



Scottish Diabetes Survey 2020

Scottish Diabetes Data Group

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Revision information

Version Number	Edited By	Effective Date	Details of Edits Made
1.0	Michael Bluett	3 December 2021	Initial version

Foreword

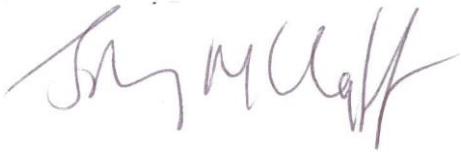
This survey once again provides a comprehensive view on diabetes care across the whole population of Scotland. It reflects the achievements and challenges of people with diabetes and their care providers. The information is collected within our national SCI-Diabetes system. This automatically collects much the information associated with routine diabetes care. The strength of these data is the comprehensive cover of the whole diabetes population, and this enables further analysis with linkage to other national datasets resulting in world-leading epidemiological research that is increasing our understanding of diabetes care and outcomes. These analyses can lead to changes in care for the benefit of those with diabetes.

For example, we have recently demonstrated that those with Type 2 diabetes and no retinopathy or those with low-risk feet are very unlikely to develop problems requiring treatment within two years. We have therefore been able to change the recommended screening frequency for these people from one to two yearly. We have also been able to compare the overall diabetes control of those with Type 1 diabetes in Scotland to that of other populations worldwide. This analysis challenges us to consider ways to further improve the control and outcome of this group of people in Scotland.

This 2020 Scottish Diabetes Survey also highlights the significant impact that COVID-19 has had on diabetes care across Scotland. The unprecedented disruption to all NHS services including diabetes services resulted in many out-patient elective activity such as clinics being suspended to allow resources to focus on acute unscheduled care. The lack of direct contact also disrupted the ability to offer structured education courses and initiate certain diabetes technologies such as insulin pumps. The temporary suspension of the Diabetes Retinal Screening service has impacted upon screening rates, and this is the same for foot care as well as other routine measures of diabetes care such as weight, HbA1c, urinary albumin and kidney function testing. As diabetes services resume, we will look to embed the positive developments that were required to meet the challenges of COVID-19, such as virtual and digital solutions, while being mindful that these solutions support person centred care and ensure equitable access for all. Timely access to data is key to ensuring that these aims are achieved, and the unique longitudinal nature of the Scottish Diabetes Survey will help the diabetes community across Scotland drive improvement and look at innovative ways to improve diabetes care and outcomes.

On a personal note, this is my 20th and last diabetes survey as Chairman of the group. The vision of Dr Aileen Keel and Professor Andrew Morris in setting up the survey 20 years ago must be recognised. It is an exemplar within our healthcare system. The data system that is the backbone of the survey provides useful information at all levels of diabetes care, from the individual patient who can review their results across time, to the practice or clinic data for local care provider audit, as well as the information presented here at NHS Board and National level. As described above this also enables international comparisons. It has been a real pleasure to be involved with this work.

What of the future? During the next few years these datasets will be produced more automatically, and this will improve efficiency. A true annual national picture of diabetes care in Scotland will continue to contribute to improving outcome for those with diabetes in the years to come. I hope those involved will feel the same pleasure and reward from being involved in this work as I have.

A handwritten signature in purple ink, reading 'John A McKnight'.

John A McKnight
Chairman
Scottish Diabetes Data Group

Executive Summary

This report presents the results of the 2020 Scottish Diabetes Survey. The survey collates information submitted by all 14 NHS boards and provides data on the number of people with diabetes, the effects on their health, and the progress being made to improve the delivery and outcomes of care for people with diabetes. Data for this survey were extracted from SCI-Diabetes at the end of 2020 and includes people who were alive, had an appropriate diagnosis of diabetes or a related condition and were registered with a Scottish General Practitioner at the time of data extraction. In this survey, we report separately on those with type 1 and type 2 diabetes.

In this Scottish Diabetes Survey 2020, we report that:

- There were 317,128 people diagnosed with diabetes in Scotland recorded on local diabetes registers at the end of 2020. This represents 5.8% of the population of all ages (Table 1).
- Crude prevalence of diabetes ranged from 4.9% to 6.9% across NHS boards (Table 61).
- 10.7% of all registered people were recorded as having type 1 diabetes. 87.7% of all people registered with diabetes were recorded as having type 2 diabetes (Table 2).
- The number of people registered as having type 1 diabetes increased from 27,823 in 2010 to 34,087 in 2020 and the number of people registered with type 2 diabetes increased from 190,772 in 2008 to 278,239 in 2020 (Scottish Diabetes Surveys 2008, 2010 and Table 2).
- 1.5% (4,802) were recorded as having “other” types of diabetes, including maturity onset diabetes of the young (MODY) and unknown diabetes type (Table 2).
- Of those with a recorded body mass index (BMI) and a recorded age of 18 or over, 36.8% with type 1 diabetes and 31.2% with type 2 diabetes were overweight (BMI 25-29.9kg/m²), and a further 27.9% of those with type 1 diabetes and 56.2% of those with type 2 diabetes were obese (BMI 30kg/m² or above), meaning that a total of 64.6% of those with type 1 diabetes and 87.3% of those with type 2 diabetes were overweight or obese (Table 78 and Table 79). For comparison, in the 2018 Scottish Health Survey 65% of participants of 16 years of age and older were recorded as being overweight or obese.
- 81.3% of those with type 1 and 82.5% of those with type 2 diabetes had an HbA_{1c} recorded in the previous 15 months (Table 82). Of these, 26.1% and 51.3% respectively had a result <58 mmol/mol (Table 83 and Table 84).
- 67.5% of those with type 1 and 75.1% of those with type 2 diabetes had their blood pressure recorded in the previous 15 months (Table 88). Of these, 38.7% and 27.7% respectively had a systolic blood pressure <130 mmHg and a diastolic blood pressure ≤80 mmHg (Table 91 and Table 93).
- Cholesterol was recorded in 69.5% of people within the previous 15 months, and the target of ≤5 mmol/l was achieved in 69.3% of those with type 1 and 77.2% of those with type 2 diabetes (Table 97, Table 10 and Table 98).

- 18.1% of those with type 1 and 15.8% of those with type 2 diabetes were recorded as being current smokers (Table 101 and Table 102). For comparison, In the 2018 Scottish Health Survey 19% of participants of 16 years of age and older were current smokers.
- 1,235 (3.6%) of those with type 1 and 26,837 (9.6%) of those with type 2 diabetes had a record of myocardial infarction, and 958 (2.8%) and 21,178 (7.6%) respectively had a record of cardiac revascularisation (Table 104 and Table 105).
- 493 (1.4%) of those with type 1 and 1,657 (0.6%) of those with type 2 diabetes have a record of having end stage renal failure (Table 112).
- 47.6% of people with type 1 or type 2 diabetes had a record of eye screening in the previous 15 months (Table 113).
- 34.3% of people with type 1 diabetes and 38.5% of those with type 2 had their foot scores recorded in the previous 15 months (Table 118 and Table 119).
- 275 (0.8%) of those with type 1 and 1,190 (0.4%) of those with type 2 diabetes had a record of having had a major lower limb amputation (Table 123).

Prevalence

At the end of 2020 there were 317,128 people with known diabetes in Scotland (Table 1) recorded on Scottish Care Information-Diabetes (SCI-Diabetes), which represents a crude prevalence of 5.8% of the population of all ages (5,463,300).

In the previous Scottish Diabetes Survey (2019), 312,390 people (5.7%) were reported to have diabetes. The increase in reported prevalence is influenced by numerous factors, including:

- demographic change - diabetes is more prevalent in older people, so the increasing number of older people each year increases the prevalence of diabetes.
- better pre-pandemic survival – possibly related to the widespread use of statins or changes to other risk factors, although higher risk of mortality among people with diabetes and Covid may have had an opposite effect.
- changes in the numbers of new cases of diabetes because of changes in disease patterns.
- changes in the proportions of people whose diagnosis of diabetes is based on measurement of glucose or measurement of HbA_{1c}

Figure 1 Number of people recorded with diabetes (all types) by year for Scotland, 2011-2020.

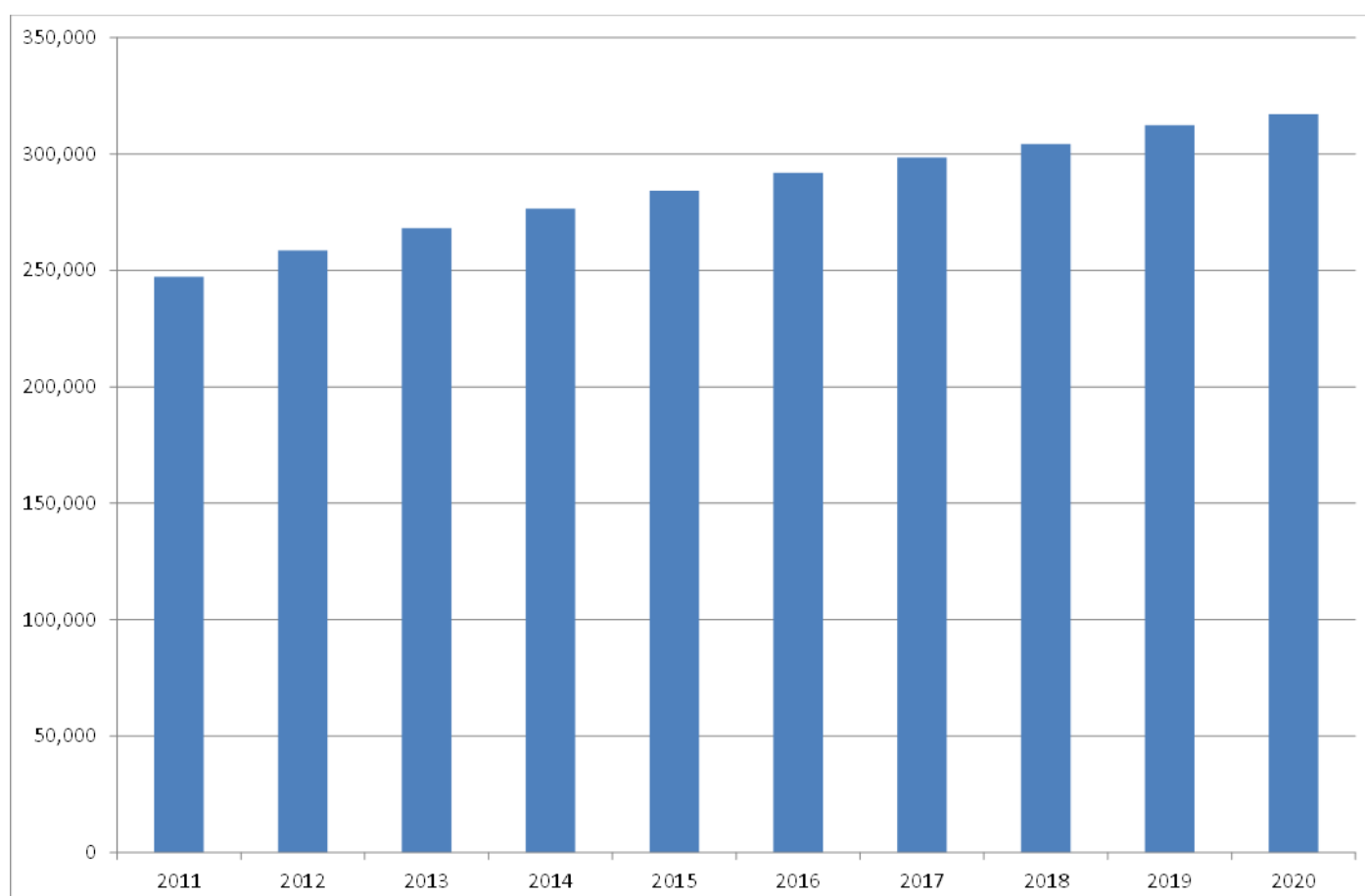


Table 1 Number of people with diabetes, crude prevalence of diabetes and annual changes in numbers/proportions by year for Scotland, 2011-2020.

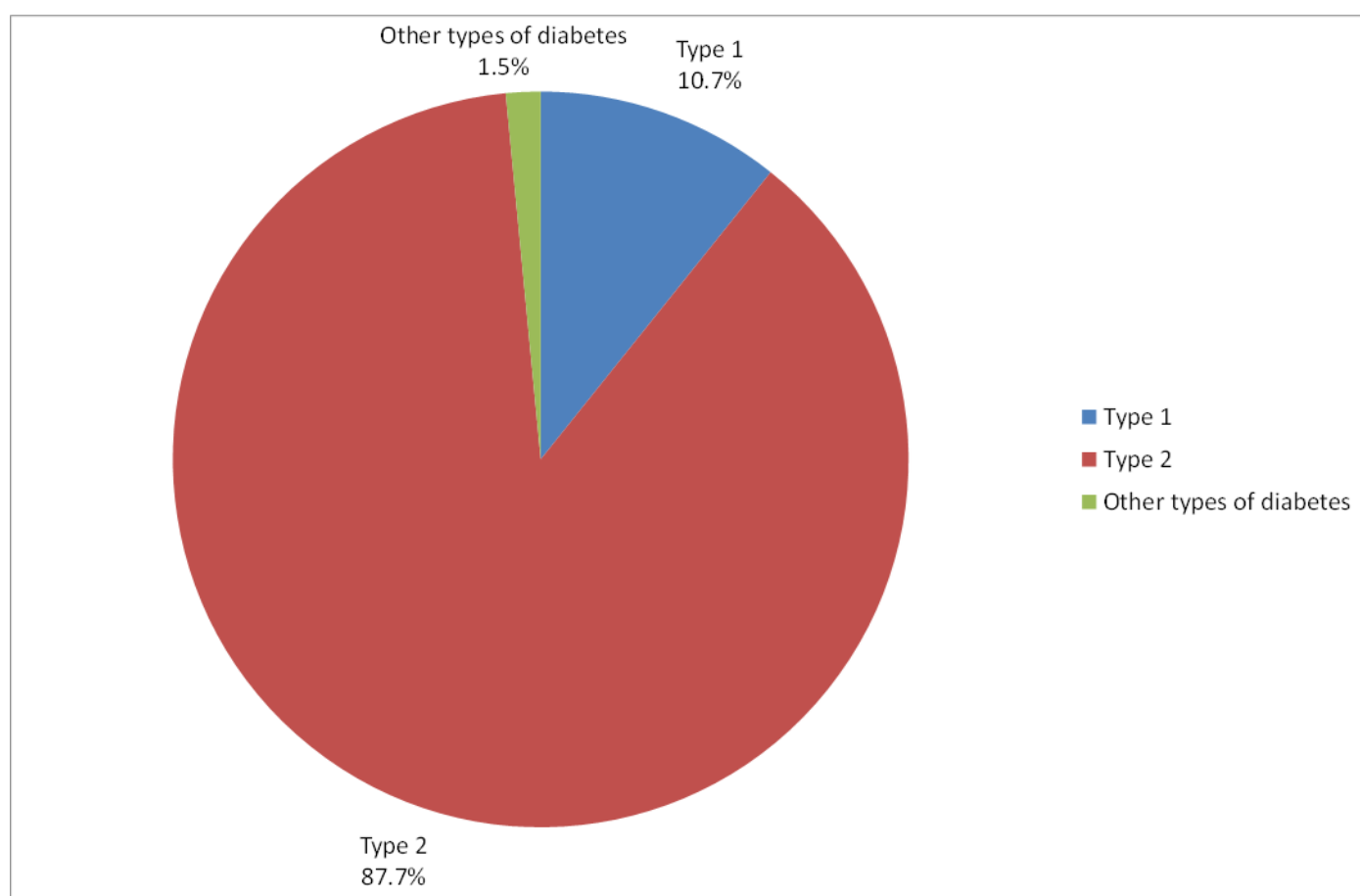
Survey	Number of people with diabetes (n)	Crude prevalence (%)	Increase (n)	Annual increase in numbers (%)	Absolute increase in prevalence (%)
2020	317,128	5.80	4,738	1.52	0.06
2019	312,390	5.74	8,015	2.63	0.13
2018	304,375	5.61	5,871	1.97	0.09
2017	298,504	5.52	6,523	2.23	0.09
2016	291,981	5.43	7,859	2.77	0.12
2015	284,122	5.31	7,692	2.78	0.12
2014	276,430	5.19	8,276	3.09	0.14
2013	268,154	5.05	9,584	3.71	0.13
2012	258,570	4.92	11,292	4.57	0.18
2011	247,278	4.74	9,810	4.13	0.16

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 only become available in April. For example, 2020 data uses numbers of people with diabetes at the end of 2020 but mid-year population data from 2019. This will lead to a very small overestimate of diabetes prevalence in this table because the population size has been increasing slightly each year, for example by 0.46% from 2019 to 2020, meaning the correct estimate of crude prevalence is 5.78% (rather than 5.80%).

Types of Diabetes

The majority of registered people have a record of type 2 diabetes (278,239 or 87.7%). The proportion of people with diabetes who have a record of type 1 diabetes has fallen from 18.2% in 2002 to 10.7% in 2020, probably largely due to more complete recording of data from people with type 1 diabetes than type 2 diabetes in earlier years. However, the absolute number of people with type 1 diabetes continues to increase (29,261 in 2013 to 34,087 in 2020). This reflects the rising incidence of type 1 diabetes in children and better survival over the last 40 years. Other types of diabetes include Maturity Onset Diabetes of the Young (MODY), gestational diabetes and secondary diabetes. See the [Type of Diabetes Regional Detail](#) section for detailed information by NHS board.

Figure 2 Proportions of diabetes population by type, Scotland 2020.



Note: The percentages may not add up to 100% due to rounding.

Table 2 Number of people with diabetes, by diabetes type, Scotland 2020.

Type 1		Type 2		Other types of diabetes		Total
n	%	N	%	n	%	
34,087	10.7	278,239	87.7	4,802	1.5	317,128

Type 1 Diabetes Data

Incidence (new cases)

Crude incidence figures have been calculated retrospectively using numbers of people with diabetes of duration of less than one year identified from SCI-Diabetes data as the numerator and people that do not have a diagnosis of diabetes as the denominator. Numerator data may be affected by factors such as post-survey patient migration and subsequent validation of diabetes classification.

The calculation method used for incidence since 2017 differs from that used in 2016 and earlier. The numbers are therefore not directly comparable with earlier years. In surveys prior to 2017, the total population, including both those diagnosed with diabetes and those without, was used as the denominator, resulting in incidence being under-estimated. As type 2 diabetes is more common, the effect of the changing methods on the incidence of type 2 diabetes is more marked than for type 1 diabetes.

Table 3 Type 1 diabetes: Number of new cases and incidence rate (per 100,000 population per year) by five-year age groups for <20-year-olds and ten-year age groups for people >19 years of age, Scotland 2013-2020

Age	2013		2014		2015		2016		2017		2018		2019		2020		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
0-4	51	17	56	19	73	25	64	22	52	18	60	21	54	20	271,582	56	21
5-9	88	32	105	37	114	40	117	40	135	45	117	39	108	36	298,709	122	41
10-14	125	45	140	51	120	44	179	66	141	52	178	64	161	56	293,283	176	60
15-19	104	33	116	37	98	32	102	34	109	37	89	31	97	34	280,059	116	41
20-29	159	22	159	22	160	22	165	23	178	24	172	23	205	28	723,392	181	25
30-39	111	17	110	17	125	19	107	16	159	24	137	20	145	21	710,152	133	19
40-49	82	11	86	11	95	13	84	12	79	11	86	13	100	15	655,386	106	16
50-59	74	11	58	8	75	11	63	9	70	10	80	11	71	10	734,128	99	13
60-69	36	7	26	5	22	4	44	8	36	6	40	7	47	8	563,179	50	9
>=70	18	3	27	5	16	3	18	3	19	3	34	6	36	6	621,161	29	5
Total	848	17	883	17	898	18	943	19	978	19	993	19	1,024	20	5,150,910	1,068	21

Note: The Scottish at-risk population figures excludes people with frank diabetes at the end of the previous year whose age is unknown (n = 128).

See the [Incidence National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Duration of Diabetes

The date of diagnosis was recorded for 99.0% of people with type 1 diabetes, of whom 3.1% have had diabetes for less than one year and 45.3% have had diabetes for 20 years or more (Table 4). It should be noted that not all dates of diagnosis are accurate, especially for those with long-standing diabetes.

Table 4 Duration of diabetes (years since diagnosis) for people with type 1 diabetes, Scotland 2020.

Duration (Years)	Type 1 diabetes	
	Number	%
<1	1,060	3.1
1-4	4,014	11.9
5-9	4,770	14.1
10-14	4,426	13.1
15-19	4,178	12.4
20-24	3,854	11.4
25-29	3,031	9.0
30-34	2,488	7.4
34-39	2,049	6.1
40-44	1,606	4.8
45-49	1,042	3.1
>=50	1,212	3.6
Total	33,730	100.0

Note: Excludes people where date of diagnosis not known (for type 1, n = 357).

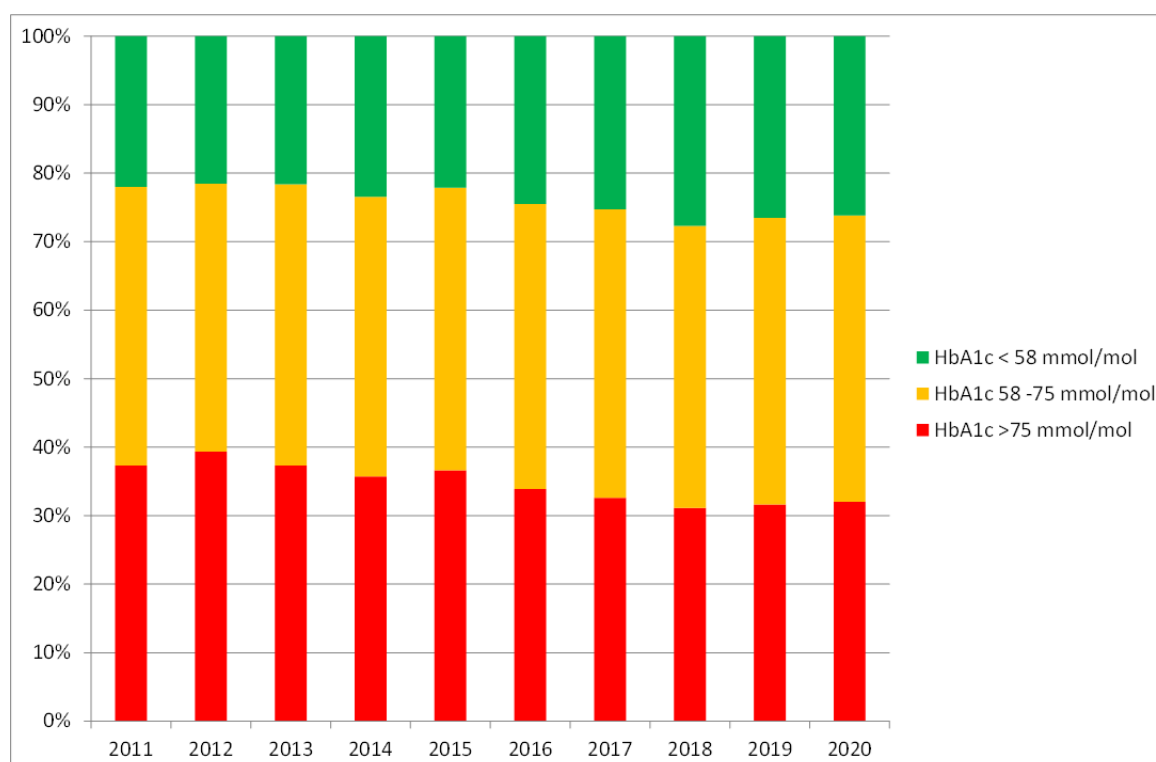
See the [Duration National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Glycaemic Control

Table 5 Type 1 diabetes: Number and percentage of people with a record of HbA_{1c} in each HbA_{1c} category, Scotland 2011-2020.

Year	HbA _{1c} (mmol/mol)						Total recorded	Not recorded
	<58		58-75		>75			
	n	%	n	%	N	%		
2020	7,249	26.1	11,601	41.8	8,876	32.0	27,726	6,361
2019	8,027	26.5	12,666	41.9	9,570	31.6	30,263	3,189
2018	8,191	27.7	12,160	41.1	9,205	31.1	29,556	3,272
2017	7,140	25.3	11,900	42.1	9,218	32.6	28,258	3,189
2016	6,835	24.5	11,609	41.6	9,448	33.9	27,892	3,007
2015	6,099	22.1	11,400	41.3	10,087	36.6	27,586	2,770
2014	6,375	23.4	11,107	40.8	9,714	35.7	27,196	2,606
2013	5,578	21.5	10,595	40.8	9,788	37.1	25,961	3,300
2012	5,407	21.5	9,830	39.1	9,881	39.3	25,118	3,731
2011	5,345	22.0	9,893	40.7	9,071	37.3	24,309	3,963

Figure 3 Type 1 diabetes: Percentage of people with a record of HbA_{1c} in each HbA_{1c} category, Scotland 2011-2020.



