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	22,482	5.0	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	69	16.6	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	1,416	63.5	71.7	
	T2: % Have recorded BMI (18+ year olds)	17,679	78.6	72.9	
	T1: % Have recorded HbA1c	2,041	83.8	86.0	
	T2: % Have recorded HbA1c	19,989	88.9	87.2	
	T1: % Have recorded BP	1,597	65.5	74.0	
	T2: % Have recorded BP	18,977	84.4	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	1,337	60.0	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	13,580	60.4	75.2	
	T1: % Have recorded smoking status	960	39.4	53.2	
	T2: % Have recorded smoking status	15,264	67.9	61.0	
	T1: % Have recorded creatinine (12+ year olds)	1,967	83.4	84.8	
	T2: % Have recorded creatinine (12+ year olds)	20,429	90.9	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	1,264	53.6	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	15,235	67.8	56.0	
	T1: % Have recorded eye screening (12+ year olds)	1,803	77.0	67.2	
	T2: % Have recorded eye screening (12+ year olds)	16,902	76.4	67.3	
	T1: % Have recorded foot risk	921	37.8	39.7	
	T2: % Have recorded foot risk	12,538	55.8	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	187	7.7	8.9	
	T2 & recorded smoking status: % Are current smokers	2,244	10.0	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	1,163	72.8	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	12,882	67.9	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	578	28.3	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	10,512	52.6	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	688	33.7	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	3,493	17.5	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	923	69.0	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	10,434	76.8	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	2,719	51.6	63.6	
	T1: % Have access to an insulin pump	398	16.3	17.3	

Spine chart key:
- sr2=age-sex standardised rate per 100 population
- T1=People with type 1 diabetes
- T2=People with type 2 diabetes
- E.g. "T1: % Have recorded BP" means "Of people with type 1 diabetes: The percentage that have recorded BP"
- * indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
- ● Statistically significantly 'worse' than National average
- ○ Statistically not significantly different from National average
- ● Statistically significantly 'better' than National average

'Worse' Area ◄—— Scotland Average ——► 'Better' Area

5th percentile　25th percentile　75th percentile　95th percentile

Diabetes Health Board Spine Chart (Western Isles) 2022

Category	Indicator	Number	Measure	National average	Worse　　Scotland Comparator　　Better
Prevalence	Age standardised prevalence of type 1 diabetes (sr2)	238	0.9	0.6	
	Age standardised prevalence of type 2 diabetes (sr2)	1,484	4.5	5.4	
	Crude prevalence of monogenic diabetes (per 1,000 people)	0	0.0	8.5	
Quality of Recording	T1: % Have recorded BMI (18+ year olds)	161	77.4	71.7	
	T2: % Have recorded BMI (18+ year olds)	1,186	79.9	72.9	
	T1: % Have recorded HbA1c	216	90.8	86.0	
	T2: % Have recorded HbA1c	1,423	95.9	87.2	
	T1: % Have recorded BP	195	81.9	74.0	
	T2: % Have recorded BP	1,361	91.7	80.6	
	T1: % Have recorded cholesterol (18+ year olds)	104	50.0	73.7	
	T2: % Have recorded cholesterol (18+ year olds)	658	44.3	75.2	
	T1: % Have recorded smoking status	90	37.8	53.2	
	T2: % Have recorded smoking status	984	66.3	61.0	
	T1: % Have recorded creatinine (12+ year olds)	185	81.1	84.8	
	T2: % Have recorded creatinine (12+ year olds)	1,412	95.1	90.1	
	T1: % Have recorded microalbumin (12+ year olds)	104	45.6	56.4	
	T2: % Have recorded microalbumin (12+ year olds)	913	61.5	56.0	
	T1: % Have recorded eye screening (12+ year olds)	198	86.8	67.2	
	T2: % Have recorded eye screening (12+ year olds)	1,123	77.6	67.3	
	T1: % Have recorded foot risk	85	35.7	39.7	
	T2: % Have recorded foot risk	638	43.0	42.6	
Smoking Prevalence	T1 & recorded smoking status: % Are current smokers	20	8.4	8.9	
	T2 & recorded smoking status: % Are current smokers	155	10.4	9.2	
Blood Pressure, HbA1c and Cholesterol Targets	T1 & recorded SBP: % Latest reading <=140mmHg	157	80.5	72.3	
	T2 & recorded SBP: % Latest reading <=140mmHg	977	71.8	71.6	
	T1 & recorded HbA1c: % Latest reading <58mmol/mol	58	26.9	30.9	
	T2 & recorded HbA1c: % Latest reading <58mmol/mol	675	47.4	53.5	
	T1 & recorded HbA1c: % Latest reading >75mmol/mol	62	28.7	29.0	
	T2 & recorded HbA1c: % Latest reading >75mmol/mol	318	22.3	18.0	
	T1 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	68	65.4	69.3	
	T2 & recorded cholesterol: % Latest reading <=5mmol (18+ year olds)	469	71.3	76.1	
Access to Technology	T1: % Have access to flash or continuous glucose monitoring	48	20.4	63.6	
	T1: % Have access to an insulin pump	32	13.4	17.3	