See the [Glycaemic Control National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Insulin Pump Use

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 6 describe the proportion of people recorded as receiving treatment with insulin pumps in Scotland.

Table 6 Numbers and percentages of people with type 1 diabetes using insulin pumps by age group and year, Scotland 2013-2020.

Year	Aged under 18			Aged 18 or over			All ages		
	People (n)	On pump		People (n)	On pump		People (n)	On pump	
		n	%		n	%		n	%
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
2017	3,001	1,070	35.7	28,421	2,668	9.4	31,422	3,738	11.9
2016	3,013	1,035	34.4	27,859	2,306	8.3	30,872	3,341	10.8
2015	2,950	919	31.2	27,379	1,948	7.1	30,329	2,867	9.5
2014	2,953	849	28.8	26,748	1,632	6.1	29,701	2,481	8.4
2013	2,917	659	22.6	26,394	1,188	4.5	29,311	1,847	6.3

Note: This table is limited to the years since 2013 due to the absence of data prior to that.

Table 7 Numbers and percentages of people with type 1 diabetes using insulin pumps by age group and NHS board, ranked from high to low by percentage of people aged under 18 using an insulin pump, Scotland 2020.

NHS board	Aged under 18			Aged 18 or over			All ages		
	People (n)	On pump		People (n)	On pump		People (n)	On pump	
		n	%		n	%		n	%
Orkney	8	5	62.5	123	19	15.4	131	24	18.3
Lothian	418	255	61.0	4,774	652	13.7	5,192	907	17.5
Dumfries and Galloway	102	58	56.9	943	160	17.0	1,045	218	20.9
Fife	227	122	53.7	2,107	313	14.9	2,334	435	18.6
Ayrshire and Arran	242	101	41.7	2,192	204	9.3	2,434	305	12.5
Forth Valley	211	86	40.8	1,801	221	12.3	2,012	307	15.3
Borders	58	22	37.9	706	91	12.9	764	113	14.8
Highland	211	78	37.0	2,019	208	10.3	2,230	286	12.8
Lanarkshire	465	166	35.7	4,128	455	11.0	4,593	621	13.5
Greater Glasgow and Clyde	616	202	32.8	6,273	665	10.6	6,889	867	12.6
Shetland	16	5	31.3	139	10	7.2	155	15	9.7
Tayside	203	58	28.6	2,151	292	13.6	2,354	350	14.9
Western Isles	27	7	25.9	195	16	8.2	222	23	10.4
Grampian	356	84	23.6	3,350	329	9.8	3,706	413	11.1
Scotland	3,160	1,249	39.5	30,901	3,635	11.8	34,061	4,884	14.3

Cardiovascular Risk

Diabetes is associated with an increased risk of cardiovascular disease, and it is therefore important to address cardiovascular risk factors such as high blood pressure (BP), raised cholesterol and smoking.

Blood Pressure

67.5% of people with type 1 diabetes had their BP recorded within the previous 15 months (Table 8). Note that data from people of all ages are included in these blood pressure figures, in contrast to the processes of care, where there are restrictions.

Table 8 Number and percentage of people with type 1 diabetes with a recorded BP within the previous 15 months, Scotland 2011-2020.

Year	BP Recorded		Population
	n	%	
2020	23,011	67.5	34,087
2019	28,008	83.7	33,452
2018	27,458	83.6	32,828
2017	26,524	84.3	31,447
2016	26,248	84.9	30,899
2015	26,298	86.6	30,356
2014	26,201	87.9	29,802
2013	25,395	86.8	29,261
2012	24,574	85.2	28,849
2011	24,165	85.5	28,272

See the [Blood Pressure National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Total Cholesterol

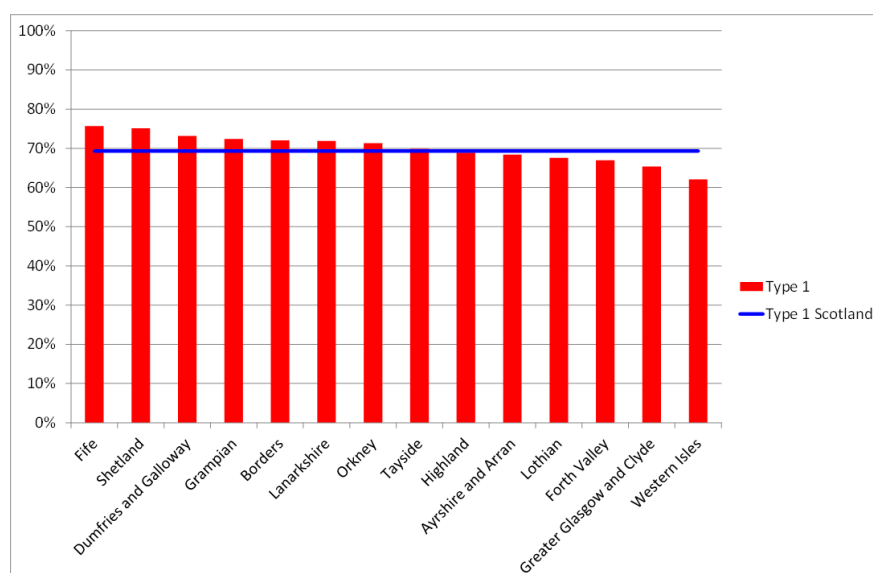
Cholesterol level was recorded in 63.1% of people with type 1 diabetes within the previous 15 months (Table 9).

Table 9 Number and percentage of people with type 1 diabetes with cholesterol <5 mmol/l, by year (denominator those with recording of cholesterol within the previous 15 months), Scotland 2012-2020.

Year	Cholesterol ≤5		Cholesterol >5		Recorded (%)	Not recorded		Total
	Number	%	Number	%		Number	%	
2020	13,516	69.3	5,976	30.7	63.1	11,409	36.9	30,901
2019	16,867	71.0	6,873	29.0	78.2	6,617	21.8	30,357
2018	16,094	69.4	7,080	30.6	77.9	6,585	22.1	29,759
2017	14,902	67.5	7,171	32.5	77.7	6,348	22.3	28,421
2016	15,212	69.1	6,792	30.9	79.0	5,855	21.0	27,859
2015	15,489	70.3	6,544	29.7	80.5	5,346	19.5	27,379
2014	15,710	70.9	6,439	29.1	82.6	4,660	17.4	26,809
2013	15,276	71.3	6,153	28.7	81.5	4,865	18.5	26,294
2012	14,622	69.7	6,371	30.3	81.2	4,855	18.8	25,848

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3,186). This table is limited to the years since 2012 due to the absence of data prior to that.

Figure 4 Type 1 diabetes: Percentage of people with cholesterol ≤5 mmol/l, by NHS board (denominator those with recording of cholesterol within the previous 15 months), Scotland 2020.



Note: Excludes children under 18 years of age and people whose date of birth has not been recorded (n = 3,186); horizontal line indicates mean level for Scotland as a whole.

Table 10 Type 1 diabetes: Number and percentage of people with cholesterol ≤ 5 mmol/l, by NHS board (denominator those with recording of cholesterol within the previous 15 months), ranked by percentage of people with cholesterol ≤ 5 mmol/l, Scotland 2020.

NHS board	Total cholesterol ≤ 5 (%)	Total recorded	Not recorded (%)
Fife	75.7	1,140	45.9
Shetland	75.1	117	15.8
Dumfries and Galloway	73.1	734	22.2
Grampian	72.4	2,172	35.2
Borders	72.0	498	29.5
Lanarkshire	71.9	2,616	36.6
Orkney	71.3	105	14.6
Tayside	69.9	1,290	40.0
Highland	68.9	1,307	35.3
Ayrshire and Arran	68.4	1,544	29.6
Lothian	67.5	2,730	42.8
Forth Valley	67.0	1,006	44.1
Greater Glasgow and Clyde	65.4	4,132	34.1
Western Isles	62.1	101	48.2
Scotland	69.3	19,492	36.9

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3,186).

See the [Total Cholesterol National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Smoking Status

Smoking status was recorded for 49.3% of those with type 1 diabetes (Table 11). Of those with a record of smoking status, 18.1% had a record of being a current smoker. Note: Data from people of all ages are included in these smoking figures.

Table 11 Percentage of people with type 1 diabetes who were recorded as current, ex- or never-smokers (denominator those with record of smoking status), Scotland 2012-2020.

Year	Current smoker (%)	Ex-smoker (%)	Never smoked (%)	Not recorded (%)
2020	18.1	23.7	58.2	50.7
2019	18.9	23.5	57.6	36.0
2018	19.4	23.9	56.8	35.9
2017	20.1	23.3	56.6	35.4
2016	22.9	23.4	53.7	37.3
2015	23.9	23.3	52.8	35.8
2014	23.6	23.6	52.8	25.1
2013 (a)	23.5	22.8	53.7	6.4
2012 (a)	23.8	22.9	53.3	9.4

Note: (a) Data for years prior to 2014 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. This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Smoking Status National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Complications of Diabetes

The main complications of diabetes include those due to large vessel (arterial) disease:

- myocardial infarction (MI) – the commonest cause of death in people with diabetes.
- stroke – the risk is increased compared to people without diabetes.
- peripheral vascular disease, which can lead to amputations.

And those due to small vessel disease (microangiopathy):

- renal disease, which can lead to end-stage renal failure requiring dialysis.
- retinopathy – diabetes has been the commonest cause of blindness in people of working age.

Diabetes also leads to poorer outcomes in pregnancy; however, this survey does not include pregnancy outcomes.

The purpose of retinopathy screening is to detect changes early and intervene to prevent further deterioration. In this section, the data presented include both screening performance and recording of prevalent complications. The data sources used are detailed in [Appendix 1: SCI-Diabetes Data Sources](#).

Myocardial Infarction and Cardiac Revascularisation

3.6% of registered people with type 1 diabetes have a record, derived from primary care records, of a previous MI (Table 12). Others will have had an MI but not survived. 2.8% of registered people with type 1 diabetes have a record of having undergone cardiac revascularisation (Table 12); including coronary artery bypass graft (CABG) and percutaneous transluminal coronary angioplasty (PTCA).

Table 12 Percentage of people with type 1 diabetes who are recorded as having had a previous myocardial infarction (MI) or cardiac revascularisation, Scotland 2012-2020.

Year	Myocardial infarction (%)	Cardiac Revascularisation (%)
2020	3.6	2.8
2019	3.6	2.9
2018	3.6	2.8
2017	3.5	2.7
2016	3.5	2.6
2015	3.5	2.6
2014	3.5	2.6
2013	3.6	2.6
2012	3.6	2.5

Note: The Myocardial infarction column shows the percentage of people with diabetes who have ever had a primary care record of a heart attack and survived. This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Myocardial Infarction and Cardiac Revascularisation National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Kidney Function and Disease

Serum Creatinine

Serum creatinine was recorded in the previous 15 months for 75.4% of people with type 1 diabetes aged 12 years or over (32,891 people) (Table 13).

Table 13 Percentage of people with type 1 diabetes who had a record of serum creatinine within the previous 15 months, Scotland 2012-2020.

Year	Recorded within previous 15 months (%)	Total eligible population
2020	75.4	32,891
2019	86.1	32,226
2018	85.8	31,604
2017	86.0	30,243
2016	86.5	29,710
2015	87.3	29,227
2014	87.3	28,712
2013	83.8	28,209
2012	83.4	27,775

Note: Excludes children under 12 years of age or people that have no date of birth recorded (n = 1,196). This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Serum Creatinine National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Urinary Albuminuria

Table 14 shows information on the recording of albuminuria.

Table 14 Number and percentage of people with type 1 diabetes who have a record of estimated urinary albumin value available on SCI-Diabetes within the previous 15 months, Scotland 2012-2020.

Year	Recorded within previous 15 months	
	Number	%
2020	15,576	47.4
2019	20,450	63.5
2018	19,844	62.8
2017	18,928	62.6
2016	18,815	63.3
2015	18,180	62.2
2014	18,516	64.5
2013	17,256	61.2
2012	16,851	60.7

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196). In some cases, urinary albumin was estimated from albumin/creatinine ratio (ACR). This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Urinary Albuminuria National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Diabetic Eye Screening and Disease

Diabetic Retinal Screening

50.2% of people eligible for screening had a record of diabetic eye screening through the retinal screening service recorded on SCI-Diabetes in the previous 15 months, including those attending ophthalmology services (Table 15).

Table 15 shows the proportion of people of appropriate age (≥ 12 years) 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.

Table 15 Percentage of people with type 1 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), Scotland 2012-2020.

Year	Recorded within previous 15 months (%)
2020	50.2
2019	80.9
2018	80.2
2017	78.8
2016	81.5
2015	82.4
2014	82.8
2013	82.8
2012	82.0

Note: Excludes children under 12 years or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101). This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Diabetic Renal Screening National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

Foot Complications

Foot Ulceration

Table 16 Percentage of people with type 1 diabetes who had a record of ever having had a foot ulcer, Scotland 2012-2020.

Year	Recorded as ever having had a foot ulcer (%)
2020	8.3
2019	8.4
2018	8.4
2017	8.2
2016	8.2
2015	8.4
2014	8.5
2013	8.8
2012	8.5

Note: This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Foot Complications National and Regional Detail](#) section for a summary of people with either type 1 and 2 diabetes and detailed information by NHS board.

This marks the end of the section solely focused on type 1 diabetes.

Paediatric Supplement

This supplement provides an opportunity to review statistics, processes and outcomes of care more closely in the paediatric population. Although representing a small number relative to the total with diabetes in Scotland, this clearly defined patient group has some significant differences from the adult population.

Introduction

Some variations between children and adults with diabetes are presented in the Survey. Age banding from 0-17 years has been included, as have on some measures the more narrowly defined age groups of 0-5, 6-11 and 12-17 years. Further, the aetiological differentiation between those with type 1 and type 2 diabetes gives some insight into results and outcomes for the paediatric population, who most typically have the type 1 form of the condition.

Compared to the adult population, where both type 1 and type 2 disease are well represented, autoimmune type 1 diabetes is the predominant form in the young.

Autoimmunity is the major cause for the development of diabetes in the young. It is also associated with the possible onset of other conditions, such as thyroid or adrenal disease. Screening for these conditions, as well as for glycaemia-related complications, is an essential process of care in the paediatric diabetes population.

While an adult may be expected to deliver their own care, this may not be appropriate in the young. The child may not be capable or simply not understand why care is necessary.

For school-age children with diabetes, family members (parents, siblings, grandparents, etc.) and carers (nursery staff, teachers, sports club staff, etc.) will all require diabetes education. Self-motivation and acceptance of personal responsibility may develop much later, and while completion of a structured education programme will likely be needed for all senior family members, a young person will only take advantage of this information once sufficiently mature.

Although issues such as driving, work, smoking, alcohol consumption and pregnancy are relevant to adults with diabetes, these will have variable importance for adolescents. Developing autonomy, schoolwork and study, peer and societal pressures are factors more likely to concern both adolescents and younger children. Further, morbidity and mortality in the young nearly always result from acute metabolic disturbance, rather than from chronic complications.

For those diagnosed with diabetes at a young age, the personal and societal burdens of diabetes are more likely to arise at an earlier age and, ultimately, risk being more severe. Although the overt development of such complications in the young is rare, optimising glycaemic control during this time of growth and psychological development is very important.

Commentary on Scottish Paediatric Diabetes Data

This second paediatric subsection of the Scottish Diabetes Survey contains data available from the SCI Diabetes clinical system, which itself integrates information from sources listed in Appendix 1: SCI-Diabetes Data Sources. The factors analysed in the Paediatric supplement below include the following items, listed according to Health Board:

- Prevalence
- Incidence
- Insulin pump use
- Retinopathy screening completion
- Blood pressure recording completion
- Albumin/creatinine ratio collection
- Thyroid screening (TSH) collection
- Coeliac disease screening (antibodies) collection
- HbA_{1c} collection

To protect individual confidentiality, we do not report data when the number of patients is small.

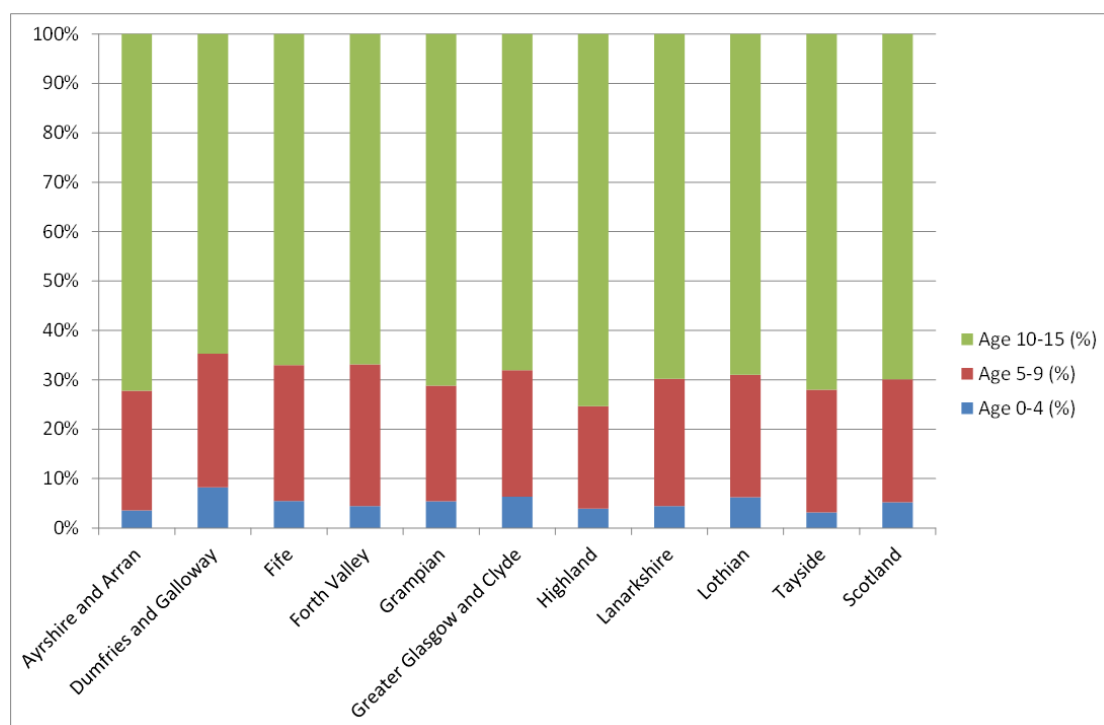
Concealment of data is intended to maintain subject anonymity. However, it can also hinder analysis and interpretation. Data may not be readily available from smaller centres, and although numbers for review may be increased by aggregating data by age, region or even nationally, this may hinder the presentation of information for smaller centres.

The survey presents data to measure adherence to agreed clinical standards. NICE guidelines recommend annual retinopathy and microalbuminuria screening from the age of 12 years. People 12 years and older are registered in the national Retinal Screening Programme and are invited to participate annually. Screening for microalbuminuria using albumin/creatinine ratio (ACR), and regular measurement of blood pressure are similarly recommended from the age of 12 years. Measurement of thyroid function and coeliac disease antibodies are also recommended.

The survey has identified some differences in care delivery compared to the recognised standards.

The publication of this Paediatric Supplement enables the diabetes community to be better placed to understand what is required to improve care and this should result in better outcomes for people with diabetes.

Note: Due to an oversight, the data extraction for the 2020 Paediatric Supplement was delayed from the main survey extraction date (31st of December 2020) but instead was extracted on the 12th of May 2021. Consequently, the insulin pump data are for the 12th of May 2021, the incidence data is for the 12 months prior to that date, and measurement data is for the 15 months prior to that date.

Figure 5 Proportions of all people under 16 years of age with diabetes, by age band and health board, Scotland 2020.

Note: Bars for boards with hidden data are not shown. The collation of data in a 0–4-year age group was to allow comparison of local data with those of international studies suggesting an increased prevalence and incidence in those under 5 years of age.

Table 17 Proportions of all people under 16 years of age with diabetes, by age band and health board, Scotland 2020.

NHS board	Age 0-4		Age 5-9		Age 10-15	
	n	%	n	%	n	%
Ayrshire and Arran	7	3.5	48	24.2	143	72.2
Borders	*	*	*	*	*	*
Dumfries and Galloway	7	8.2	23	27.1	55	64.7
Fife	10	5.5	50	27.5	122	67.0
Forth Valley	8	4.4	52	28.7	121	66.9
Grampian	16	5.4	69	23.4	210	71.2
Greater Glasgow and Clyde	32	6.3	130	25.6	345	68.0
Highland	6	3.9	32	20.8	116	75.3
Lanarkshire	16	4.4	93	25.8	252	69.8
Lothian	21	6.2	84	24.9	233	68.9
Orkney	*	*	*	*	*	*
Shetland	0	0.0	0	0.0	*	100.0
Tayside	5	3.2	39	24.8	113	72.0
Western Isles	*	*	*	*	*	*
Scotland	133	5.2	632	24.9	1,776	69.9

Note: There is a risk of identifying individuals when small numbers of events are presented in health statistics ("NHS National Services Scotland: Statistical Disclosure Control Protocol." from http://www.isdscotland.org/About-IsD/Confidentiality/disclosure_protocol_v3.pdf). * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures.

Figure 6 Incidence rate (per 100,000 population per year) for people under 16 years of age, by age band and health board, Scotland 2020.

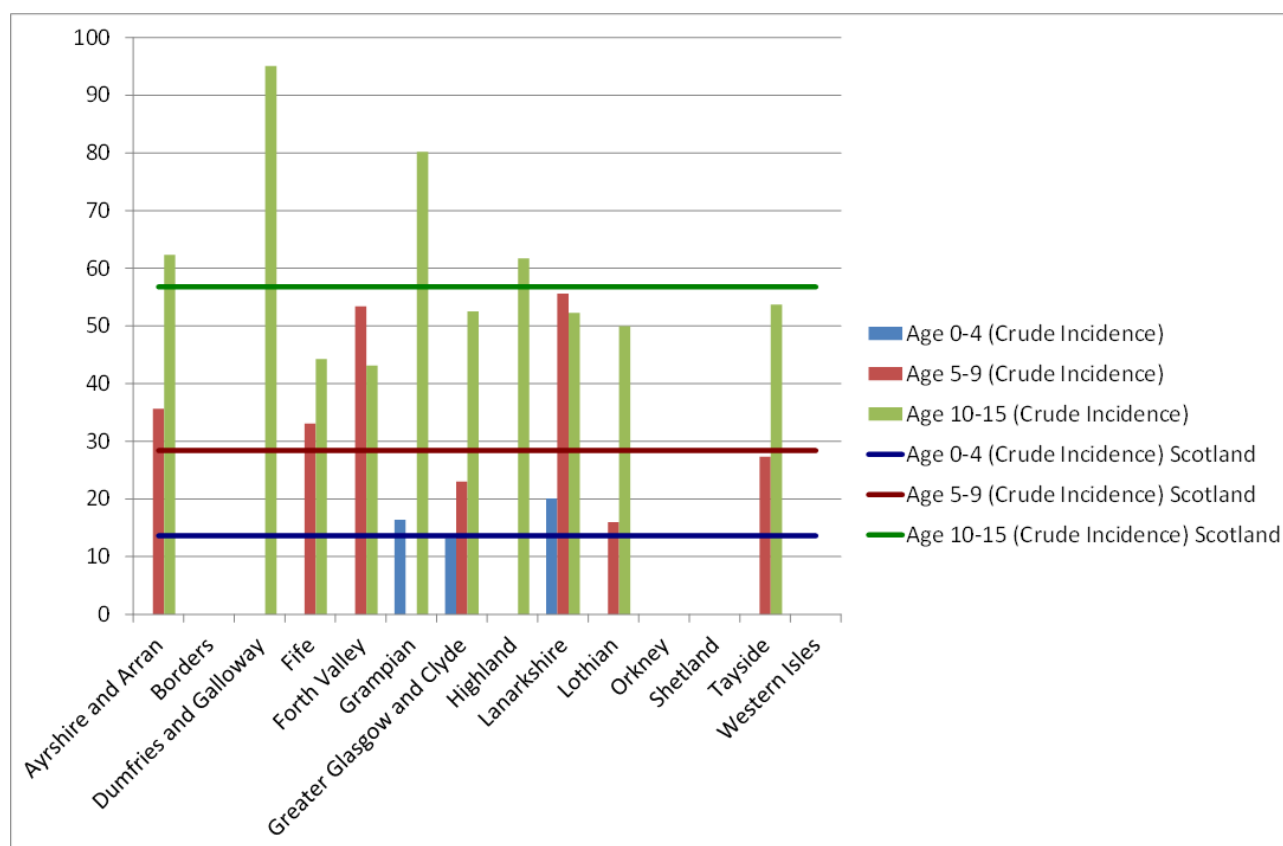
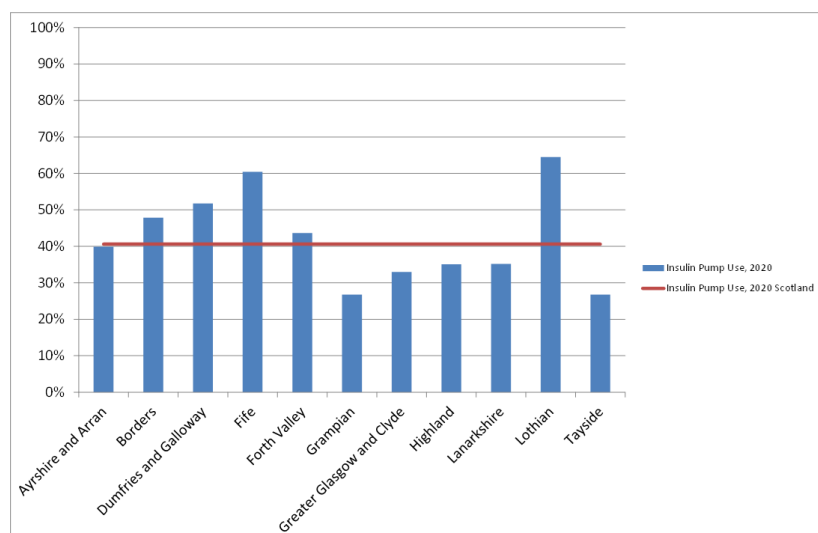


Table 18 Number of new cases and incidence rate (per 100,000 population per year) for people under 16 years of age, by age band and health board, Scotland 2020.

NHS board	Age 0-4			Age 5-9			Age 10-15		
	n	In.	Pop.	N	In.	Pop.	n	In.	Pop.
Ayrshire and Arran	0	0	17,430	7	36	19,641	15	62	24,058
Borders	*	*	5,307	0	0	6,241	*	*	7,475
Dumfries and Galloway	*	*	6,356	*	*	7,424	9	95	9,463
Fife	*	*	18,541	7	33	21,176	11	44	24,835
Forth Valley	*	*	14,765	9	53	16,860	9	43	20,850
Grampian	5	16	30,425	*	*	32,759	30	80	37,400
Greater Glasgow and Clyde	8	13	60,611	15	23	65,162	38	53	72,333
Highland	*	*	14,426	*	*	16,447	13	62	21,069
Lanarkshire	7	20	34,844	21	56	37,747	24	52	45,894
Lothian	*	*	46,126	8	16	50,058	28	50	56,030
Orkney	*	*	986	0	0	1,134	*	*	1,462
Shetland	0	0	1,189	0	0	1,374	*	*	1,635
Tayside	*	*	19,585	6	27	21,951	14	54	26,074
Western Isles	0	0	1,124	0	0	1,342	*	*	1,788
Scotland	37	14	271,715	85	28	299,316	199	57	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 7 Percentage of people under 16 years of age with diabetes recorded as using an insulin pump by NHS board, Scotland 2020.



Note: Percentage of all people under 16 years of age with diabetes using an insulin pump by Health Board. Bars for boards with hidden data are not shown.

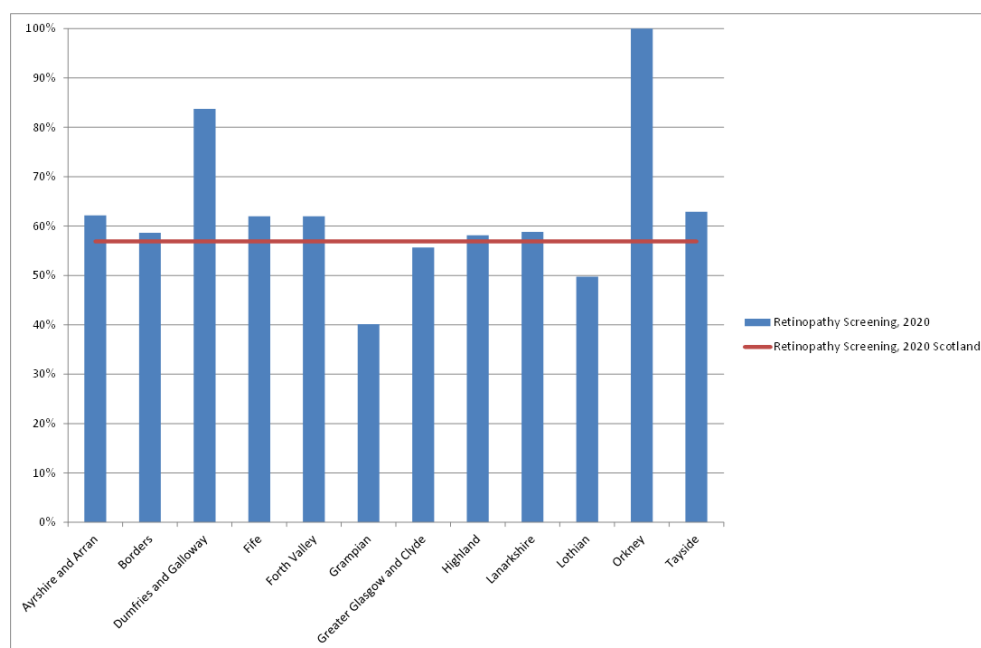
In 2011 a national target was set that, by March 2013, 25% of all those in Scotland under 18 years of age with diabetes should have access to an insulin pump. The figures show that this initial target has been met and, in most centres, exceeded by a reasonable margin. However, a clear majority remain on injection therapy. In future, the reasons for this, along with other aspects of medical technology applied to diabetes care, such as Continuous Glucose Monitoring (CGM) and Flash Glucose Monitoring (FGM), may be reviewed.

Table 19 Number and percentage of people under 16 years of age with diabetes recorded as using an insulin pump by NHS board, Scotland 2020.

NHS board	Pump		No pump	
	N	%	N	%
Ayrshire and Arran	79	39.9	119	60.1
Borders	22	47.8	24	52.2
Dumfries and Galloway	44	51.8	41	48.2
Fife	110	60.4	72	39.6
Forth Valley	79	43.6	102	56.4
Grampian	79	26.8	216	73.2
Greater Glasgow and Clyde	167	32.9	340	67.1
Highland	54	35.1	100	64.9
Lanarkshire	127	35.2	234	64.8
Lothian	218	64.5	120	35.5
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	42	26.8	115	73.2
Western Isles	*	*	*	*
Scotland	1,032	40.6	1,509	59.4

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

Figure 8 Percentage of people under 16 years of age with diabetes eligible for diabetic retinopathy screening (DRS) who were screened within the last 15 months by NHS board, Scotland 2020.

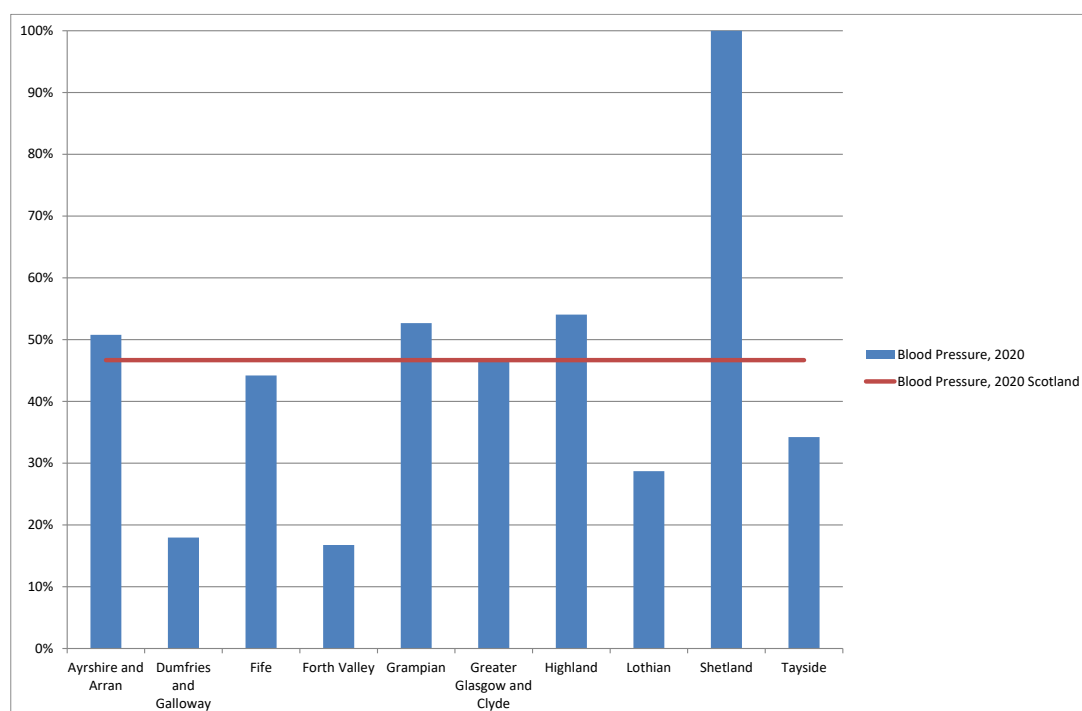


Note: Bars for boards with hidden data are not shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence to, national standards will improve the percentage attaining a particular measure of care.

Table 20 Number and percentage of people under 16 years of age with diabetes eligible for diabetic retinopathy screening (DRS) who were screened within the last 15 months by NHS board, Scotland 2020.

NHS board	Screened		Not screened	
	n	%	N	%
Ayrshire and Arran	69	62.2	42	37.8
Borders	17	58.6	12	41.4
Dumfries and Galloway	36	83.7	7	16.3
Fife	57	62.0	35	38.0
Forth Valley	57	62.0	35	38.0
Grampian	67	40.1	100	59.9
Greater Glasgow and Clyde	138	55.6	110	44.4
Highland	50	58.1	36	41.9
Lanarkshire	110	58.8	77	41.2
Lothian	87	49.7	88	50.3
Orkney	*	100.0	*	0.0
Shetland	*	*	*	*
Tayside	56	62.9	33	37.1
Western Isles	*	*	*	*
Scotland	764	56.9	579	43.1

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Only eligible patients, from their 12th birthday until the day before their 16th birthday, are included in these figures.

Figure 9 Percentage of people under 16 years of age with diabetes with a recorded blood pressure within the previous 15 months by NHS board, Scotland 2020.

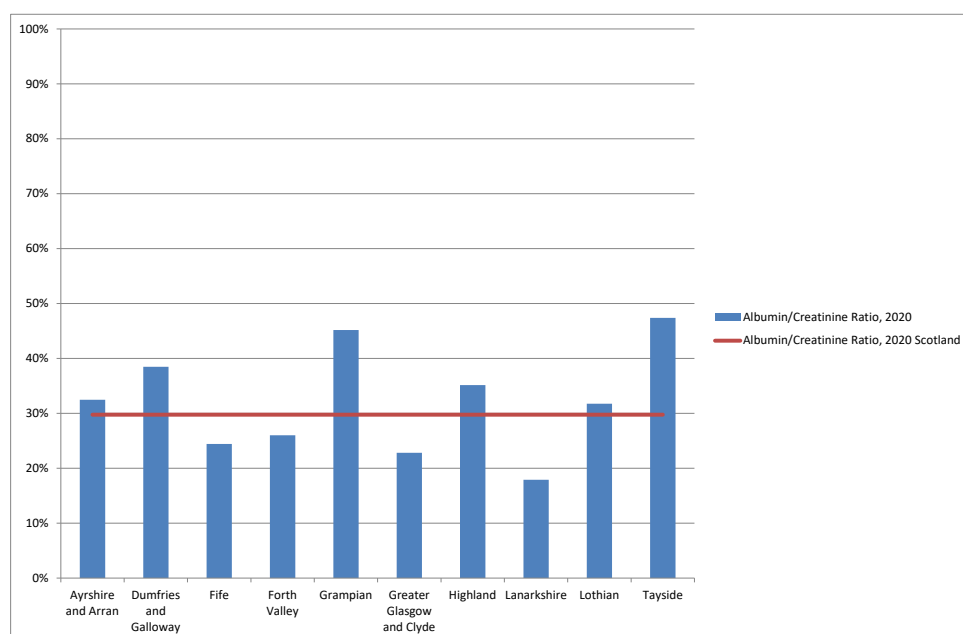
Note: Bars for boards with hidden data are not shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence to, national standards will improve the percentage attaining a particular measure of care.

Table 21 Number and Percentage of people under 16 years of age with diabetes with a recorded blood pressure within the previous 15 months by NHS board, Scotland 2020.

NHS board	Recorded		Not recorded	
	n	%	n	%
Ayrshire and Arran	97	50.8	94	49.2
Borders	*	*	*	*
Dumfries and Galloway	14	17.9	64	82.1
Fife	76	44.2	96	55.8
Forth Valley	29	16.8	144	83.2
Grampian	148	52.7	133	47.3
Greater Glasgow and Clyde	223	46.8	253	53.2
Highland	80	54.1	68	45.9
Lanarkshire	*	*	*	*
Lothian	91	28.7	226	71.3
Orkney	*	*	*	*
Shetland	*	100.0	*	0.0
Tayside	52	34.2	100	65.8
Western Isles	*	*	*	*
Scotland	1,131	46.7	1,292	53.3

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Only eligible people, from their 5th birthday until the day before their 16th birthday, are included.

Figure 10 Percentage of people under 16 years of age with diabetes with a recorded albumin / creatinine ratio within the previous 15 months by NHS board, Scotland 2020.



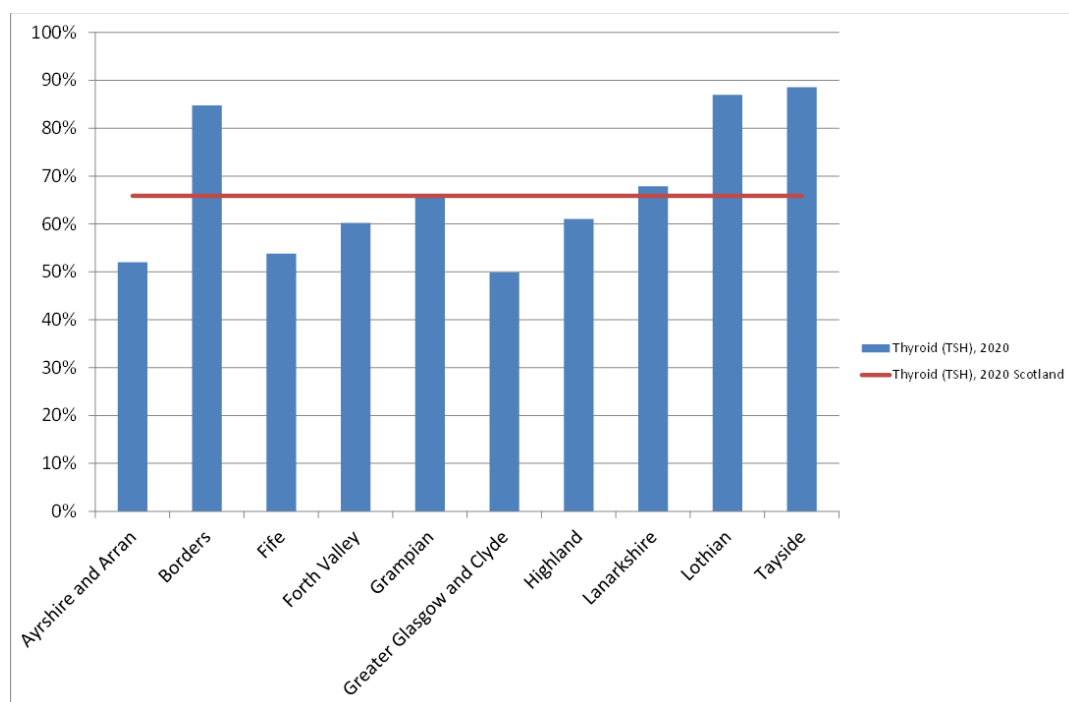
Note: Bars for boards with hidden data are not shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence to, national standards will improve the percentage attaining a particular measure of care.

Table 22 Number and percentage of people under 16 years of age with diabetes with a recorded albumin / creatinine ratio within the previous 15 months by NHS board, Scotland 2020.

NHS board	Recorded		Not recorded	
	N	%	N	%
Ayrshire and Arran	62	32.5	129	67.5
Borders	*	*	*	*
Dumfries and Galloway	30	38.5	48	61.5
Fife	42	24.4	130	75.6
Forth Valley	45	26.0	128	74.0
Grampian	126	45.2	153	54.8
Greater Glasgow and Clyde	109	22.8	369	77.2
Highland	52	35.1	96	64.9
Lanarkshire	62	17.9	284	82.1
Lothian	101	31.8	217	68.2
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	72	47.4	80	52.6
Western Isles	*	*	*	*
Scotland	718	29.8	1,695	70.2

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Only eligible patients, from their 5th birthday until the day before their 16th birthday, are included.

Figure 11 Percentage of people under 16 years of age with diabetes recorded as having had thyroid screening (TSH) within the previous 15 months by NHS board, Scotland 2020.



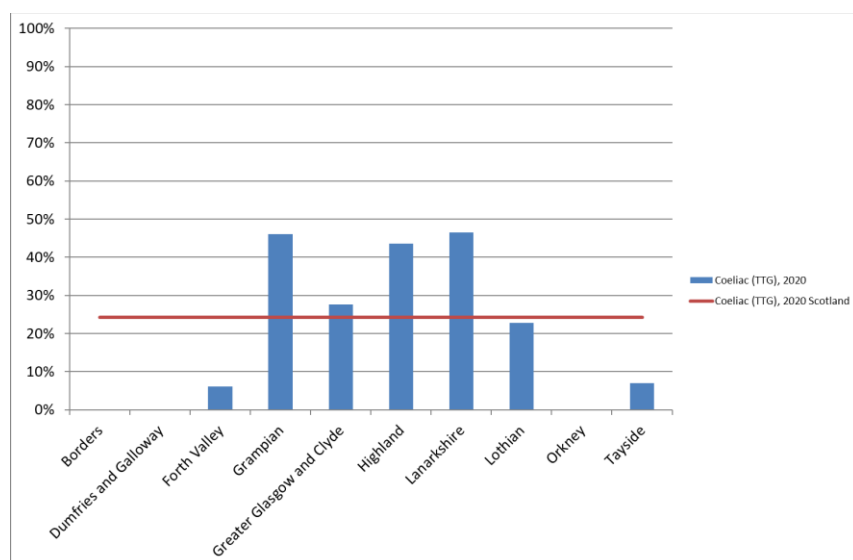
Note: Bars for boards with hidden data are not shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence to, national standards will improve the percentage attaining a particular measure of care.

Table 23 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 NHS board, Scotland 2020.

NHS board	Recorded		Not recorded	
	N	%	n	%
Ayrshire and Arran	103	52.0	95	48.0
Borders	39	84.8	7	15.2
Dumfries and Galloway	*	*	*	*
Fife	98	53.8	84	46.2
Forth Valley	109	60.2	72	39.8
Grampian	194	65.8	101	34.2
Greater Glasgow and Clyde	253	49.9	254	50.1
Highland	94	61.0	60	39.0
Lanarkshire	245	67.9	116	32.1
Lothian	294	87.0	44	13.0
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	139	88.5	18	11.5
Western Isles	*	*	*	*
Scotland	1,674	65.9	867	34.1

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

Figure 12 Percentage of people under 16 years of age with diabetes recorded as having had coeliac screening (TTG) within the previous 15 months by NHS board, Scotland 2020.



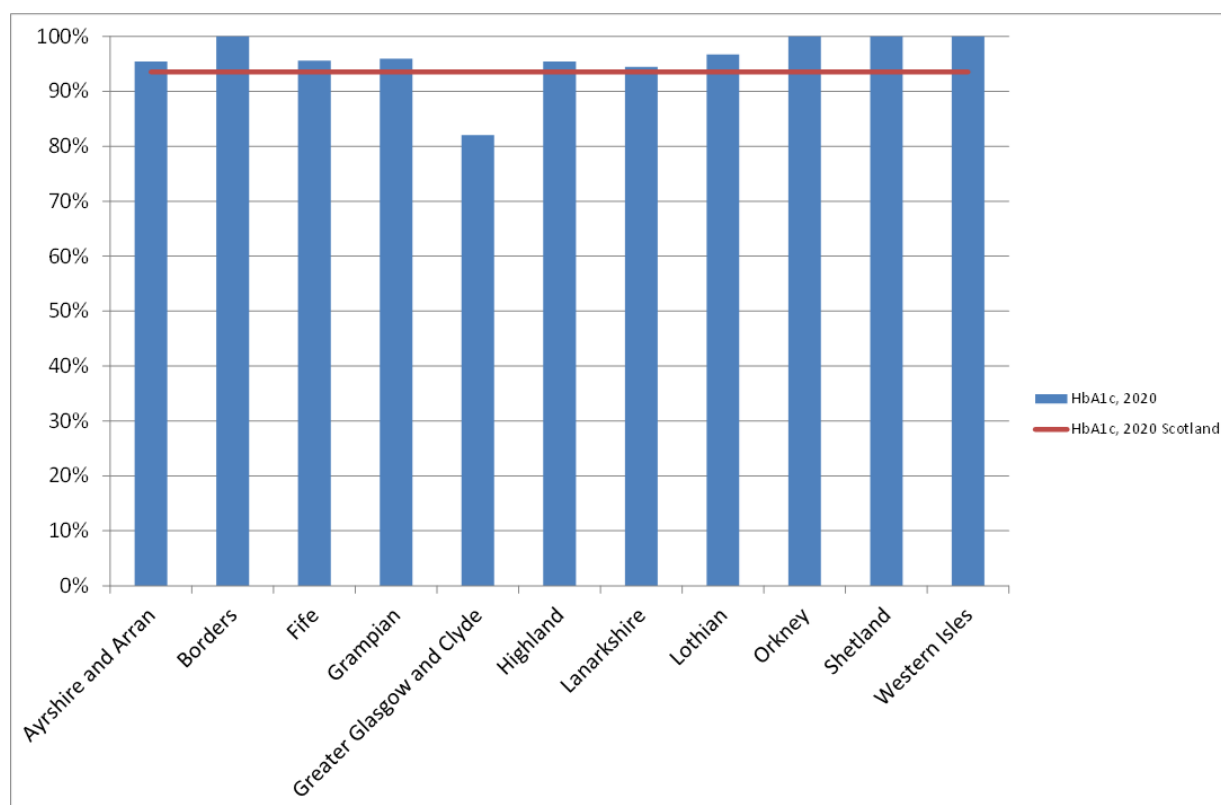
Note: Bars for boards with hidden data are not shown. Variations in local centre practice may result in different age-range exclusions, screening tests being carried out at different intervals or manual data entry into SCI-Diabetes not being performed. Some centres choose only to test TTG results at the time diabetes is first diagnosed, and subsequently every 2 years (rather than annually), while others may only test for positive TTG results when coeliac disease symptoms are present, and not as a screening test. Annual data may not therefore reflect actual numbers appropriately screened. This may be reflected in the apparently large number of centres with few patients having been successfully screened.

Table 24 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 NHS board, Scotland 2020.

NHS board	Recorded		Not recorded	
	n	%	n	%
Ayrshire and Arran	*	*	*	*
Borders	0	0.0	46	100.0
Dumfries and Galloway	0	0.0	85	100.0
Fife	*	*	*	*
Forth Valley	11	6.1	170	93.9
Grampian	136	46.1	159	53.9
Greater Glasgow and Clyde	140	27.6	367	72.4
Highland	67	43.5	87	56.5
Lanarkshire	168	46.5	193	53.5
Lothian	77	22.8	261	77.2
Orkney	*	0.0	*	100.0
Shetland	*	*	*	*
Tayside	11	7.0	146	93.0
Western Isles	*	*	*	*
Scotland	617	24.3	1,924	75.7

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

Figure 13 Percentage of people under 16 years of age with diabetes with a recorded HbA_{1c} within the previous 15 months by NHS board, Scotland 2020.



Note: Bars for boards with hidden data are not shown. These data include HbA_{1c} taken at time of diagnosis, as well as those collected at clinic attendances, subsequent hospital admissions (for any reason), and in primary care.