Spine chart key:
sr2=age-sex standardised rate per 100 population
T1=People with type 1 diabetes
T2=People with type 2 diabetes
E.g. "T1: % Have recorded BP" means
"Of people with type 1 diabetes: The percentage that have recorded BP"
* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures

Spine chart key:
● Statistically significantly 'worse' than National average
○ Statistically not significantly different from National average
● Statistically significantly 'better' than National average

'Worse' Area ◄——— Scotland Average ———► 'Better 'Area

5th percentile　25th percentile　75th percentile　95th percentile

Appendix 3: Errata

The paediatric incidence of type 1 diabetes was incorrectly reported in four previous surveys (Scottish Diabetes Survey 2018 – Scottish Diabetes Survey 2021). Corrected figures and tables of the data are below.

Figure 11   **Incidence rate (per 100,000 population per year) for people under 16 years of age, by age band and NHS board, Scotland 2018.**
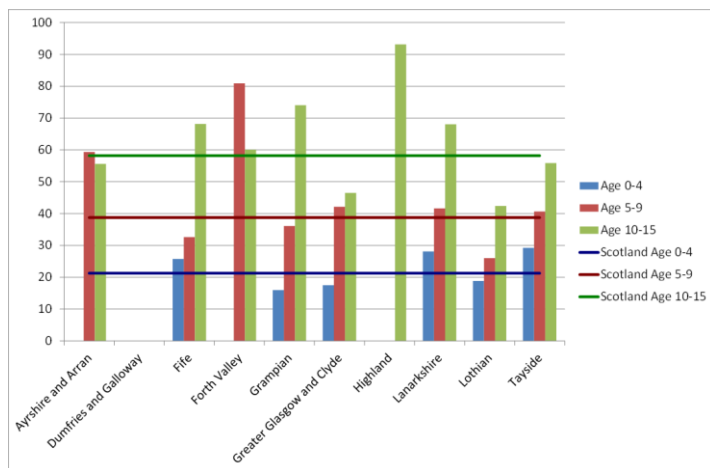
Note: Bars for boards and age groups with hidden data are not shown.