Table 25 Number and percentage of people under 16 years of age with diabetes with a recorded HbA_{1c} within the previous 15 months by NHS board, Scotland 2020.

NHS board	Recorded		Not recorded	
	N	%	N	%
Ayrshire and Arran	189	95.5	9	4.5
Borders	46	100.0	0	0.0
Dumfries and Galloway	*	*	*	*
Fife	174	95.6	8	4.4
Forth Valley	*	*	*	*
Grampian	283	95.9	12	4.1
Greater Glasgow and Clyde	416	82.1	91	17.9
Highland	147	95.5	7	4.5
Lanarkshire	341	94.5	20	5.5
Lothian	327	96.7	11	3.3
Orkney	*	100.0	*	0.0
Shetland	*	100.0	*	0.0
Tayside	*	*	*	*
Western Isles	*	100.0	*	0.0
Scotland	2,377	93.5	164	6.5

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. For this measure, all boards with hidden results have $\geq 90\%$ attainment of the stipulated measure.

Care Processes

Quarterly reports of 9 processes and outcomes of care are now being reported back to each NHS board. There are 12 measures within this. The report for the last quarter of the year is described below.

The processes and outcomes described in this report represent work in progress and need to be considered as such.

Table 26 Applicability of Care Processes by Age Category.

Diagnosis and age category	Care processes applicable
Type 1 and other age 0-11	Processes 1 and 2
Type 1 and other age 12-17	Processes 1 to 6
Type 1, type 2, and other age 18+	All 9 processes

Other = any other frank diabetes type not included elsewhere.

Measure 1: Receiving All Processes of Care

Percentage of people with diabetes who received all recommended (up to 9) processes of care measurements for diabetes in the prior 15 months – adjusted for and presented in defined age ranges.

Methodology

Included population = all people of any age with diabetes are included.

List of Care processes

1. HbA_{1c}
2. Weight (BMI)
3. Blood pressure
4. Smoking status
5. Retinopathy screening*
6. Urinary albumin test**
7. Creatinine
8. Total cholesterol
9. Foot risk

*Retinopathy screening = Latest DRS Screening Status is "Attended - Successfully Screened" or "Attended - Unsuccessfully Screened". Note – if the patient has been suspended from eye screening this is counted as having received this "process of care".

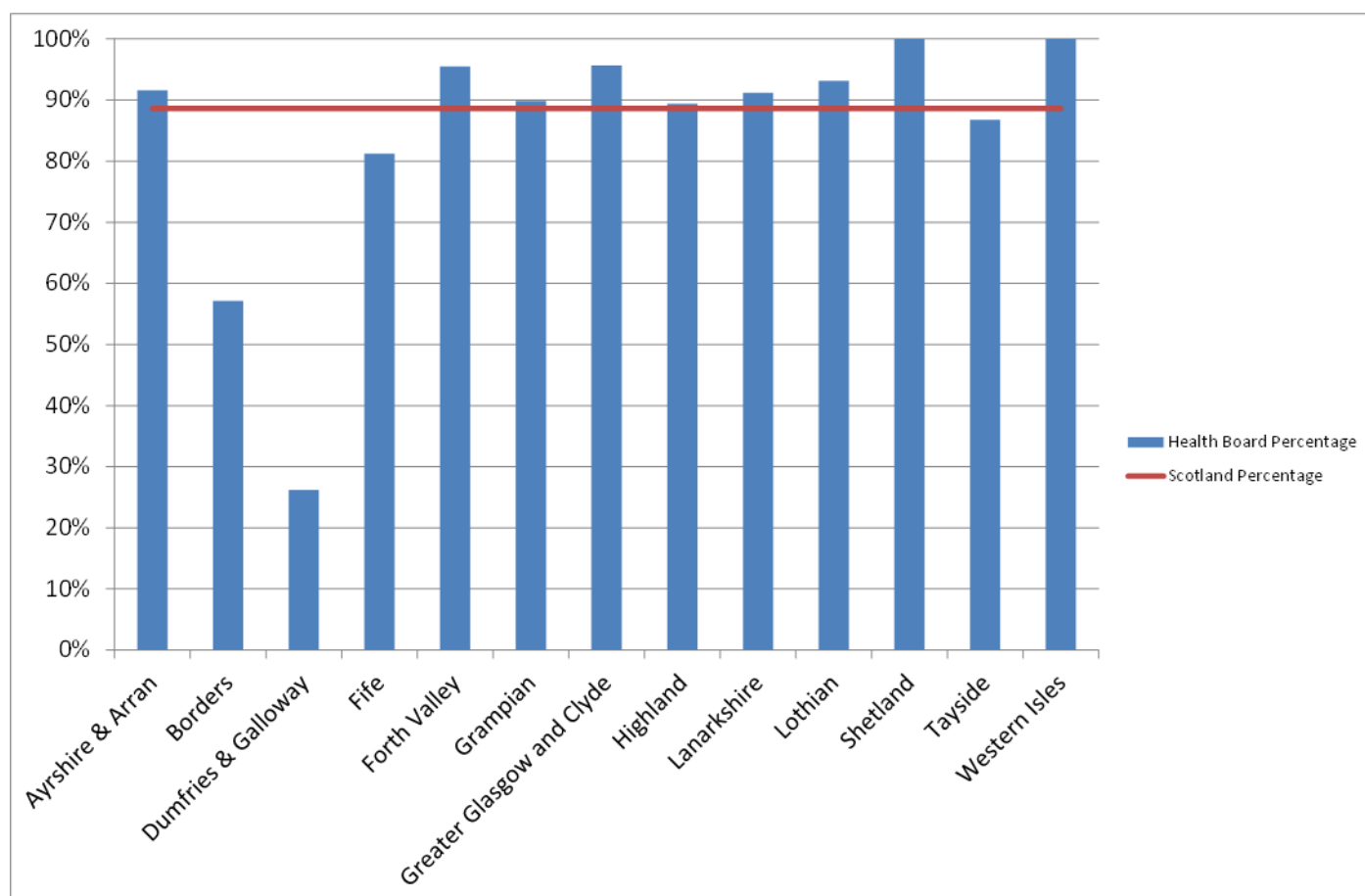
**Urinary Albumin test = any of the following: albumin / creatinine ratio (ACR), microalbumin concentration, protein / creatinine ratio (PCR) or total urinary protein, Timed overnight albumin excretion rate, or 24hr albumin excretion rate.

Notes

Where no data are shown in the bar-chart, this could indicate that no people were found that met the inclusion criteria or it could indicate that of those that did meet the criteria, none had the required number of processes.

In the bar-charts of those under 18 years of age, obfuscation for the purposes of maintaining anonymity has meant that data from some boards are not presented in the accompanying chart or table. A large proportion of those under 12 years of age receive the two processes of care required in this age range (recording of HbA_{1c} and weight at least once annually), while those from 12 to 18 years of age have a much poorer attainment of their increased number of processes (six).

Figure 14 Measure 1: Receiving all applicable processes of care - Type 1 and other age 0-11 by NHS board, Scotland 2020.



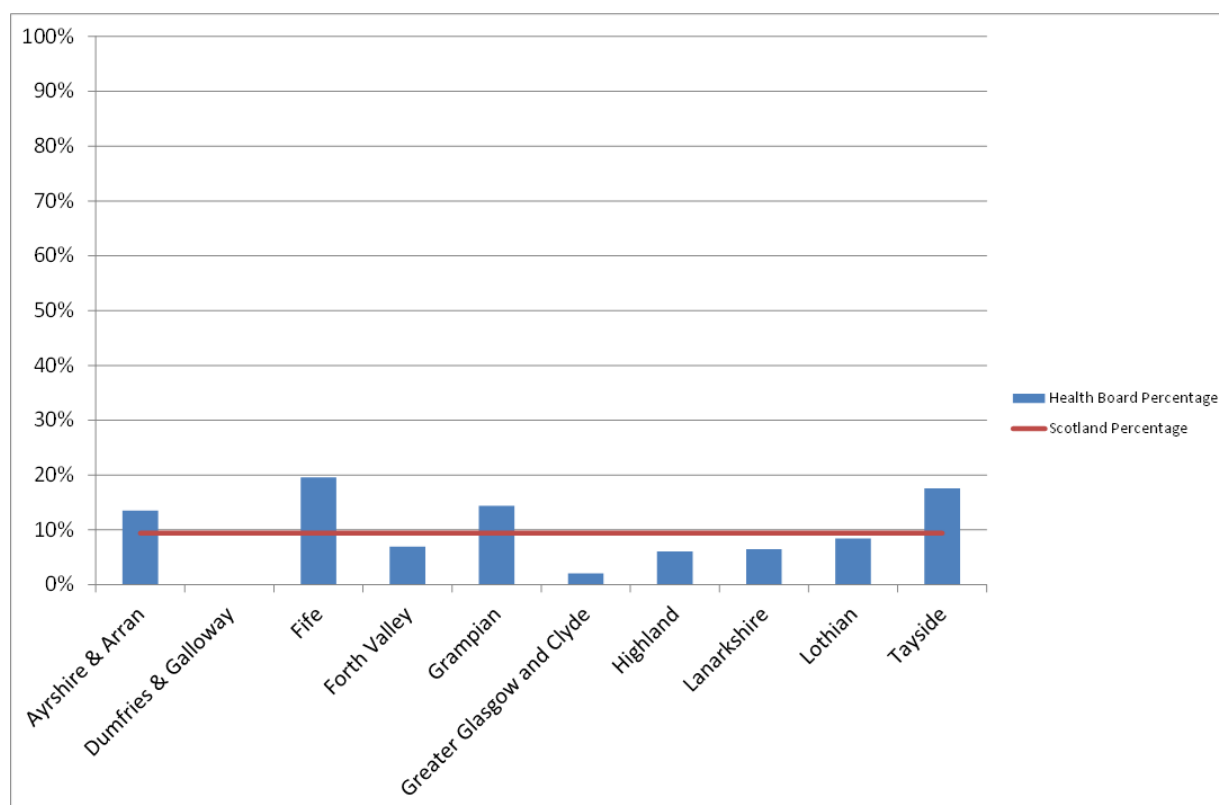
Note: Bars for boards with hidden data are not shown.

Table 27 Measure 1: Receiving all applicable processes of care - Type 1 and other age 0-11 by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 0-11 (n)
	n	%	
Ayrshire & Arran	76	91.6	83
Borders	12	57.1	21
Dumfries & Galloway	11	26.2	42
Fife	78	81.3	96
Forth Valley	85	95.5	89
Grampian	115	89.8	128
Greater Glasgow and Clyde	241	95.6	252
Highland	59	89.4	66
Lanarkshire	166	91.2	182
Lothian	150	93.2	161
Orkney	*	*	*
Shetland	*	100.0	*
Tayside	59	86.8	68
Western Isles	10	100.0	10
Scotland	1,066	88.6	1,203

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

Figure 15 Measure 1: Receiving all applicable processes of care - Type 1 and other age 12-17 by NHS board, Scotland 2020.



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

Table 28 Measure 1: Receiving all applicable processes of care - Type 1 and other age 12-17 by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 12-17 (n)
	n	%	
Ayrshire & Arran	22	13.5	163
Borders	*	*	41
Dumfries & Galloway	0	0.0	62
Fife	28	19.6	143
Forth Valley	9	6.9	130
Grampian	35	14.4	243
Greater Glasgow and Clyde	8	2.1	385
Highland	9	6.0	149
Lanarkshire	19	6.5	294
Lothian	24	8.4	285
Orkney	*	*	6
Shetland	7	53.8	13
Tayside	25	17.6	142
Western Isles	*	*	17
Scotland	195	9.4	2,073

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

Figure 16 Measure 1: Receiving all applicable processes of care - Type 1 Age 18+ by NHS board, Scotland 2020.

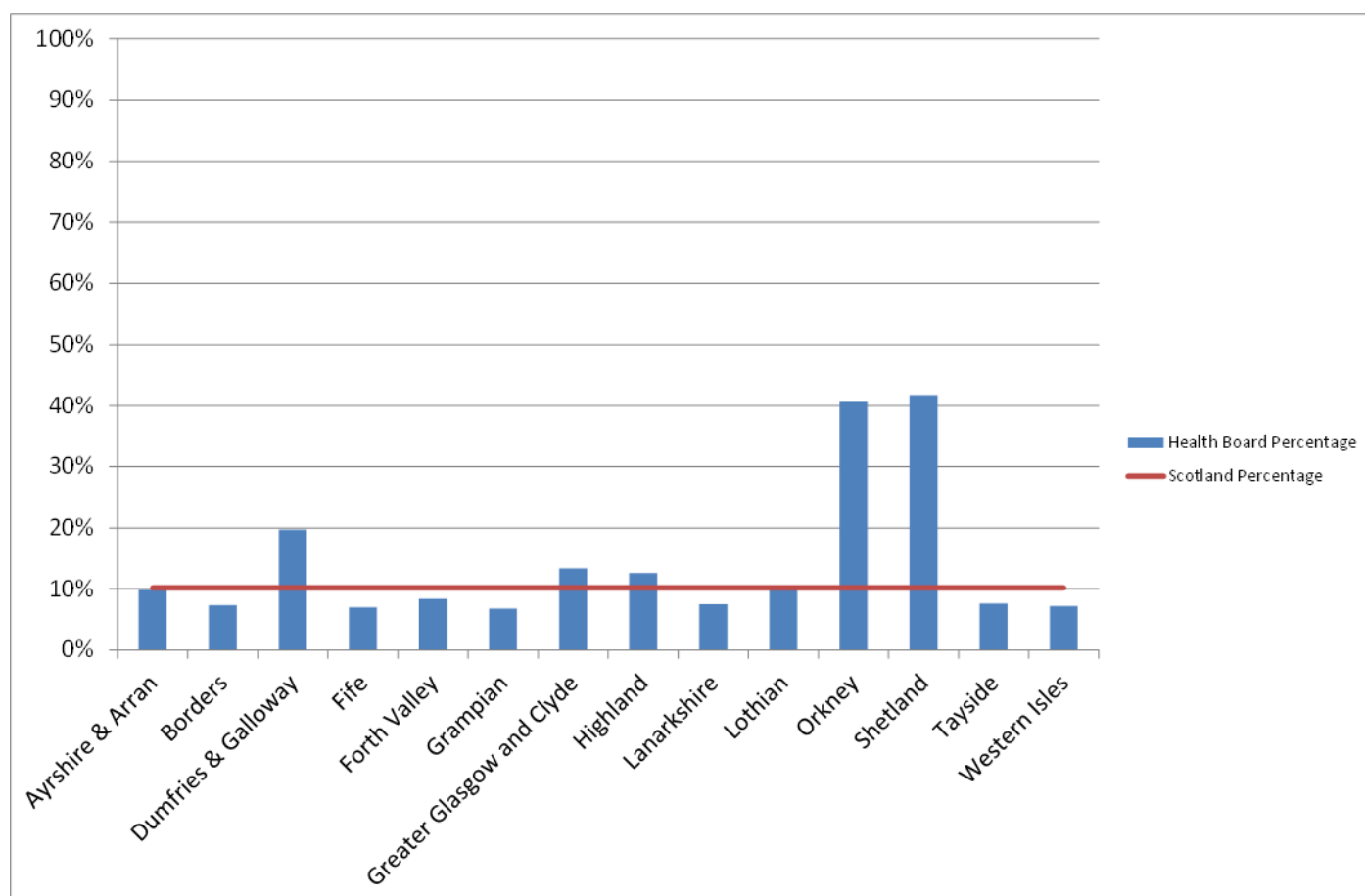


Table 29 Measure 1: Receiving all applicable processes of care - Type 1 Age 18+ by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 18+ (n)
	n	%	
Ayrshire & Arran	216	9.9	2,192
Borders	52	7.4	706
Dumfries & Galloway	186	19.7	943
Fife	147	7.0	2,107
Forth Valley	151	8.4	1,801
Grampian	228	6.8	3,350
Greater Glasgow and Clyde	840	13.4	6,273
Highland	254	12.6	2,019
Lanarkshire	309	7.5	4,128
Lothian	482	10.1	4,774
Orkney	50	40.7	123
Shetland	58	41.7	139
Tayside	164	7.6	2,151
Western Isles	14	7.2	195
Scotland	3,151	10.2	30,901

Figure 17 Measure 1: Receiving all applicable processes of care - Type 2 and other age 18+ by NHS board, Scotland 2020.

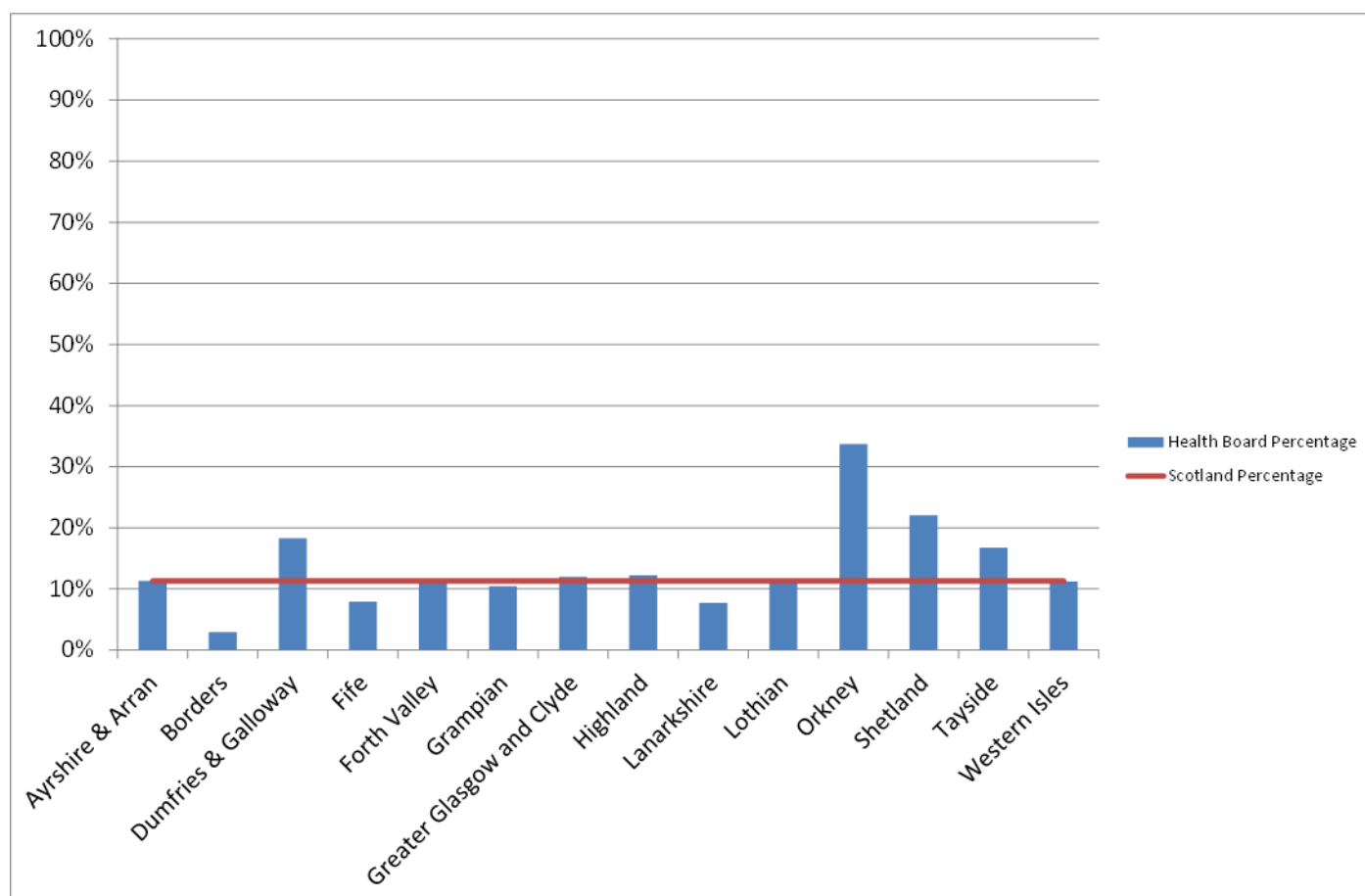


Table 30 Measure 1: Receiving all applicable processes of care - Type 2 and other age 18+ by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 18+ (n)
	n	%	
Ayrshire & Arran	2,607	11.4	22,961
Borders	183	2.9	6,220
Dumfries & Galloway	1,644	18.3	8,980
Fife	1,645	7.9	20,766
Forth Valley	1,899	11.5	16,553
Grampian	2,839	10.4	27,273
Greater Glasgow and Clyde	7,160	12.0	59,899
Highland	2,103	12.2	17,194
Lanarkshire	2,936	7.7	38,049
Lothian	4,560	11.5	39,555
Orkney	377	33.7	1,118
Shetland	230	22.1	1,042
Tayside	3,653	16.8	21,800
Western Isles	159	11.2	1,416
Scotland	31,995	11.3	282,826

Measure 2: HbA_{1c} in Target Range After 1 Year

Percentage of people with diabetes with an HbA_{1c} <58 mmol/mol at 1-year post diagnosis - presented in defined age ranges.

Methodology

Included population = people with diabetes of any age with a duration of diabetes between 1 and 2 years on the date of the quarterly report, and a recording of HbA_{1c} within (+/-) 90 days of their 1st anniversary of diagnosis.

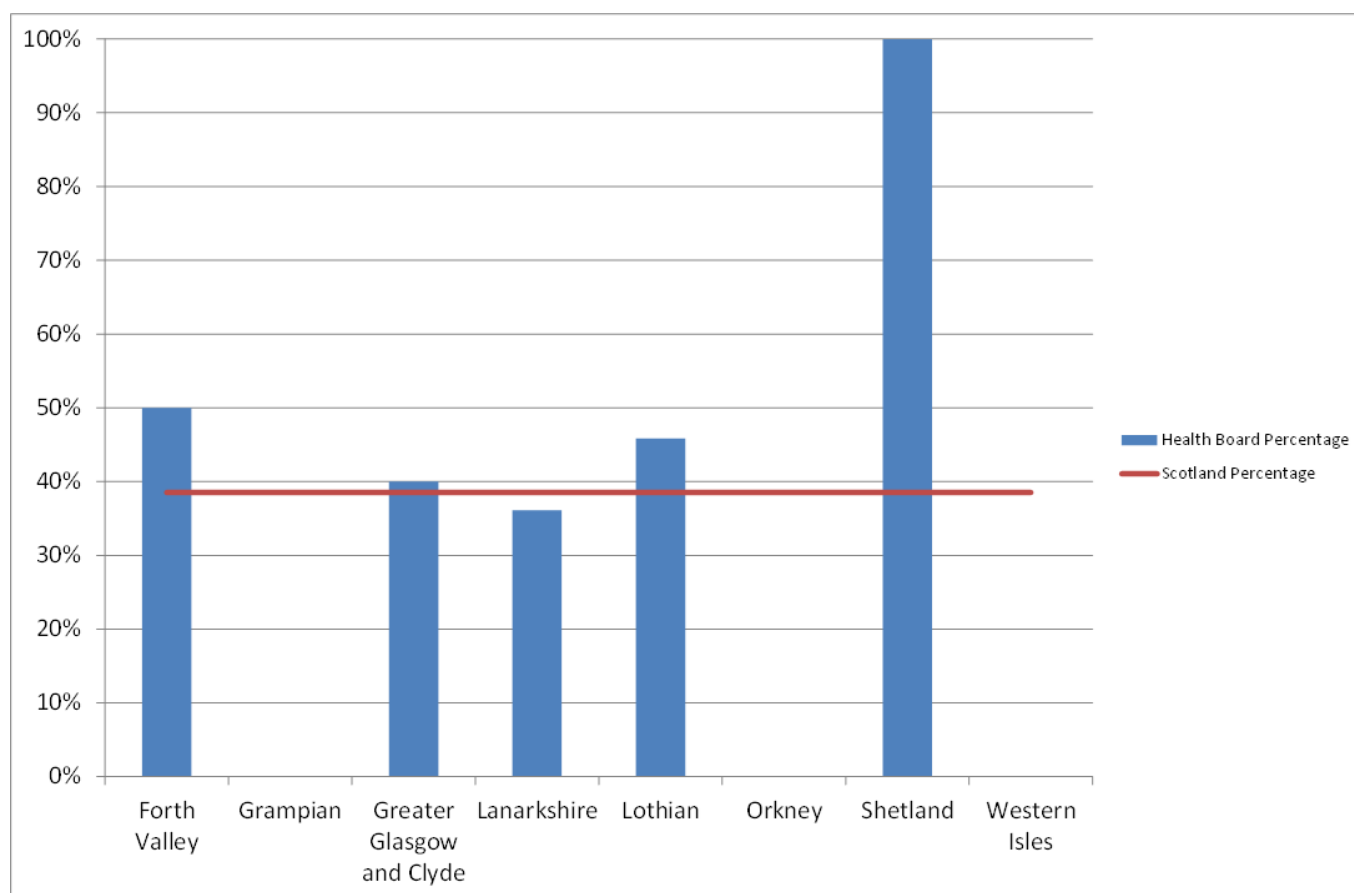
Numerator = number of people in each age/type cohort whose latest HbA_{1c} was <58 mmol/mol.

Denominator = the total number of people (who had an anniversary HbA_{1c}) in each age/type cohort.

Notes

Where no data is shown in the bar-chart, this could indicate that no people were found that met the inclusion criteria or that none of those who did meet the inclusion criteria had an anniversary HbA_{1c} <58 mmol/mol.

Small numbers of patients in some Paediatric age banding (especially the 0-5 years age group) have resulted in too few data points to allow meaningful analysis. Generally, these data have been aggregated with those of the 6-11 years age group. However, where this has not been possible, the data have still been displayed for completeness, even though graphically little information is available. It is therefore important to refer to the tabulated data, rather than relying solely on the display of data within charts, as the reasons for omitting the data from the chart (e.g. in order to preserve patient anonymity) will be indicated here.

Figure 18 Measure 2: HbA_{1c} in target range after 1 year - Type 1 and other age 0-11 by NHS board, Scotland 2020.

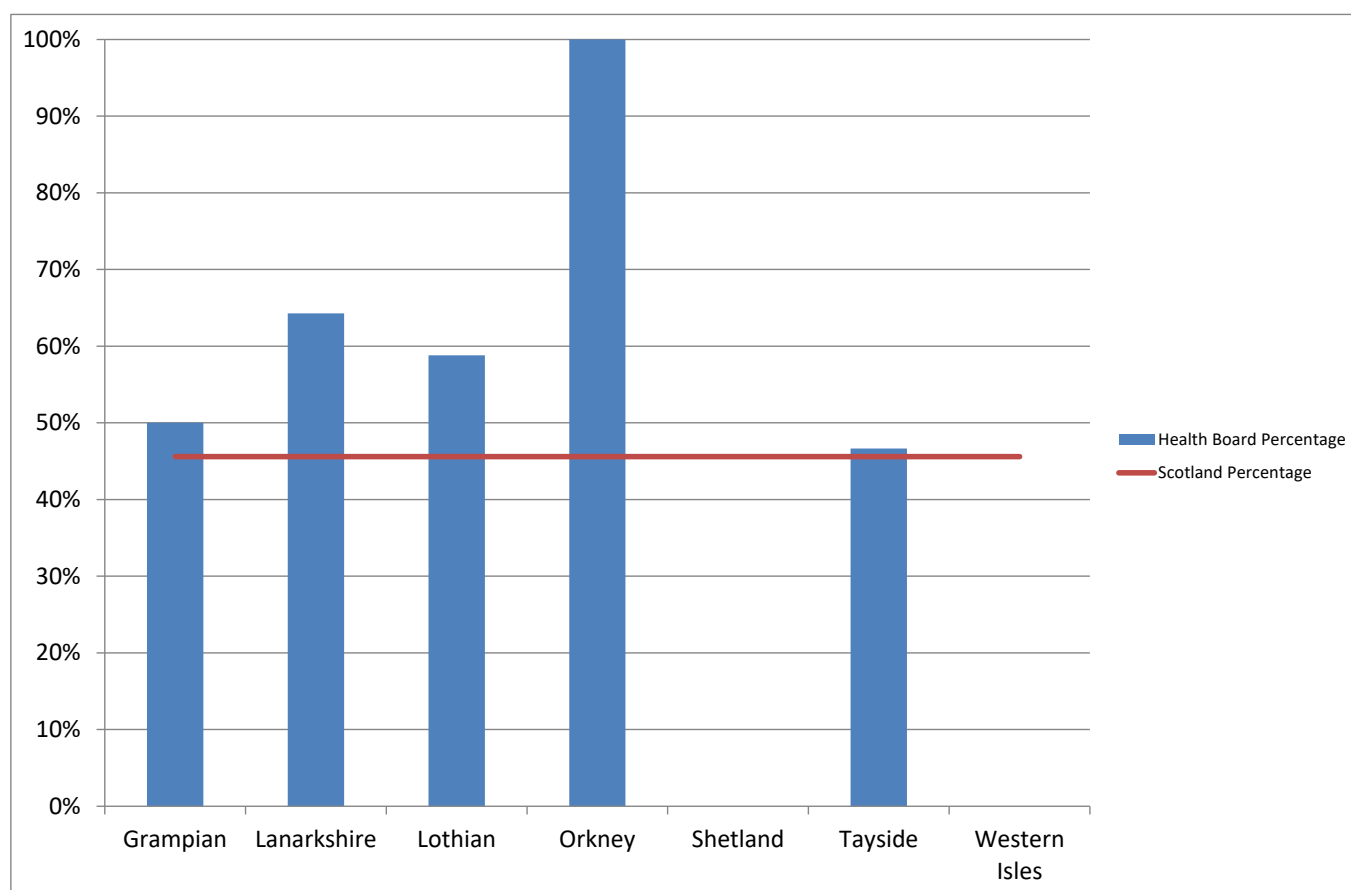
Note: Bars for boards with hidden data are not shown.

Table 31 Measure 2: HbA_{1c} in target range after 1 year - Type 1 and other age 0-11 by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 0-11 (n)
	n	%	
Ayrshire & Arran	*	*	6
Borders	*	*	*
Dumfries & Galloway	*	*	6
Fife	*	*	11
Forth Valley	7	50.0	14
Grampian	0	0.0	13
Greater Glasgow and Clyde	6	40.0	15
Highland	*	*	10
Lanarkshire	13	36.1	36
Lothian	11	45.8	24
Orkney	0	0.0	0
Shetland	*	100.0	*
Tayside	*	*	9
Western Isles	0	0.0	0
Scotland	57	38.5	148

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

Figure 19 Measure 2: HbA_{1c} in target range after 1 year - Type 1 and other age 12-17 by NHS board, Scotland 2020.

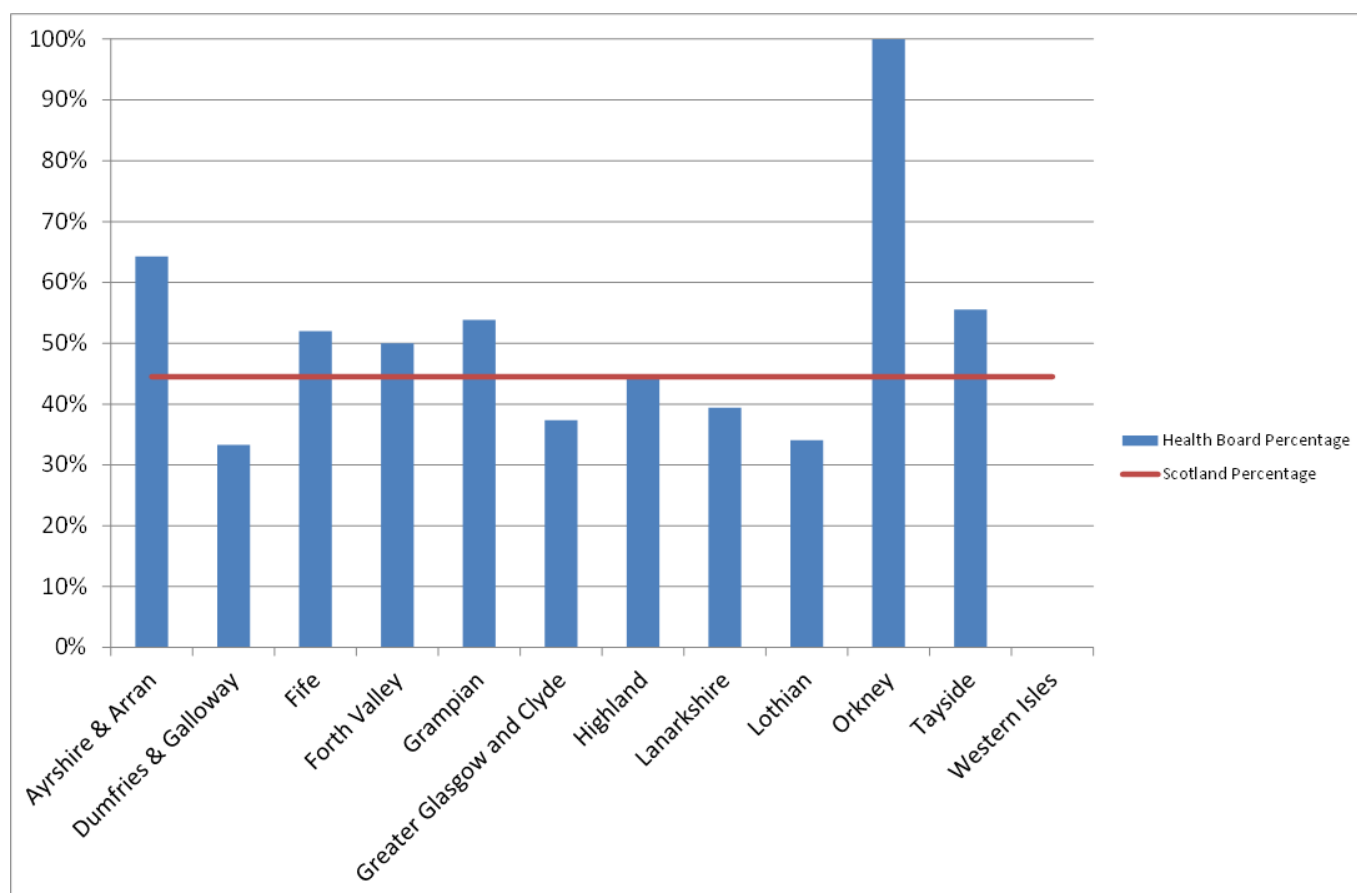


Note: Bars for boards with hidden data are not shown.

Table 32 Measure 2: HbA_{1c} in target range after 1 year - Type 1 and other age 12-17 by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 12-17 (n)
	n	%	
Ayrshire & Arran	*	*	10
Borders	*	*	*
Dumfries & Galloway	*	*	6
Fife	*	*	8
Forth Valley	*	*	5
Grampian	10	50.0	20
Greater Glasgow and Clyde	*	*	14
Highland	*	*	8
Lanarkshire	9	64.3	14
Lothian	10	58.8	17
Orkney	*	100.0	*
Shetland	0	0.0	*
Tayside	7	46.7	15
Western Isles	0	0.0	*
Scotland	57	45.6	125

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

Figure 20 Measure 2: HbA_{1c} in target range after 1 year - Type 1 age 18+ by NHS board, Scotland 2020.

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

Table 33 Measure 2: HbA_{1c} in target range after 1 year - Type 1 age 18+ by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 18+ (n)
	n	%	
Ayrshire & Arran	9	64.3	14
Borders	*	*	*
Dumfries & Galloway	5	33.3	15
Fife	13	52.0	25
Forth Valley	10	50.0	20
Grampian	21	53.8	39
Greater Glasgow and Clyde	28	37.3	75
Highland	8	44.4	18
Lanarkshire	13	39.4	33
Lothian	15	34.1	44
Orkney	*	100.0	*
Shetland	*	*	*
Tayside	10	55.6	18
Western Isles	0	0.0	*
Scotland	138	44.5	310

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

Figure 21 Measure 2: HbA_{1c} in target range after 1 year - Type 2 and other age 18+ by NHS board, Scotland 2020.

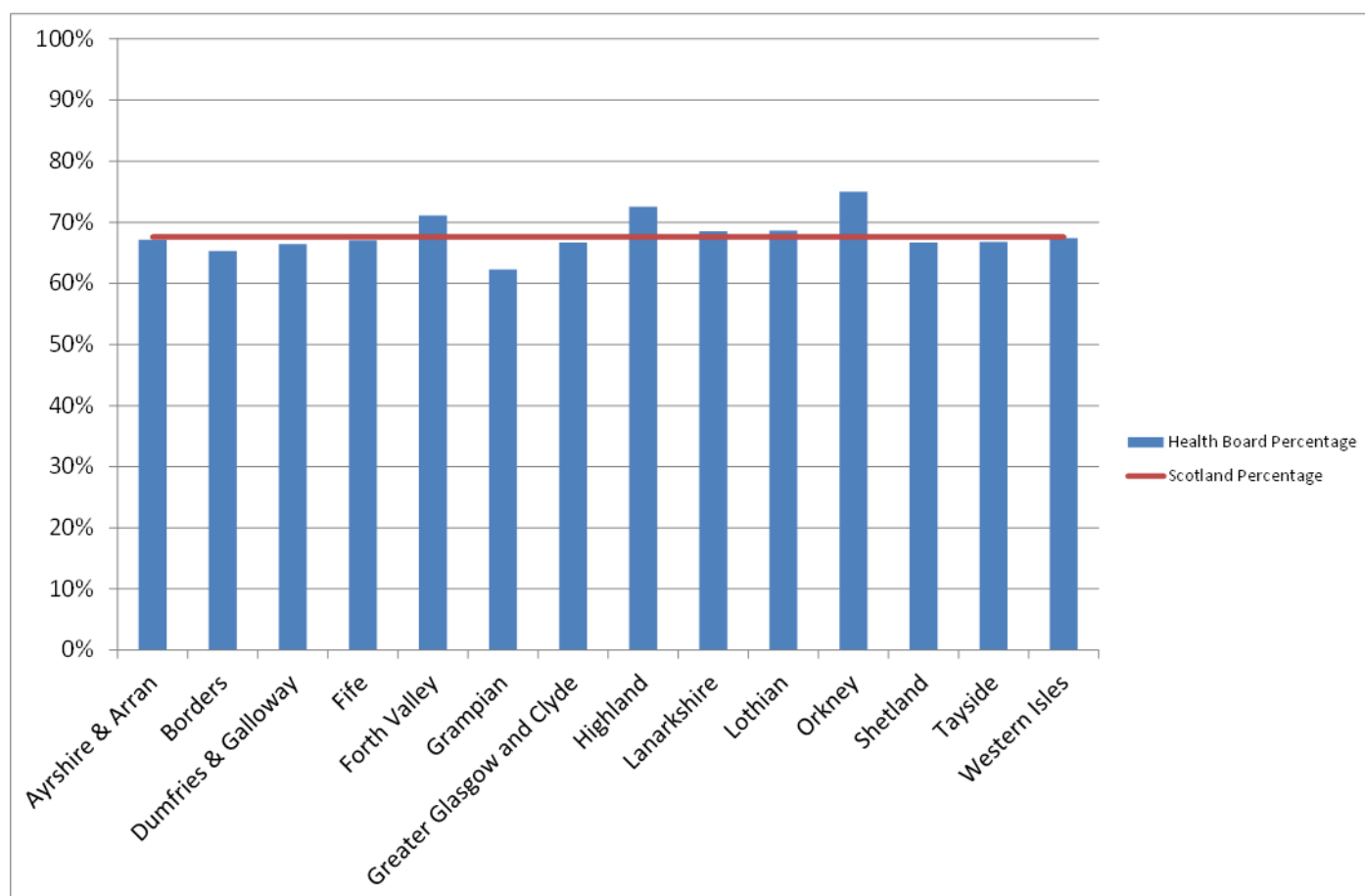


Table 34 Measure 2: HbA_{1c} in target range after 1 year - Type 2 and other age 18+ by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 18+
	n	%	
Ayrshire & Arran	388	67.1	578
Borders	113	65.3	173
Dumfries & Galloway	184	66.4	277
Fife	409	67.0	610
Forth Valley	403	71.1	567
Grampian	543	62.3	872
Greater Glasgow and Clyde	1,073	66.7	1,609
Highland	472	72.5	651
Lanarkshire	852	68.5	1,243
Lothian	829	68.6	1,208
Orkney	33	75.0	44
Shetland	24	66.7	36
Tayside	350	66.8	524
Western Isles	31	67.4	46
Scotland	5,704	67.6	8,438

Measure 3: HbA_{1c} Control

Percentage of people with diabetes with good and poor control (HbA_{1c} <58 mmol/mol and >75 mmol/mol) - presented in defined age ranges.

Methodology

Included population = all people of any age with diabetes are included.

Numerator 1 = people in each age/type cohort whose latest HbA_{1c} in the prior 15 months was <58 mmol/mol or >75 mmol/mol

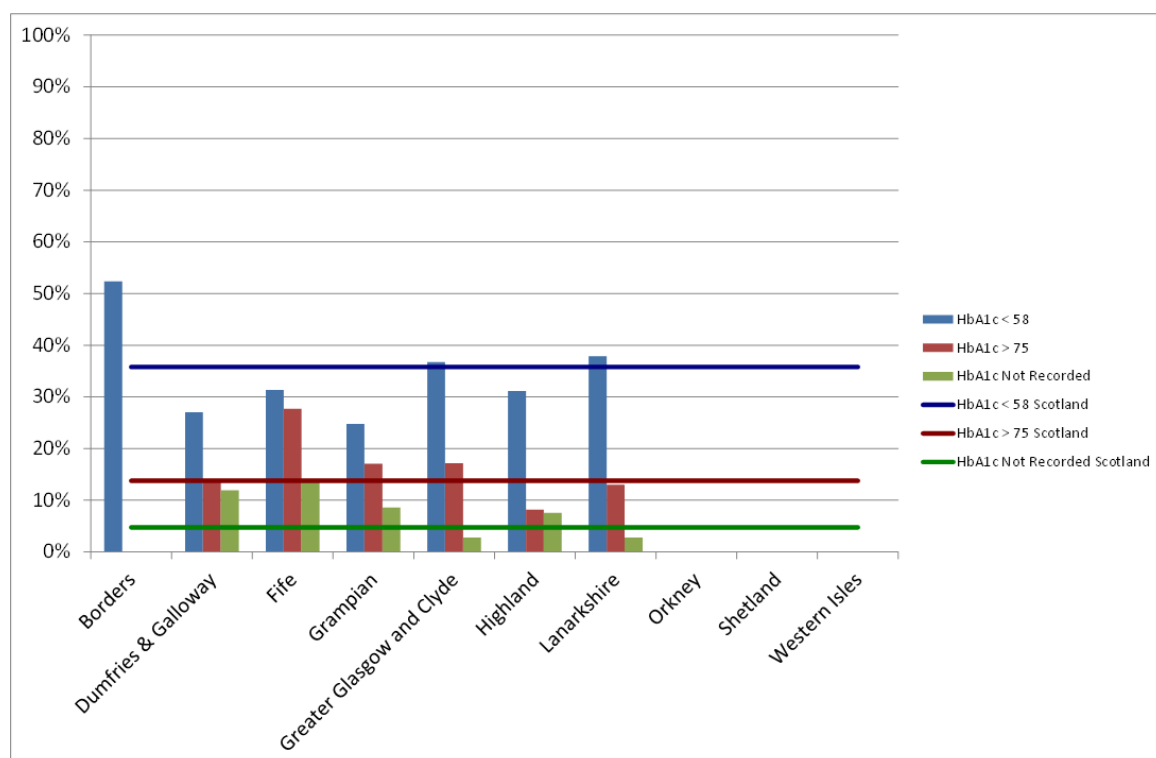
Denominator 1 = the number of tested people in each age/type cohort – those with an HbA_{1c} result in the prior 15 months.

Numerator 2 = “Not Recorded” people – those who have no HbA_{1c} recorded in the prior 15 months

Denominator 2 = the total number of people in each age/type cohort (both tested and untested).

Notes

Where no data is shown in the bar-chart, this could indicate that no people were found in that age-range or that the latest HbA_{1c} of those who were found was neither <58 mmol/mol nor >75 mmol/mol (i.e. was in the 58-75 mmol/mol range).

Figure 22 Measure 3: HbA_{1c} control - Type 1 and other age 0-11 by NHS board, Scotland 2020.

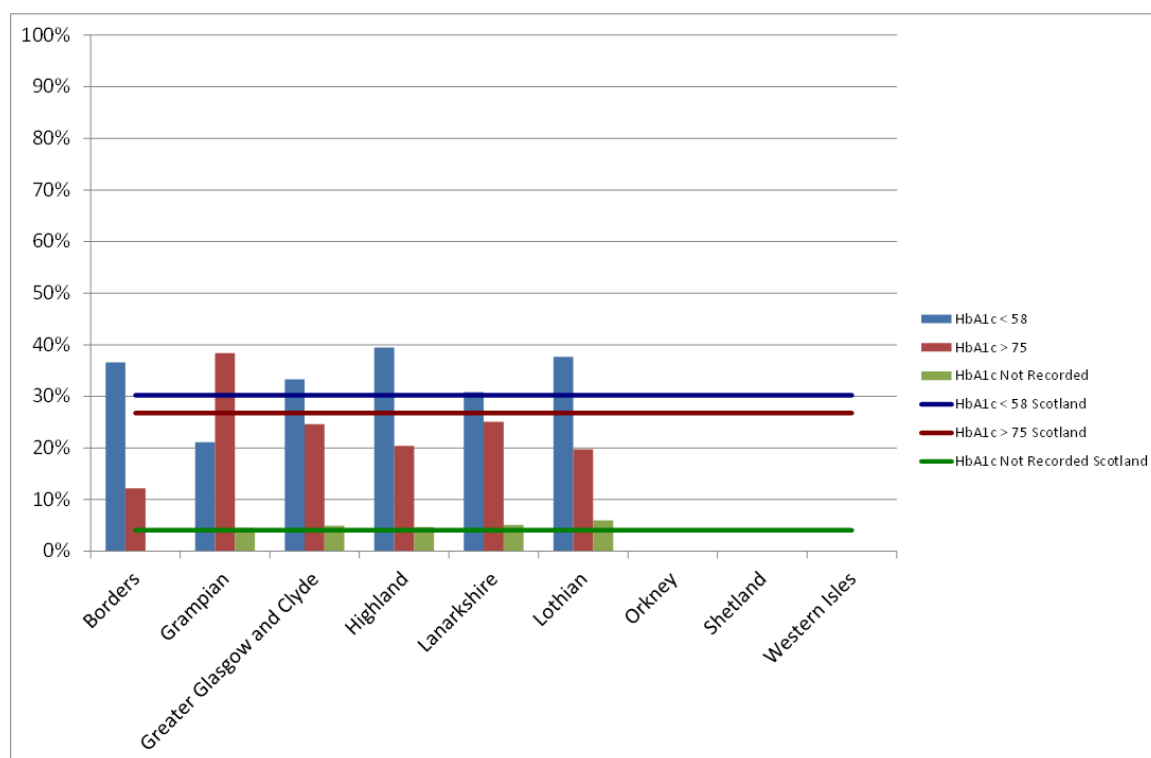
Note: Bars for boards with hidden data are not shown, additionally, some bars are zero.

Table 35 Measure 3: HbA_{1c} control - Type 1 and other age 0-11 by NHS board, Scotland 2020.

NHS board	HbA _{1c} <5.8 mmol/mol		HbA _{1c} >7.5 mmol/mol		Recorded people (n)	HbA _{1c} Not Recorded		All aged 0-11 (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	*	*	*	*	*	*	*	83
Borders	11	52.4	*	*	21	0	0.0	21
Dumfries & Galloway	10	27.0	5	13.5	37	5	11.9	42
Fife	26	31.3	23	27.7	83	13	13.5	96
Forth Valley	*	*	*	*	*	*	*	89
Grampian	29	24.8	20	17.1	117	11	8.6	128
Greater Glasgow and Clyde	90	36.7	42	17.1	245	7	2.8	252
Highland	19	31.1	5	8.2	61	5	7.6	66
Lanarkshire	67	37.9	23	13.0	177	5	2.7	182
Lothian	*	*	*	*	*	*	*	161
Orkney	*	*	*	*	*	0	0.0	*
Shetland	*	*	0	0.0	*	0	0.0	*
Tayside	*	*	*	*	*	*	*	68
Western Isles	*	*	*	*	*	0	0.0	*
Scotland	410	35.8	158	13.8	1,146	57	4.7	1,203

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. In some cases, low (but non-zero) numbers of not recorded people caused figures to be concealed.

Figure 23 Measure 3: HbA_{1c} control - Type 1 and other age 12-17 by NHS board, Scotland 2020.