Table 54   **Number of new cases, incidence rate (In., per 100,000 population per year) and at-risk population of type 1 diabetes for people under 16 years of age, by age band and NHS board, Scotland 2018.**

NHS board	Age 0-4			Age 5-9			Age 10-15		
	n	In.	Pop.	n	In.	Pop.	n	In.	Pop.
Ayrshire and Arran	*	*	18,171	12	59	20,222	13	56	23,388
Borders	*	*	5,646	*	*	6,118	*	*	7,262
Dumfries and Galloway	*	*	6,640	*	*	7,690	*	*	9,157
Fife	5	26	19,405	7	33	21,454	16	68	23,474
Forth Valley	*	*	15,499	14	81	17,303	12	60	19,972
Grampian	5	16	31,372	12	36	33,252	26	74	35,121
Greater Glasgow and Clyde	11	18	62,851	27	42	64,094	32	47	68,812
Highland	*	*	15,068	*	*	17,246	19	93	20,404
Lanarkshire	10	28	35,600	16	42	38,457	30	68	44,105
Lothian	9	19	47,818	13	26	50,067	22	42	51,890
Orkney	0	0	982	0	0	1,179	0	0	1,384
Shetland	0	0	1,279	0	0	1,349	*	*	1,605
Tayside	6	29	20,528	9	41	22,139	14	56	25,072
Western Isles	0	0	1,247	0	0	1,381	*	*	1,739
Scotland	**60**	**21**	**282,106**	**117**	**39**	**301,951**	**194**	**58**	**333,385**

Note: * indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. The calculation of crude incidence is a slight underestimate, as the at-risk population includes small numbers of people with frank diabetes.

Figure 12   **Incidence rate (per 100,000 population per year) for people under 16 years of age, by age band and NHS board, Scotland 2019.**
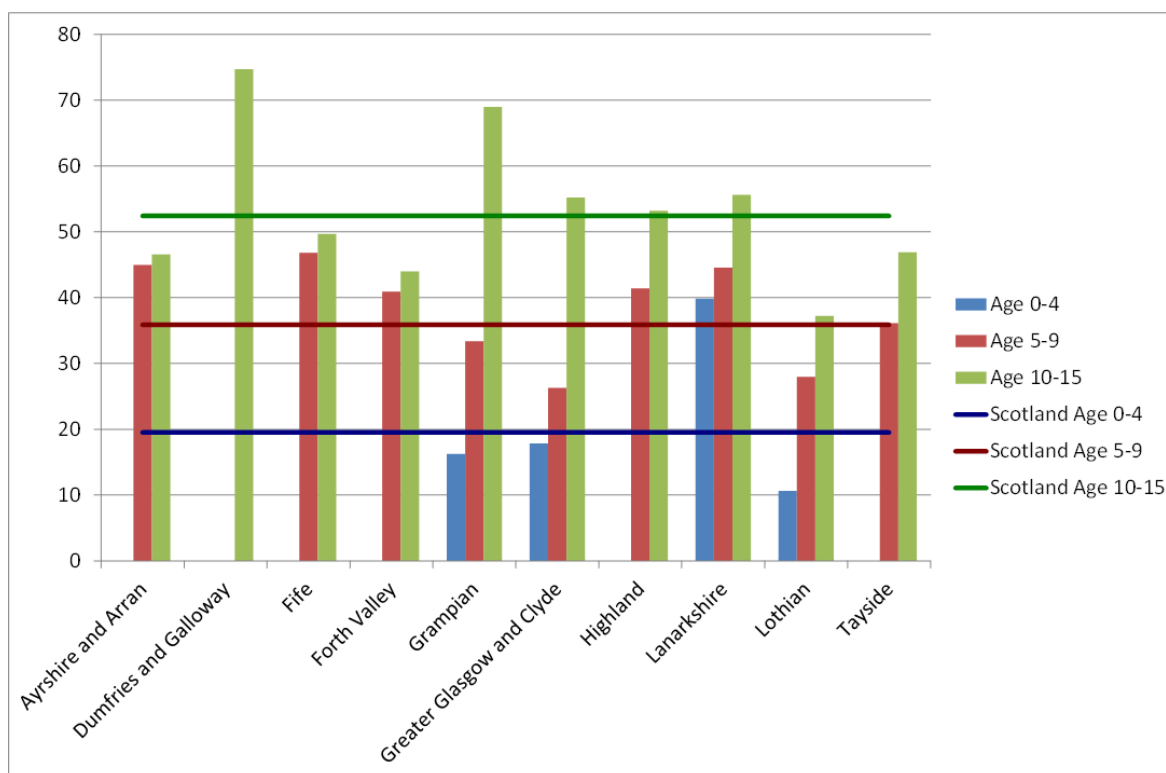

Note: Bars for boards and age groups with hidden data are not shown.

Table 55   **Number of new cases, incidence rate (In., per 100,000 population per year) and at-risk population of type 1 diabetes for people under 16 years of age, by age band and NHS board, Scotland 2019.**

NHS board	Age 0-4			Age 5-9			Age 10-15		
	n	In.	Pop.	n	In.	Pop.	n	In.	Pop.
Ayrshire and Arran	*	*	17,888	9	45	20,022	11	47	23,627
Borders	*	*	5,486	*	*	6,205	*	*	7,355
Dumfries and Galloway	*	*	6,488	*	*	7,566	7	75	9,370
Fife	*	*	18,956	10	47	21,372	12	50	24,145
Forth Valley	*	*	15,155	7	41	17,110	9	44	20,459
Grampian	5	16	30,837	11	33	32,961	25	69	36,241
Greater Glasgow and Clyde	11	18	61,677	17	26	64,696	39	55	70,615
Highland	*	*	14,786	7	41	16,897	11	53	20,676
Lanarkshire	14	40	35,132	17	45	38,143	25	56	44,940
Lothian	5	11	47,138	14	28	50,049	20	37	53,739
Orkney	*	*	966	0	0	1,156	*	*	1,422
Shetland	0	0	1,195	*	*	1,405	*	*	1,605
Tayside	*	*	19,959	8	36	22,159	12	47	25,576
Western Isles	0	0	1,199	0	0	1,348	*	*	1,781
Scotland	**54**	**20**	**276,862**	**108**	**36**	**301,089**	**179**	**52**	**341,551**

Note: * indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. The calculation of crude incidence is a slight underestimate, as the at-risk population includes small numbers of people with frank diabetes.