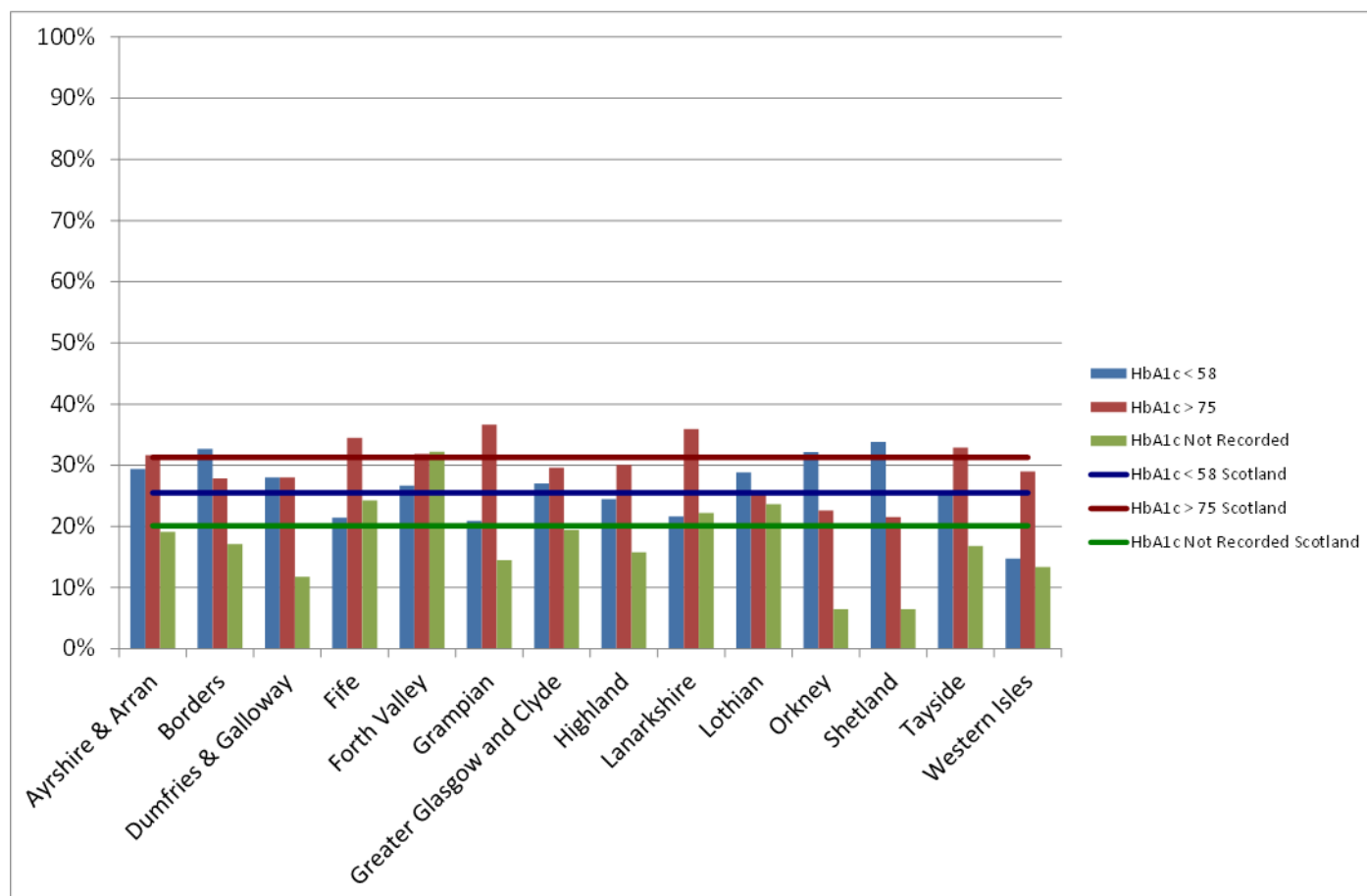


Note: Bars for boards with hidden data are not shown.

Table 36 Measure 3: HbA_{1c} control - Type 1 and other age 12-17 by NHS board, Scotland 2020.

NHS board	HbA _{1c} <5.8 mmol/mol		HbA _{1c} >7.5 mmol/mol		Recorded people (n)	HbA _{1c} Not Recorded		All aged 12-17 (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	*	*	*	*	*	*	*	163
Borders	15	36.6	5	12.2	41	0	0.0	41
Dumfries & Galloway	*	*	*	*	*	*	*	62
Fife	*	*	*	*	*	*	*	143
Forth Valley	*	*	*	*	*	*	*	130
Grampian	49	21.1	89	38.4	232	11	4.5	243
Greater Glasgow and Clyde	122	33.3	90	24.6	366	19	4.9	385
Highland	56	39.4	29	20.4	142	7	4.7	149
Lanarkshire	86	30.8	70	25.1	279	15	5.1	294
Lothian	101	37.7	53	19.8	268	17	6.0	285
Orkney	*	*	0	0.0	*	0	0.0	*
Shetland	*	*	*	*	*	0	0.0	*
Tayside	*	*	*	*	*	*	*	142
Western Isles	*	*	*	*	*	0	0.0	*
Scotland	601	30.2	533	26.8	1,989	84	4.1	2,073

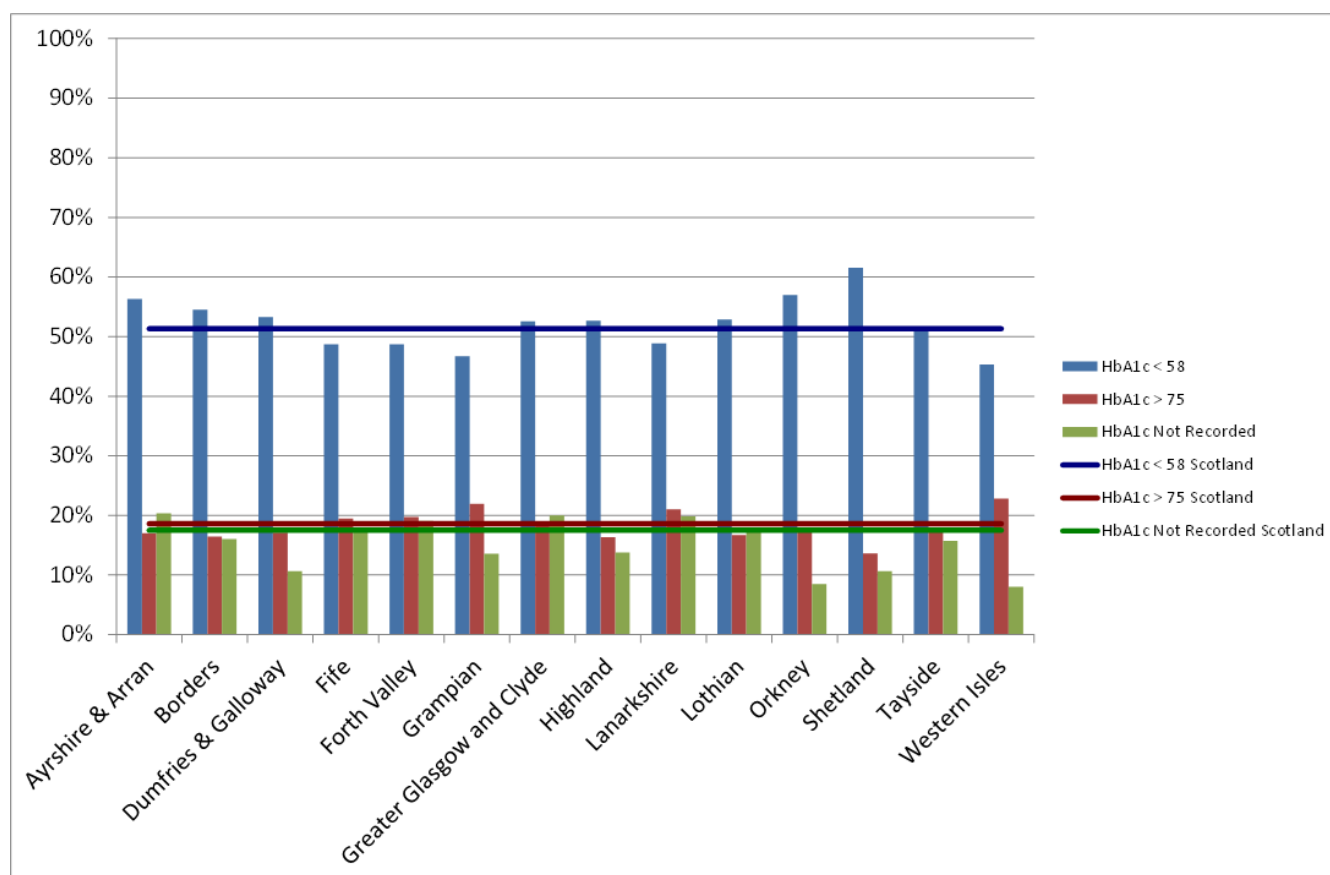
Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. In some cases, low (but non-zero) numbers of not recorded people caused figures to be concealed.

Figure 24 Measure 3: HbA_{1c} control - Type 1 age 18+ by NHS board, Scotland 2020.

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

Table 37 Measure 3: HbA_{1c} control - Type 1 age 18+ by NHS board, Scotland 2020.

NHS board	HbA _{1c} <5.8 mmol/mol		HbA _{1c} >7.5 mmol/mol		Recorded people (n)	HbA _{1c} Not Recorded		All aged 18+ (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	521	29.4	561	31.6	1,773	419	19.1	2,192
Borders	191	32.6	163	27.9	585	121	17.1	706
Dumfries & Galloway	233	28.0	233	28.0	832	111	11.8	943
Fife	342	21.4	550	34.5	1,596	511	24.3	2,107
Forth Valley	326	26.7	389	31.9	1,221	580	32.2	1,801
Grampian	598	20.9	1,049	36.6	2,863	487	14.5	3,350
Greater Glasgow and Clyde	1,368	27.1	1,494	29.6	5,054	1,219	19.4	6,273
Highland	416	24.5	511	30.1	1,700	319	15.8	2,019
Lanarkshire	694	21.6	1,154	35.9	3,211	917	22.2	4,128
Lothian	1,051	28.8	928	25.5	3,645	1,129	23.6	4,774
Orkney	37	32.2	26	22.6	115	8	6.5	123
Shetland	44	33.8	28	21.5	130	9	6.5	139
Tayside	453	25.3	588	32.9	1,789	362	16.8	2,151
Western Isles	25	14.8	49	29.0	169	26	13.3	195
Scotland	6,299	25.5	7,723	31.3	24,683	6,218	20.1	30,901

Figure 25 Measure 3: HbA_{1c} control - Type 2 and other age 18+ by NHS board, Scotland 2020.**Table 38 Measure 3: HbA_{1c} control - Type 2 and other age 18+ by NHS board, Scotland 2020.**

NHS board	HbA _{1c} <5.8 mmol/mol		HbA _{1c} >7.5 mmol/mol		Recorded people (n)	HbA _{1c} Not Recorded		All aged 18+ (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	10,301	56.3	3,113	17.0	18,290	4,671	20.3	22,961
Borders	2,846	54.5	858	16.4	5,223	997	16.0	6,220
Dumfries & Galloway	4,277	53.3	1,374	17.1	8,025	955	10.6	8,980
Fife	8,328	48.7	3,337	19.5	17,103	3,663	17.6	20,766
Forth Valley	6,527	48.7	2,650	19.8	13,398	3,155	19.1	16,553
Grampian	11,007	46.7	5,176	22.0	23,573	3,700	13.6	27,273
Greater Glasgow and Clyde	25,181	52.6	8,768	18.3	47,916	11,983	20.0	59,899
Highland	7,806	52.7	2,423	16.3	14,823	2,371	13.8	17,194
Lanarkshire	14,900	48.8	6,412	21.0	30,505	7,544	19.8	38,049
Lothian	17,328	52.9	5,470	16.7	32,770	6,785	17.2	39,555
Orkney	583	57.0	179	17.5	1,023	95	8.5	1,118
Shetland	573	61.5	127	13.6	931	111	10.7	1,042
Tayside	9,488	51.6	3,194	17.4	18,372	3,428	15.7	21,800
Western Isles	590	45.3	297	22.8	1,302	114	8.1	1,416
Scotland	119,735	51.3	43,378	18.6	233,254	49,572	17.5	282,826

Measure 4: Current Smokers

Percentage of people with diabetes who have a smoking status of “Current Smoker” recorded in the prior 15 months - presented in defined age ranges.

Methodology

Included population = people aged 12 or over with diabetes are included.

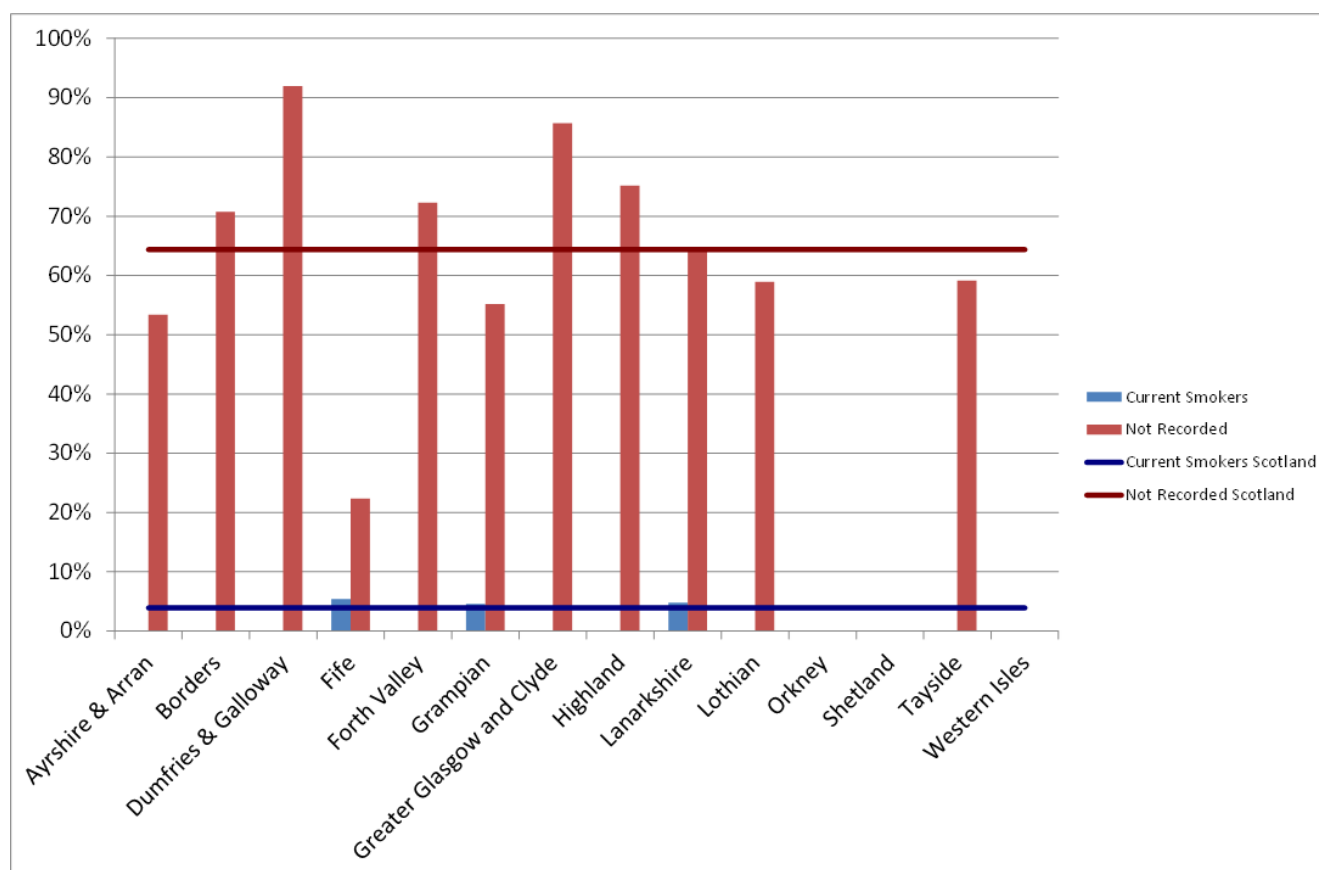
Numerator = people in each age/type cohort whose latest smoking status in the prior 15 months was “Current Smoker”

Denominator = the total number of people in each age/type cohort who had a smoking status recorded in the prior 15 months.

Notes

Where no data is shown in the bar-chart, this could indicate that no people were found in that age-range or that no people in that age-range were recorded as “Current Smokers” in the prior 15 months.

Figure 26 Measure 4: Current smokers - Type 1 and other age 12-17 by NHS board, Scotland 2020.

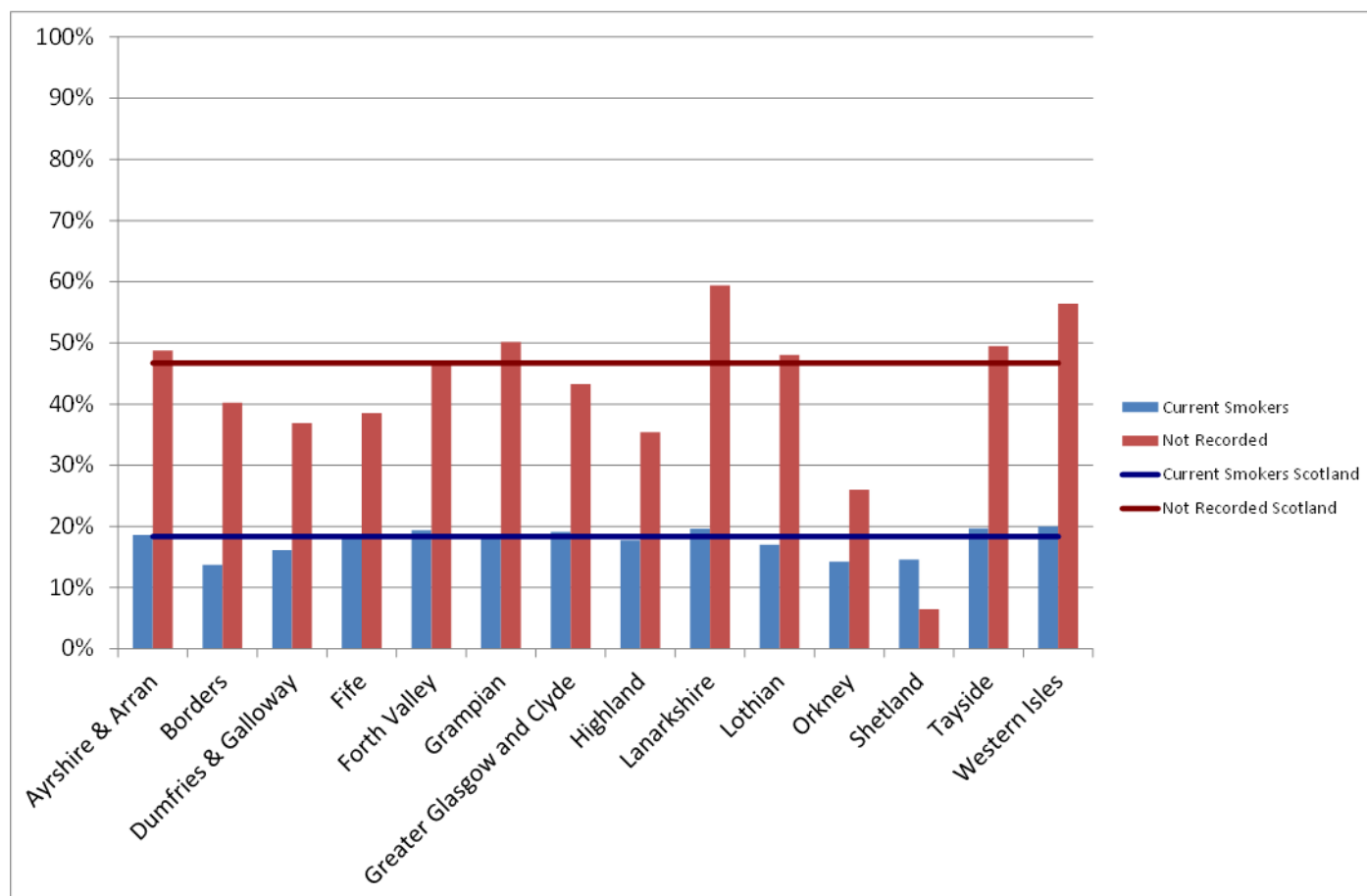


Note: Bars for boards with hidden data are not shown, additionally some bars are zero.

Table 39 Measure 4: Current smokers - Type 1 and other age 12-17 by NHS board, Scotland 2020.

NHS board	Current Smoker		Recorded people (n)	Not Recorded		All aged 12-17 (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	*	*	76	87	53.4	163
Borders	0	0.0	12	29	70.7	41
Dumfries & Galloway	0	0.0	5	57	91.9	62
Fife	6	5.4	111	32	22.4	143
Forth Valley	*	*	36	94	72.3	130
Grampian	5	4.6	109	134	55.1	243
Greater Glasgow and Clyde	*	*	55	330	85.7	385
Highland	0	0.0	37	112	75.2	149
Lanarkshire	5	4.8	105	189	64.3	294
Lothian	*	*	117	168	58.9	285
Orkney	0	0.0	*	*	*	*
Shetland	0	0.0	*	*	*	*
Tayside	*	*	58	84	59.2	142
Western Isles	0	0.0	*	*	*	*
Scotland	29	3.9	739	1,334	64.4	2,073

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

Figure 27 Measure 4: Current smokers - Type 1 age 18+ by NHS board, Scotland 2020.

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

Table 40 Measure 4: Current smokers - Type 1 age 18+ by NHS board, Scotland 2020.

NHS board	Current Smoker		Recorded people (n)	Not Recorded		All aged 18+ (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	209	18.6	1,123	1,069	48.8	2,192
Borders	58	13.7	422	284	40.2	706
Dumfries & Galloway	96	16.1	595	348	36.9	943
Fife	235	18.1	1,295	812	38.5	2,107
Forth Valley	185	19.4	954	847	47.0	1,801
Grampian	314	18.8	1,670	1,680	50.1	3,350
Greater Glasgow and Clyde	681	19.1	3,561	2,712	43.2	6,273
Highland	231	17.7	1,304	715	35.4	2,019
Lanarkshire	329	19.6	1,676	2,452	59.4	4,128
Lothian	422	17.0	2,480	2,294	48.1	4,774
Orkney	13	14.3	91	32	26.0	123
Shetland	19	14.6	130	9	6.5	139
Tayside	214	19.7	1,087	1,064	49.5	2,151
Western Isles	17	20.0	85	110	56.4	195
Scotland	3,023	18.4	16,473	14,428	46.7	30,901

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

Figure 28 Measure 4: Current smokers - Type 2 and other age 18+ by NHS board, Scotland 2020.

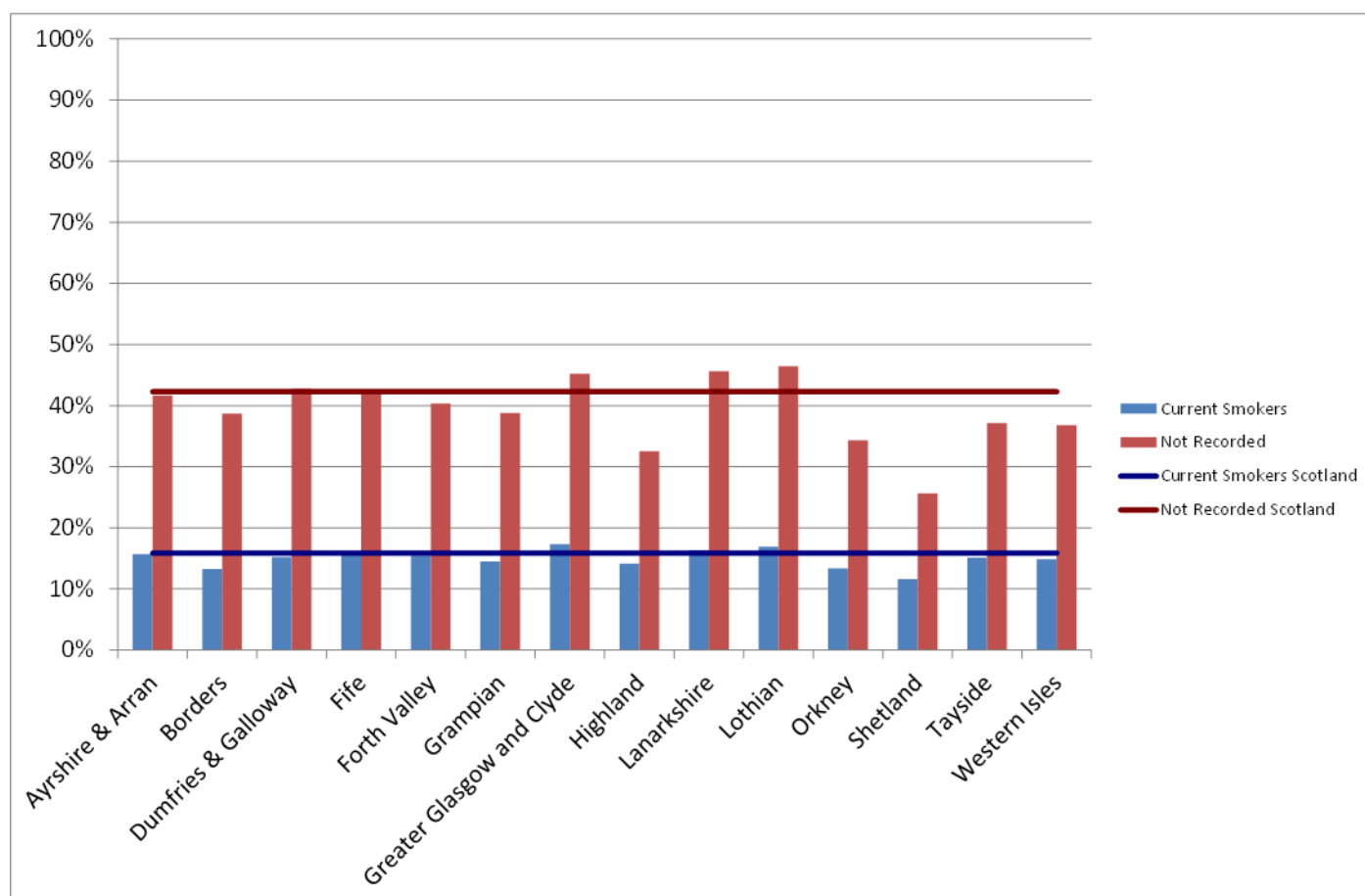


Table 41 Measure 4: Current smokers - Type 2 and other age 18+ by NHS board, Scotland 2020.