Figure 13   Incidence rate (per 100,000 population per year) for people under 16 years of age, by age band and NHS board, Scotland 2020.
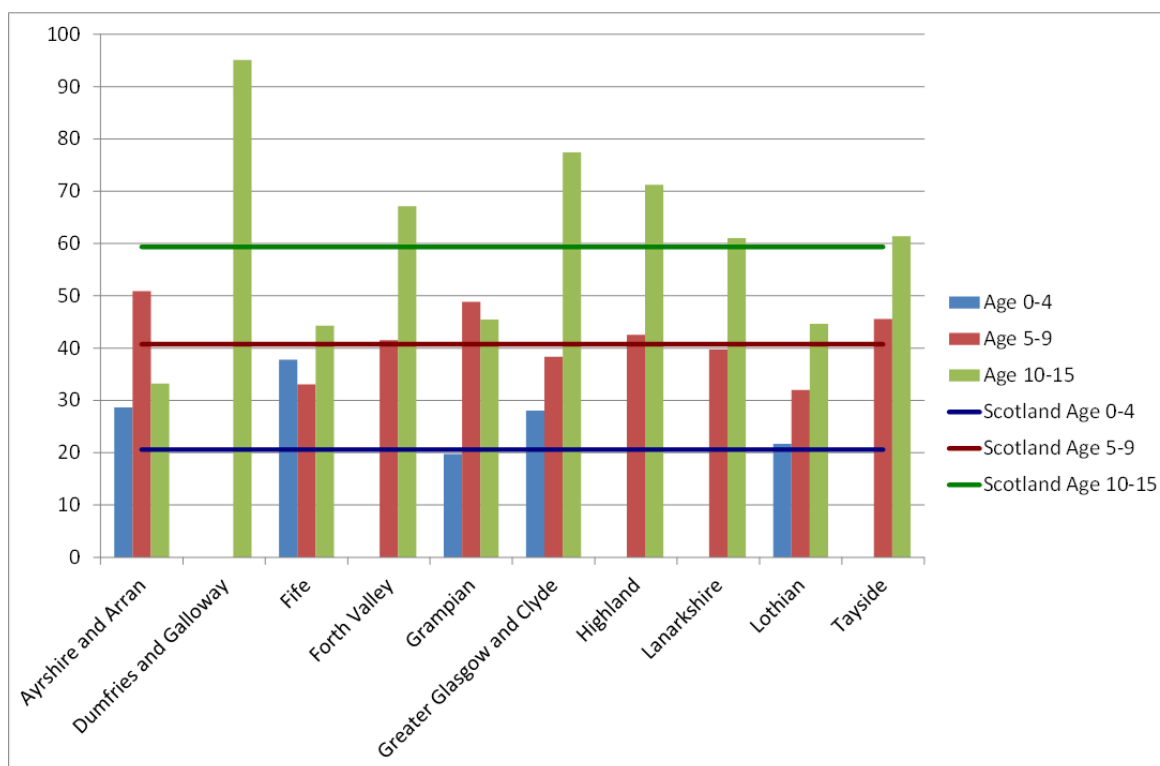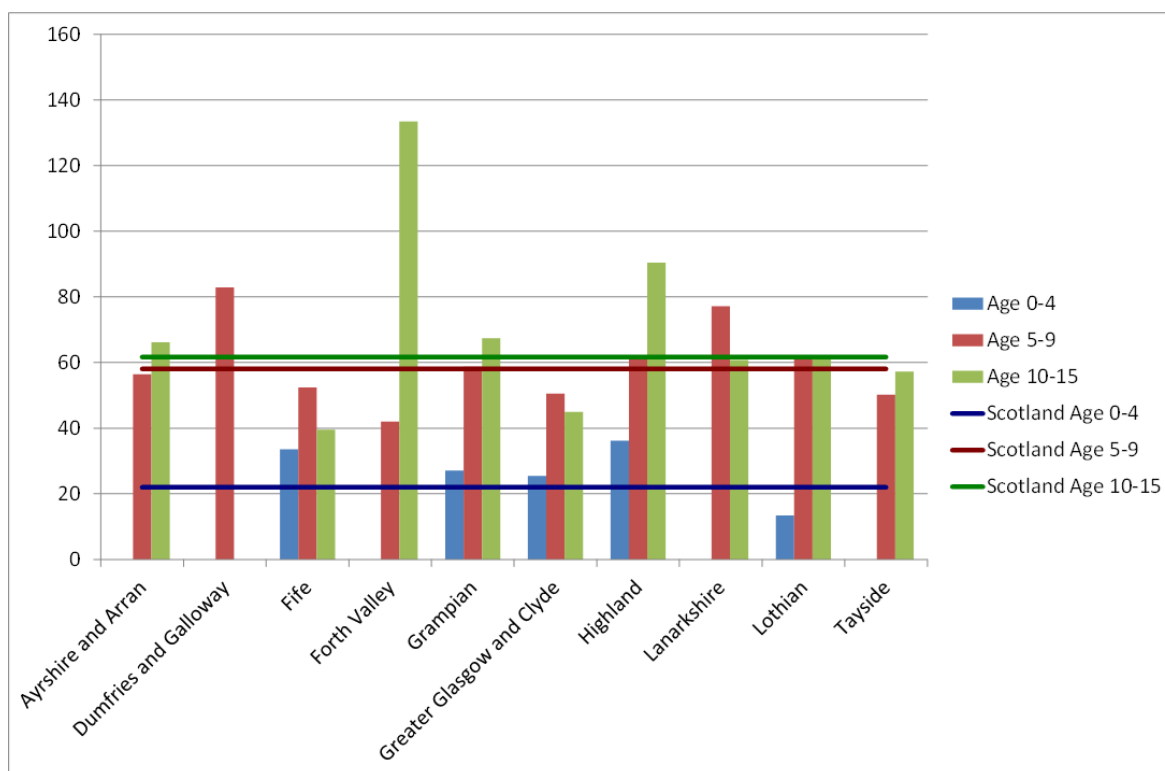

Note: Bars for boards and age groups with hidden data are not shown.