NHS board	Current Smoker		Recorded people (n)	Not Recorded		All aged 18+ (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	2,100	15.7	13,397	9,564	41.7	22,961
Borders	506	13.3	3,813	2,407	38.7	6,220
Dumfries & Galloway	781	15.2	5,138	3,842	42.8	8,980
Fife	1,870	15.6	11,951	8,815	42.4	20,766
Forth Valley	1,528	15.5	9,872	6,681	40.4	16,553
Grampian	2,420	14.5	16,698	10,575	38.8	27,273
Greater Glasgow and Clyde	5,683	17.3	32,799	27,100	45.2	59,899
Highland	1,643	14.2	11,601	5,593	32.5	17,194
Lanarkshire	3,371	16.3	20,683	17,366	45.6	38,049
Lothian	3,581	16.9	21,189	18,366	46.4	39,555
Orkney	98	13.4	734	384	34.3	1,118
Shetland	90	11.6	775	267	25.6	1,042
Tayside	2,073	15.1	13,705	8,095	37.1	21,800
Western Isles	133	14.9	895	521	36.8	1,416
Scotland	25,877	15.9	163,250	119,576	42.3	282,826

Measure 5: Cholesterol and Blood Pressure

Percentage of people with diabetes aged 50 to 69 with a total cholesterol <5 mmol/l AND a systolic blood pressure <140 mmHg in the prior 15 months

Methodology

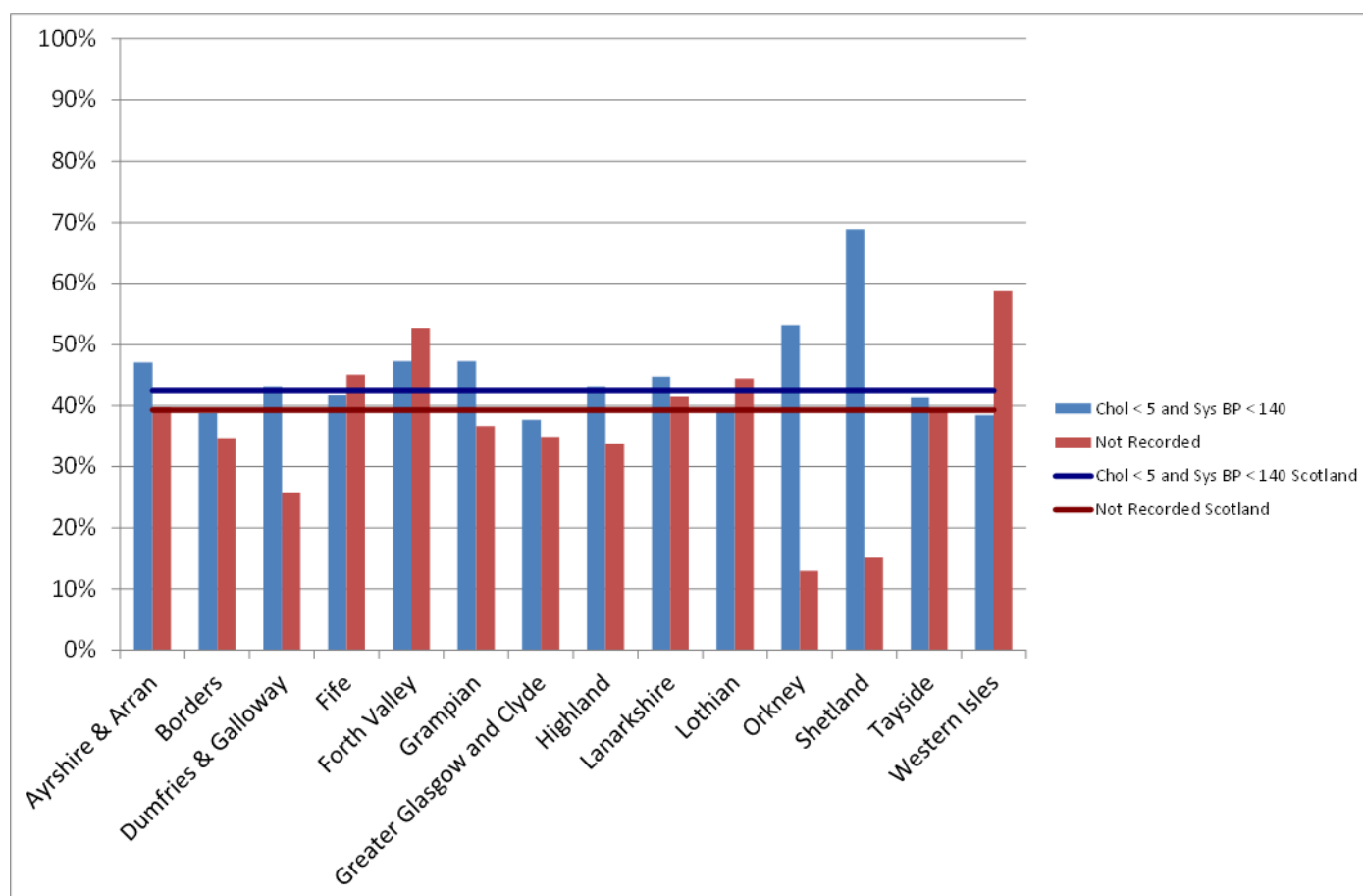
Included population = all people with diabetes aged ≥ 50 and < 70 years are included.

Numerator 1 = the number of people with diabetes aged 50-69 years whose latest cholesterol was <5 mmol/L AND whose latest SBP was <140 mmHg.

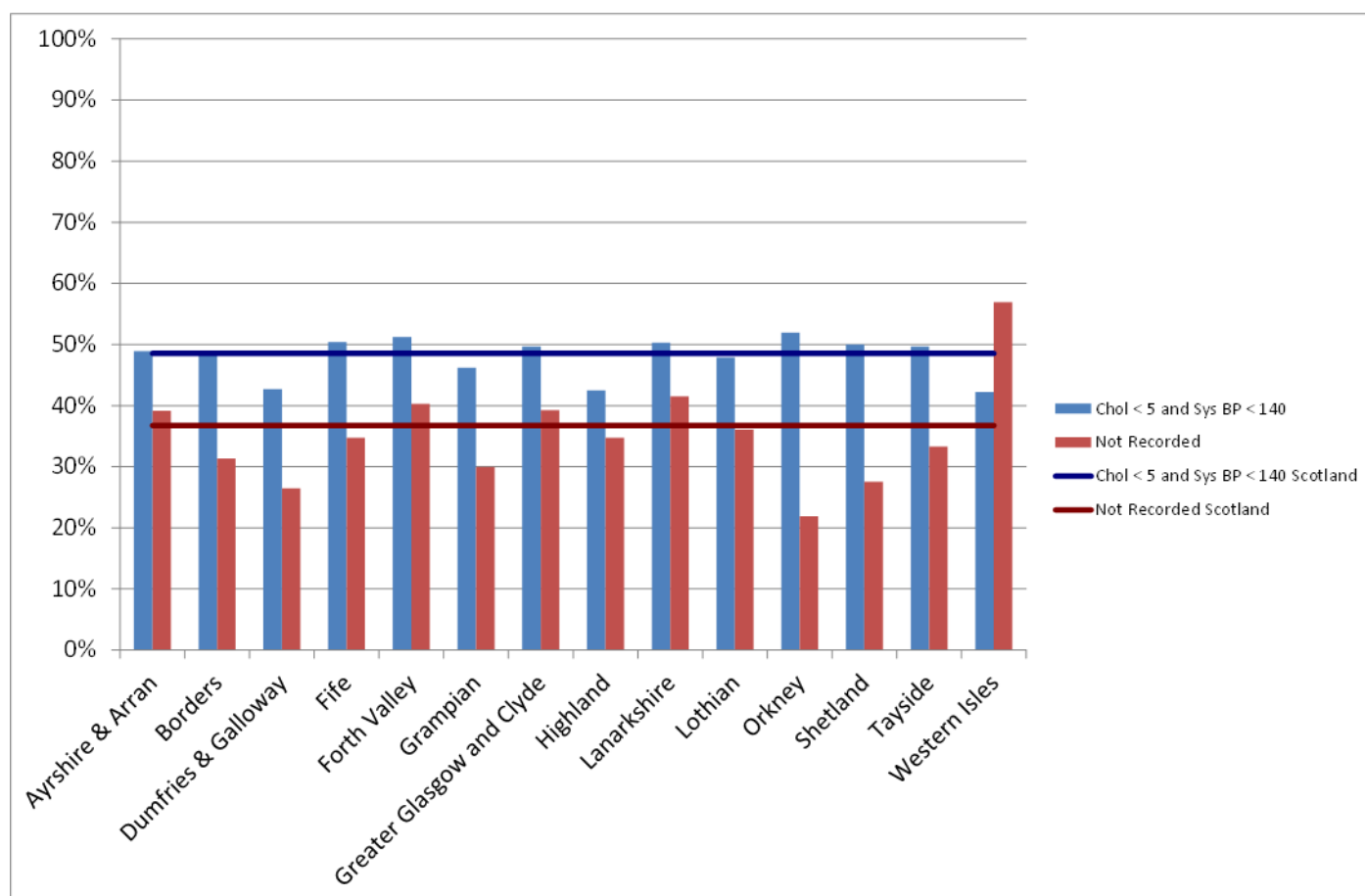
Denominator 1 = the total number of people with diabetes aged 50-69 years who had both a cholesterol value and an SBP result recorded in the prior 15 months.

Numerator 2 = "Not Recorded" - the number of people with diabetes aged 50-69 years who did NOT have both a cholesterol AND an SBP result recorded in the prior 15 months.

Denominator 2 = the total cohort of people with diabetes aged 50-69 years.

Figure 29 Measure 5: Cholesterol and blood pressure - Type 1 age 50-69 by NHS board, Scotland 2020.**Table 42 Measure 5: Cholesterol and blood pressure - Type 1 age 50-69 by NHS board, Scotland 2020.**

NHS board	Cholesterol <5 mmol / L and Systolic BP <140 mmHg		Recorded people (n)	Not Recorded		All aged 50-69 (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	225	47.1	478	314	39.6	792
Borders	76	38.8	196	104	34.7	300
Dumfries & Galloway	129	43.1	299	104	25.8	403
Fife	179	41.7	429	352	45.1	781
Forth Valley	140	47.3	296	330	52.7	626
Grampian	367	47.3	776	449	36.7	1,225
Greater Glasgow and Clyde	491	37.6	1,305	699	34.9	2,004
Highland	227	43.2	526	269	33.8	795
Lanarkshire	392	44.7	876	619	41.4	1,495
Lothian	358	39.1	916	732	44.4	1,648
Orkney	25	53.2	47	7	13.0	54
Shetland	31	68.9	45	8	15.1	53
Tayside	199	41.3	482	308	39.0	790
Western Isles	10	38.5	26	37	58.7	63
Scotland	2,849	42.5	6,697	4,332	39.3	11,029

Figure 30 Measure 5: Cholesterol and blood pressure - Type 2 and other age 50-69 by NHS board, Scotland 2020.**Table 43 Measure 5: Cholesterol and blood pressure - Type 2 and other age 50-69 by NHS board, Scotland 2020.**

NHS board	Cholesterol <5 mmol / L and Systolic BP <140 mmHg		Recorded people (n)	Not Recorded		All aged 50-69 (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	3,224	48.9	6,594	4,244	39.2	10,838
Borders	898	48.7	1,844	842	31.3	2,686
Dumfries & Galloway	1,232	42.7	2,886	1,039	26.5	3,925
Fife	3,142	50.4	6,234	3,320	34.7	9,554
Forth Valley	2,351	51.2	4,588	3,096	40.3	7,684
Grampian	3,917	46.2	8,483	3,635	30.0	12,118
Greater Glasgow and Clyde	9,031	49.7	18,169	11,745	39.3	29,914
Highland	2,122	42.5	4,994	2,661	34.8	7,655
Lanarkshire	5,460	50.3	10,848	7,700	41.5	18,548
Lothian	5,615	47.9	11,729	6,613	36.1	18,342
Orkney	202	51.9	389	109	21.9	498
Shetland	172	50.0	344	131	27.6	475
Tayside	3,165	49.7	6,367	3,175	33.3	9,542
Western Isles	112	42.3	265	350	56.9	615
Scotland	40,643	48.5	83,734	48,660	36.8	132,394

Measure 6: Foot Ulcers

Percentage of people with diabetes with prevalent (recorded at any time) and incident (recorded in the prior year) foot ulcers - presented in defined age ranges.

Foot Risk is not one of the applicable Processes of Care for those under 18 years of age, and consequently the data for those under 18 have been omitted.

Methodology

Included population = all people of any age with diabetes are included.

Numerator 1 (Prevalent ulcers) = number of patients with diabetes by type of diabetes whose latest foot status records one or more active foot ulcer/s.

Numerator 2 (Incident ulcers) = number of patients with diabetes by type of diabetes who have had a new ulcer recorded in the last 12 months via any source.

Denominator = the total number of people with diabetes by type of diabetes.

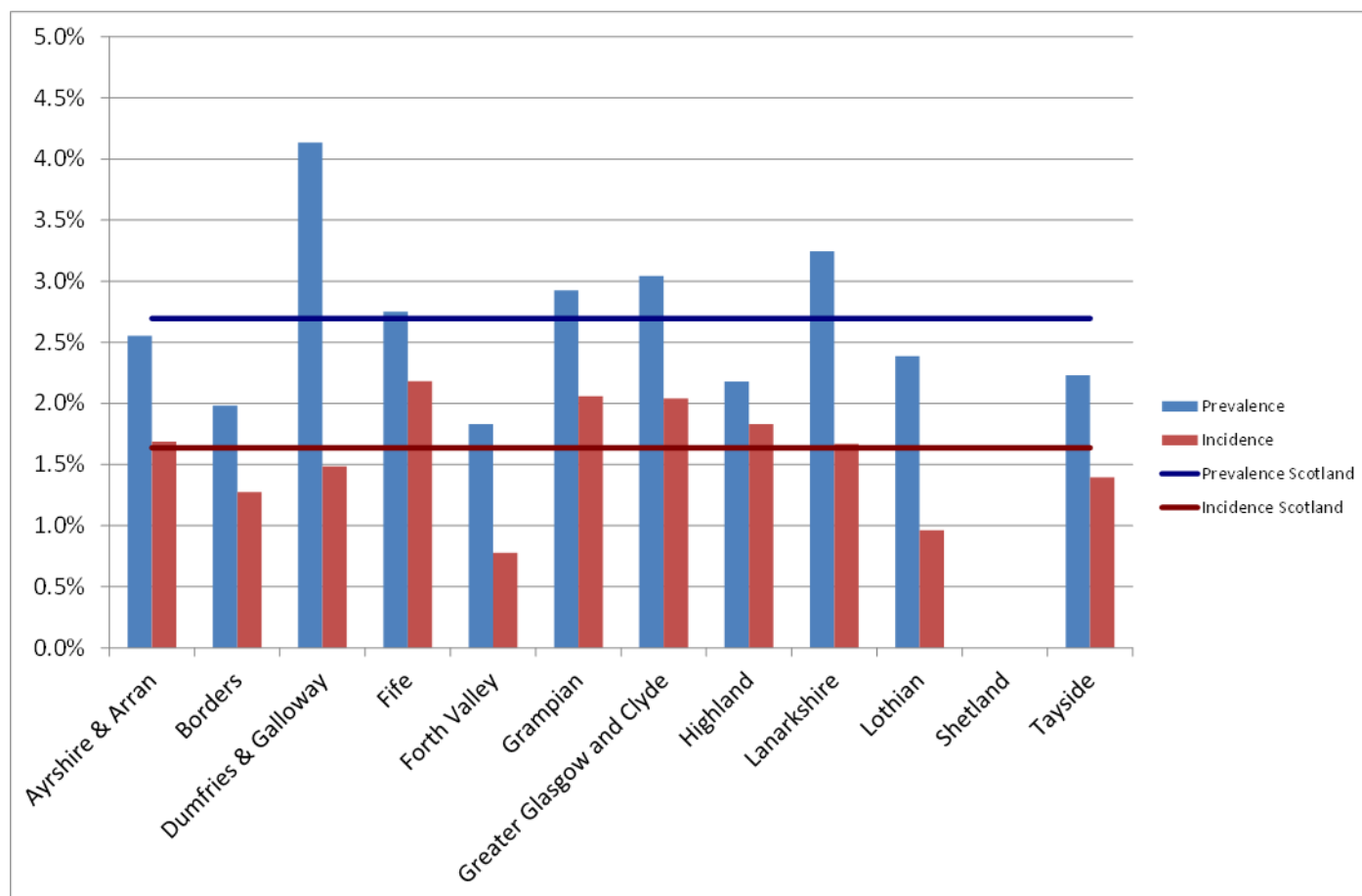
Notes:

Incident ulcers in this report are all new ulcers that occurred in the prior 12 months even in patients with a previous history of foot ulceration. It is not where a person with totally "clean" feet develops a first ever foot ulcer.

Incident ulcers are determined by either of the following methods:

A sequence where an "Active Ulceration" record changes from "No" or "Not recorded" to "Yes" or "Yes Side Unspecified" at any time in the preceding 12 months.

A foot ulcer is recorded via the Ulcer Management screens with a Start Date at any time in the preceding 12 months.

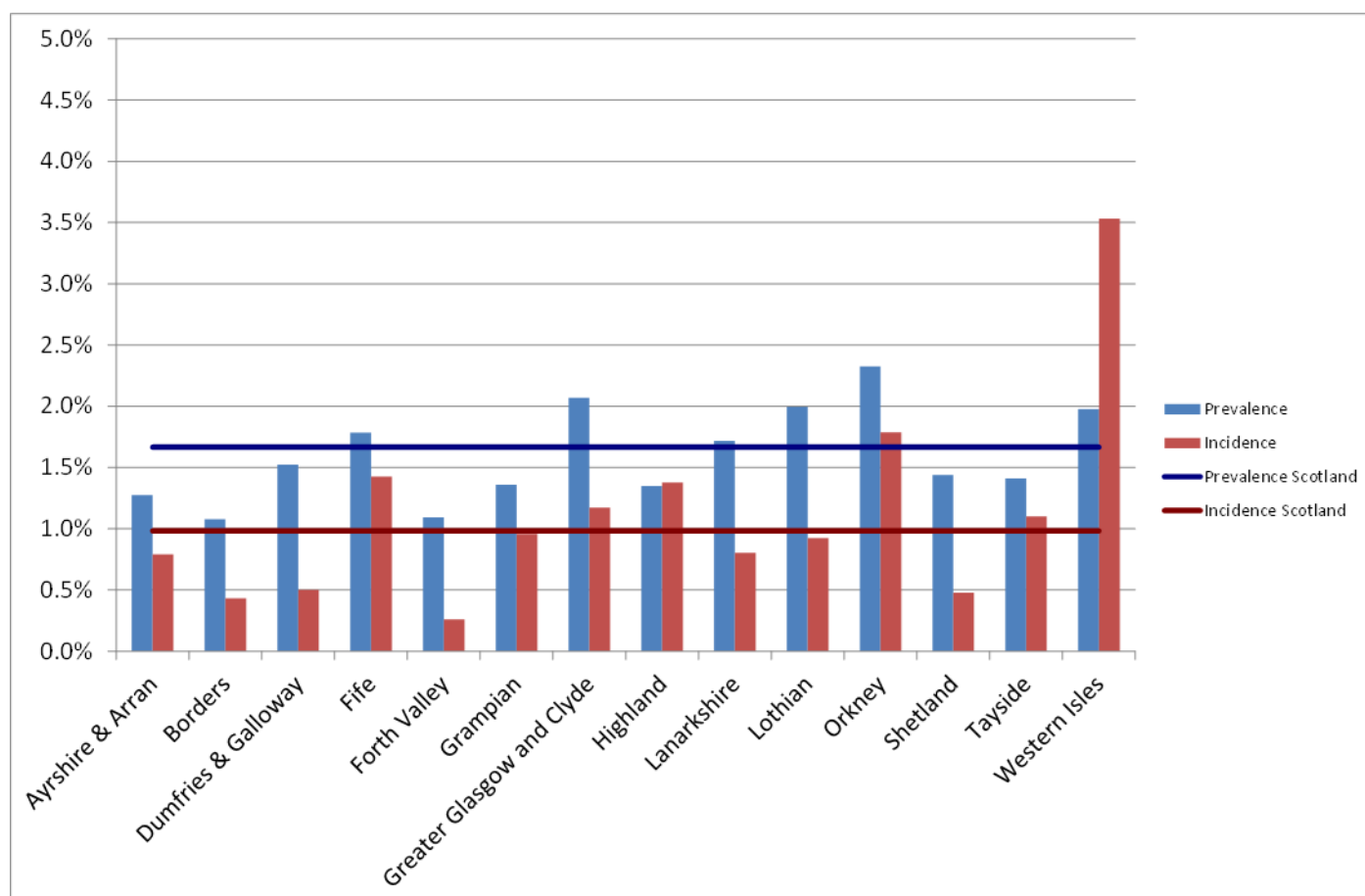
Figure 31 Measure 6: Foot ulcers - Type 1 age 18+ by NHS board, Scotland 2020.

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

Table 44 Measure 6: Foot ulcers - Type 1 age 18+ by NHS board, Scotland 2020.

NHS board	Prevalence		Incidence		All aged 18+ (n)
	People (n)	%	People (n)	%	
Ayrshire & Arran	56	2.6	37	1.7	2,192
Borders	14	2.0	9	1.3	706
Dumfries & Galloway	39	4.1	14	1.5	943
Fife	58	2.8	46	2.2	2,107
Forth Valley	33	1.8	14	0.8	1,801
Grampian	98	2.9	69	2.1	3,350
Greater Glasgow and Clyde	191	3.0	128	2.0	6,273
Highland	44	2.2	37	1.8	2,019
Lanarkshire	134	3.2	69	1.7	4,128
Lothian	114	2.4	46	1.0	4,774
Orkney	*	*	*	*	123
Shetland	0	0.0	0	0.0	139
Tayside	48	2.2	30	1.4	2,151
Western Isles	*	*	*	*	195
Scotland	833	2.7	506	1.6	30,901

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

Figure 32 Measure 6: Foot ulcers - Type 2 and other age 18+ by NHS board, Scotland 2020.**Table 45 Measure 6: Foot ulcers - Type 2 and other age 18+ by NHS board, Scotland 2020.**

NHS board	Prevalence		Incidence		All aged 18+ (n)
	People (n)	%	People (n)	%	
Ayrshire & Arran	293	1.3	182	0.8	22,961
Borders	67	1.1	27	0.4	6,220
Dumfries & Galloway	137	1.5	45	0.5	8,980
Fife	371	1.8	296	1.4	20,766
Forth Valley	181	1.1	43	0.3	16,553
Grampian	371	1.4	261	1.0	27,273
Greater Glasgow and Clyde	1,240	2.1	703	1.2	59,899
Highland	232	1.3	237	1.4	17,194
Lanarkshire	654	1.7	306	0.8	38,049
Lothian	790	2.0	366	0.9	39,555
Orkney	26	2.3	20	1.8	1,118
Shetland	15	1.4	5	0.5	1,042
Tayside	308	1.4	240	1.1	21,800
Western Isles	28	2.0	50	3.5	1,416
Scotland	4,713	1.7	2,781	1.0	282,826

Measure 7: Retinopathy Screening

Percentage of people with diabetes eligible for diabetic retinopathy screening (DRS) who were screened within last 15 months - presented in defined age ranges.