Table 56   Number of new cases, incidence rate (In., per 100,000 population per year) and at-risk population of type 1 diabetes for people under 16 years of age, by age band and NHS board, Scotland 2020.

NHS board	Age 0-4			Age 5-9			Age 10-15		
	n	In.	Pop.	n	In.	Pop.	n	In.	Pop.
Ayrshire and Arran	5	29	17,430	10	51	19,641	8	33	24,058
Borders	0	0	5,307	*	*	6,241	*	*	7,475
Dumfries and Galloway	*	*	6,356	*	*	7,424	9	95	9,463
Fife	7	38	18,541	7	33	21,176	11	44	24,835
Forth Valley	*	*	14,765	7	42	16,860	14	67	20,850
Grampian	6	20	30,425	16	49	32,759	17	45	37,400
Greater Glasgow and Clyde	17	28	60,611	25	38	65,162	56	77	72,333
Highland	0	0	14,426	7	43	16,447	15	71	21,069
Lanarkshire	*	*	34,844	15	40	37,747	28	61	45,894
Lothian	10	22	46,126	16	32	50,058	25	45	56,030
Orkney	0	0	986	0	0	1,134	0	0	1,462
Shetland	0	0	1,189	0	0	1,374	0	0	1,635
Tayside	0	0	19,585	10	46	21,951	16	61	26,074
Western Isles	*	*	1,124	*	*	1,342	*	*	1,788
Scotland	**56**	**21**	**271,715**	**122**	**41**	**299,316**	**208**	**59**	**350,366**

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. The calculation of crude incidence is a slight underestimate, as the at-risk population includes small numbers of people with frank diabetes.

Figure 14   Incidence rate (per 100,000 population per year) for people under 16 years of age, by age band and NHS board, Scotland 2021.

Note: Bars for boards and age groups with hidden data are not shown.

Table 57   Number of new cases, incidence rate (In., per 100,000 population per year) and at-risk population of type 1 diabetes for people under 16 years of age, by age band and NHS board, Scotland 2021.

NHS board	Age 0-4			Age 5-9			Age 10-15		
	n	In.	Pop.	n	In.	Pop.	n	In.	Pop.
Ayrshire and Arran	*	*	16,872	11	56	19,510	16	66	24,185
Borders	*	*	5,147	*	*	6,204	*	*	7,473
Dumfries and Galloway	*	*	6,229	6	83	7,236	*	*	9,585
Fife	6	34	17,873	11	52	20,988	10	40	25,291
Forth Valley	*	*	14,294	7	42	16,666	28	133	20,976
Grampian	8	27	29,567	19	59	32,351	26	67	38,582
Greater Glasgow and Clyde	15	25	58,981	33	51	65,323	33	45	73,399
Highland	5	36	13,817	10	62	16,248	19	90	21,002
Lanarkshire	*	*	34,139	29	77	37,606	28	61	46,083
Lothian	6	13	44,689	31	62	50,098	35	61	57,395
Orkney	0	0	978	0	0	1,116	*	*	1,477
Shetland	0	0	1,130	*	*	1,341	0	0	1,687
Tayside	*	*	18,984	11	50	21,921	15	57	26,205
Western Isles	*	*	1,106	0	0	1,295	*	*	1,734
Scotland	**58**	**22**	**263,806**	**173**	**58**	**297,903**	**219**	**62**	**355,074**

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. The calculation of crude incidence is a slight underestimate, as the at-risk population includes small numbers of people with frank diabetes.