Methodology

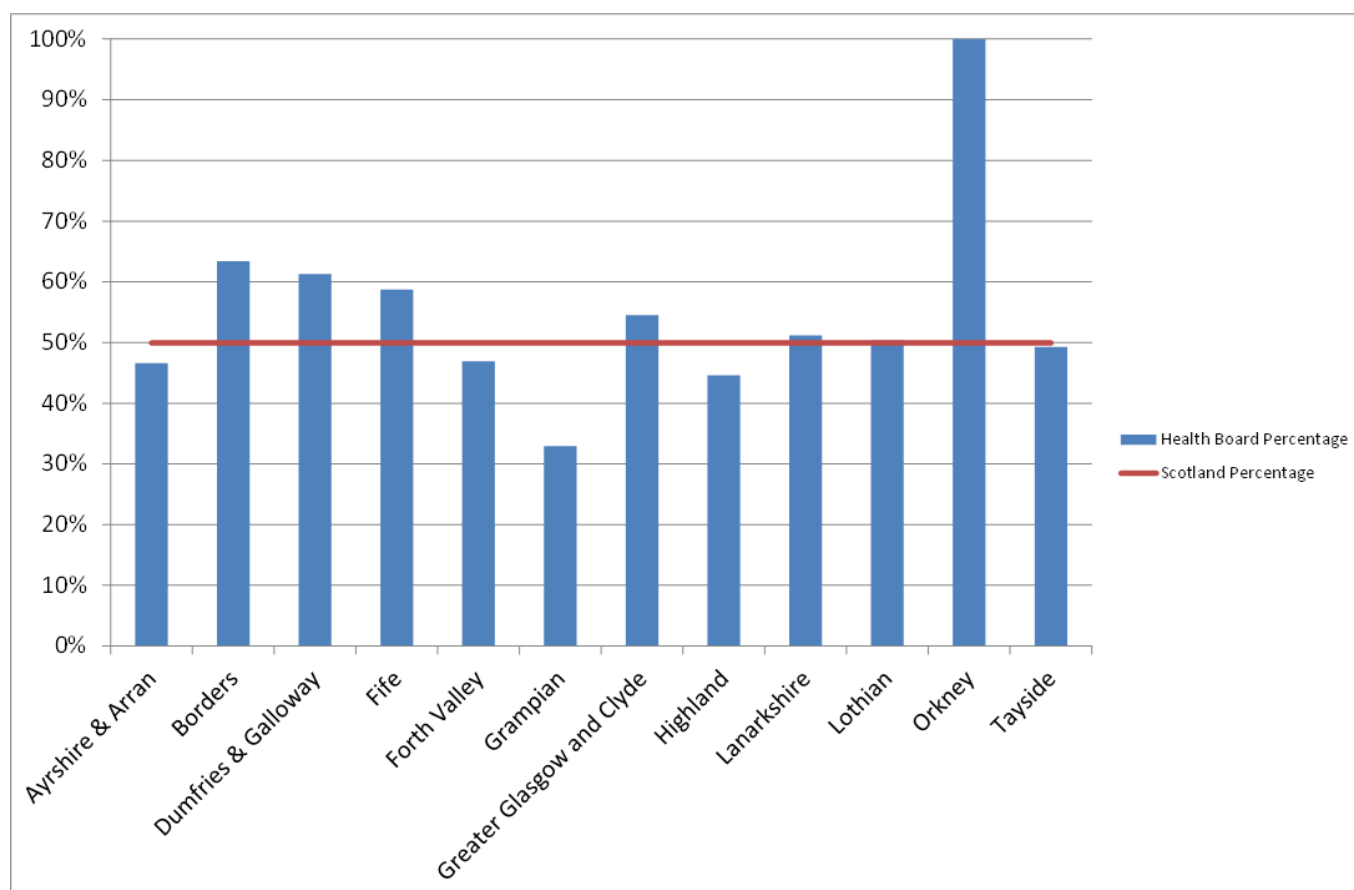
Included population = all people with diabetes aged 12 or over who have not been suspended from eye-screening. Those flagged as "Temporarily Unavailable" are still considered eligible and included in denominator.

Numerator = number of eligible people with diabetes in each age/type cohort who had a DRS screening attendance recorded in the prior 15 months

Denominator = the total number of DRS eligible people with diabetes in each age/type cohort

Notes

DRS attendance = "Attended - Successfully Screened" or "Attended - Unsuccessfully Screened". Both are considered actual screenings.

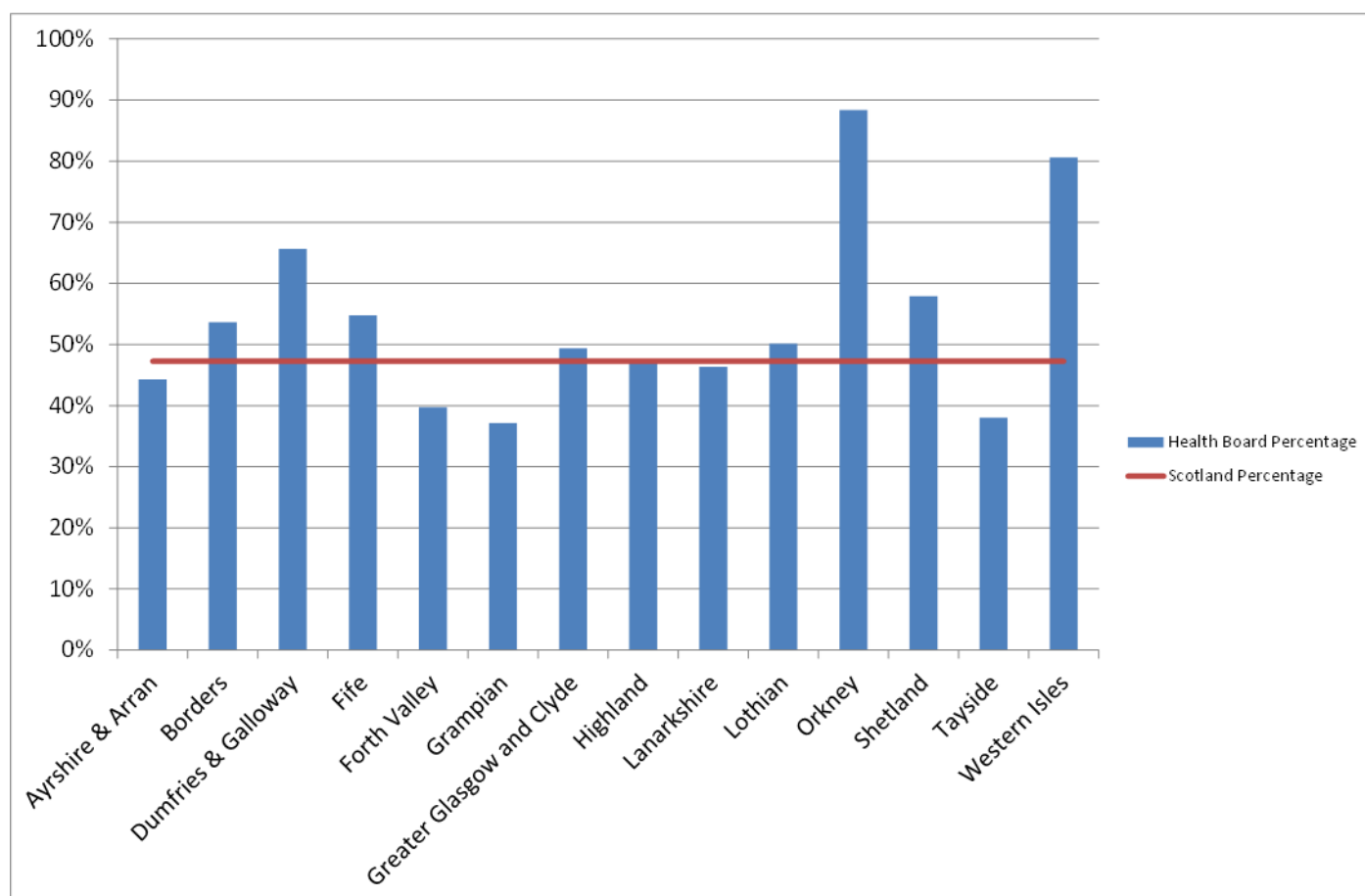
Figure 33 Measure 7: Retinopathy screening - Type 1 and other age 12-17 by NHS board, Scotland 2020.

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

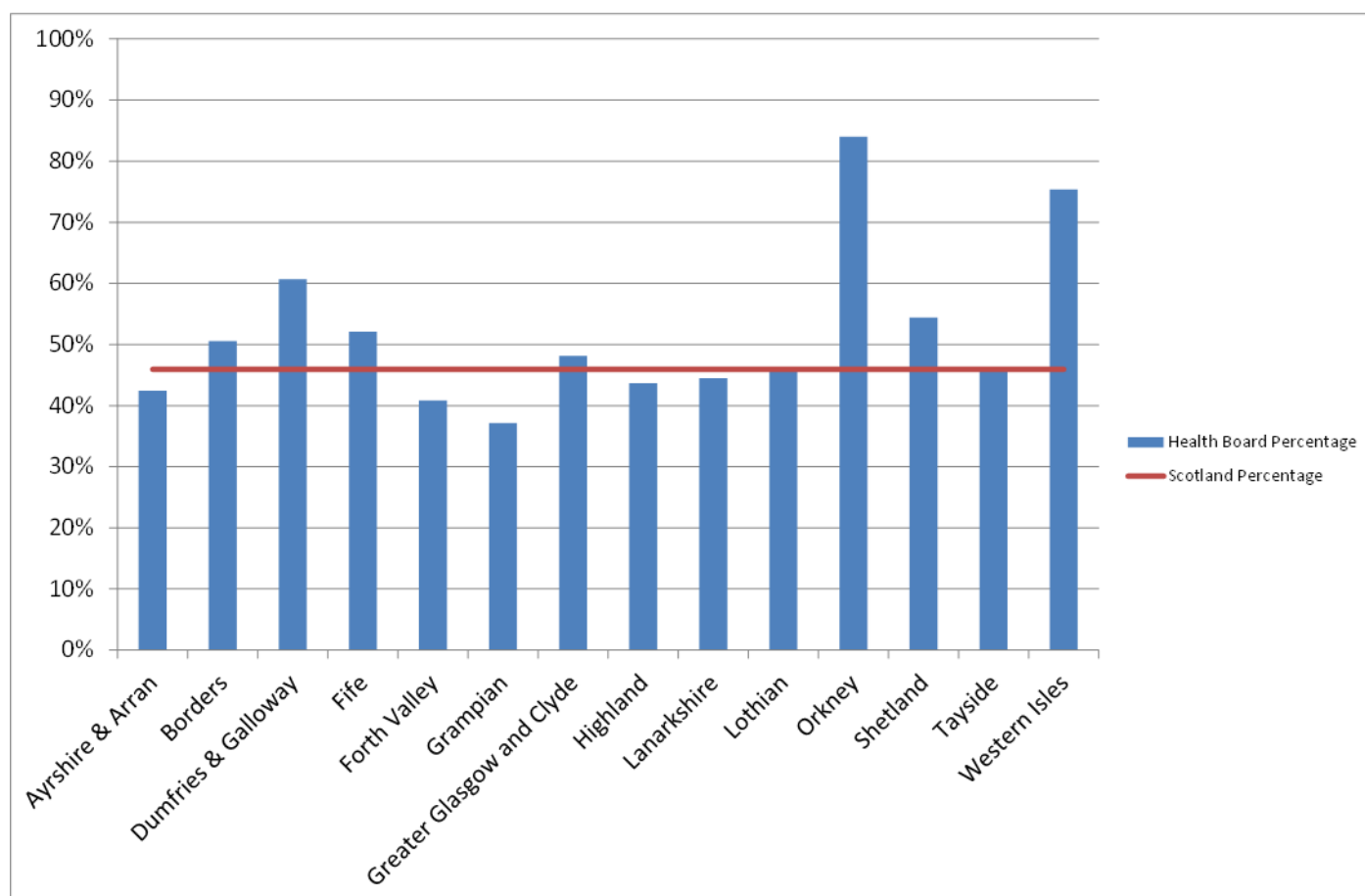
Table 46 Measure 7: Retinopathy screening – Type 1 and other age 12-17 by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 12-17 (n)
	People (n)	%	
Ayrshire & Arran	76	46.6	163
Borders	26	63.4	41
Dumfries & Galloway	38	61.3	62
Fife	84	58.7	143
Forth Valley	61	46.9	130
Grampian	79	32.9	240
Greater Glasgow and Clyde	210	54.5	385
Highland	66	44.6	148
Lanarkshire	149	51.2	291
Lothian	143	50.4	284
Orkney	*	100.0	*
Shetland	*	*	*
Tayside	70	49.3	142
Western Isles	*	*	*
Scotland	1,031	49.9	2,065

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

Figure 34 Measure 7: Retinopathy screening - Type 1 age 18+ by NHS board, Scotland 2020.**Table 47 Measure 7: Retinopathy screening - Type 1 age 18+ by NHS board, Scotland 2020.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	938	44.3	2,117
Borders	359	53.7	669
Dumfries & Galloway	600	65.6	914
Fife	1,108	54.8	2,023
Forth Valley	696	39.7	1,752
Grampian	1,195	37.2	3,215
Greater Glasgow and Clyde	2,873	49.4	5,818
Highland	904	47.0	1,922
Lanarkshire	1,741	46.3	3,757
Lothian	2,286	50.1	4,559
Orkney	106	88.3	120
Shetland	77	57.9	133
Tayside	751	38.0	1,975
Western Isles	154	80.6	191
Scotland	13,788	47.3	29,165

Figure 35 Measure 7: Retinopathy screening - Type 2 and other age 18+ by NHS board, Scotland 2020.**Table 48 Measure 7: Retinopathy screening - Type 2 and other age 18+ by NHS board, Scotland 2020.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	9,535	42.5	22,461
Borders	3,035	50.6	6,002
Dumfries & Galloway	5,313	60.7	8,758
Fife	10,576	52.1	20,302
Forth Valley	6,690	40.8	16,386
Grampian	9,880	37.1	26,612
Greater Glasgow and Clyde	28,030	48.1	58,249
Highland	7,344	43.6	16,830
Lanarkshire	16,368	44.5	36,778
Lothian	17,591	45.6	38,539
Orkney	907	84.0	1,080
Shetland	544	54.4	1,000
Tayside	9,686	45.9	21,083
Western Isles	1,047	75.4	1,389
Scotland	126,546	45.9	275,469

Measure 8: Prevalence of End Stage Renal Disease

Percentage of people with diabetes who have End Stage Renal Disease (ESRD) or requiring Renal Replacement Therapy (RRT) – presented in defined age ranges.

End Stage Renal Disease is not one of the applicable Processes of Care for those under 18 years of age, and consequently data for those under 18 have been omitted.

Methodology

Included population = all people with diabetes aged 18 or over are included.

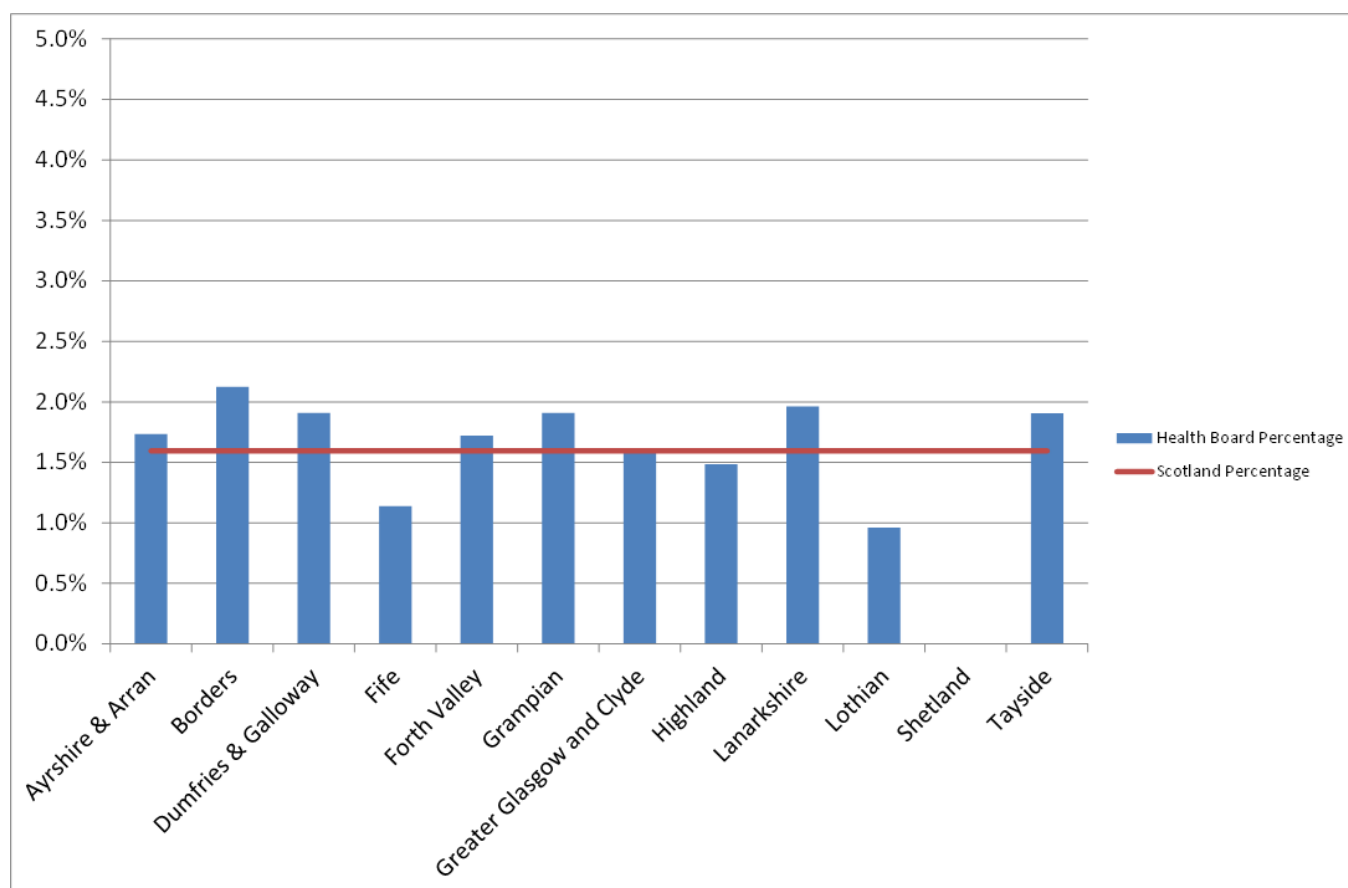
Numerator = number of people with diabetes by type of diabetes identified as having ESRD or requiring RRT

Denominator = the total number of people with diabetes by type of diabetes.

Notes

ESRD/RRT is identified where any of the following is true:

- Data item "End Stage Renal Failure Date" is populated with any value
- Data item "Renal Replacement Therapy" is populated with any value
- Either serum creatinine was greater than 500 $\mu\text{mol/l}$ or eGFR was less than 15 ml/min/1.73 m^2 (stage 5 chronic kidney disease) on two occasions at least three months (93 days) apart within the previous 15 months

Figure 36 Measure 8: Prevalence of End Stage Renal Disease - Type 1 age 18+ by NHS board, Scotland 2020.

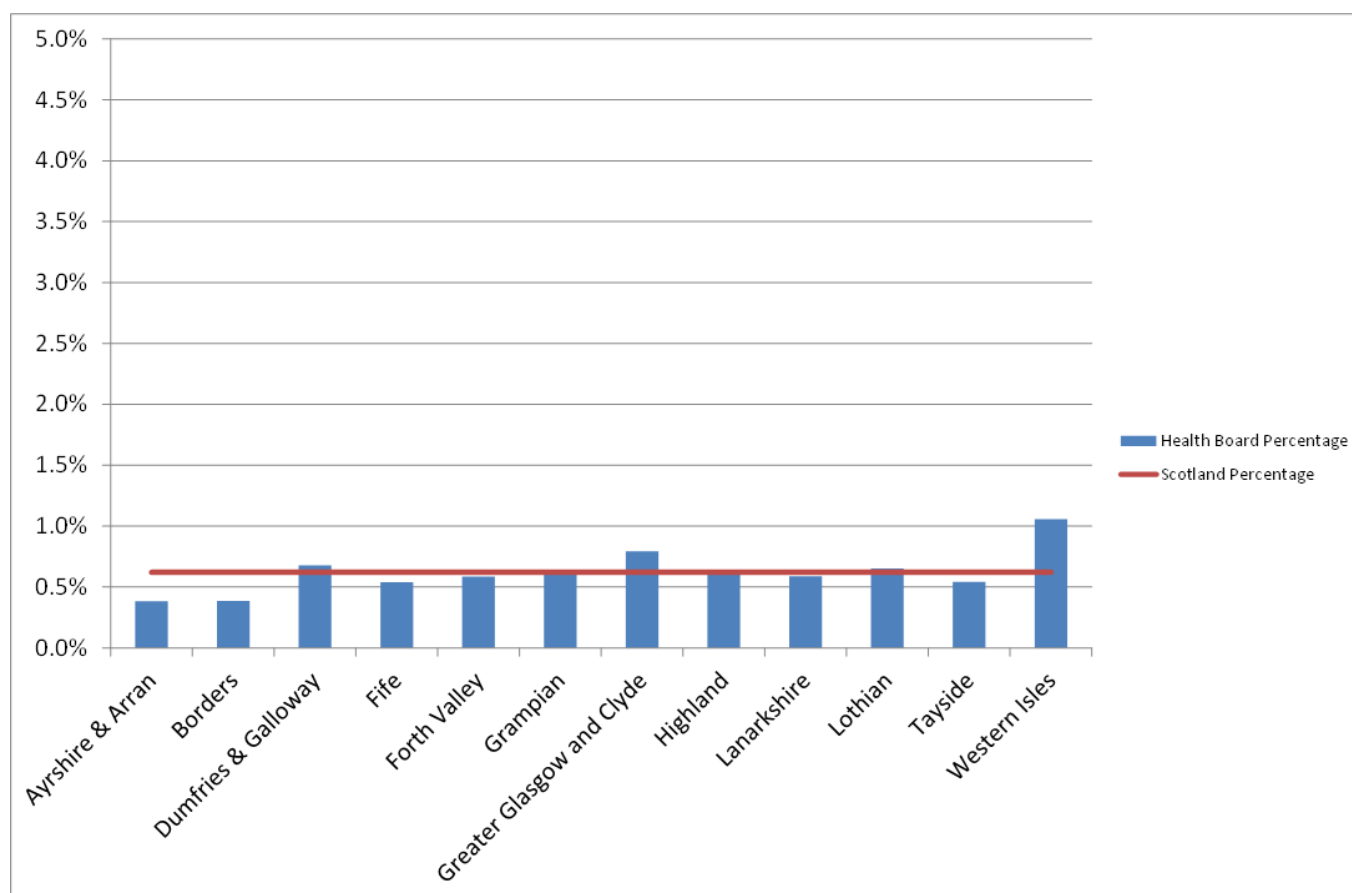
Note: Bars for boards with hidden data are not shown.

Table 49 Measure 8: Prevalence of End Stage Renal Disease - Type 1 age 18+ by NHS board, Scotland 2020.

NHS board	Developed End Stage Renal Disease		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	38	1.7	2,192
Borders	15	2.1	706
Dumfries & Galloway	18	1.9	943
Fife	24	1.1	2,107
Forth Valley	31	1.7	1,801
Grampian	64	1.9	3,350
Greater Glasgow and Clyde	101	1.6	6,273
Highland	30	1.5	2,019
Lanarkshire	81	2.0	4,128
Lothian	46	1.0	4,774
Orkney	*	*	123
Shetland	0	0.0	139
Tayside	41	1.9	2,151
Western Isles	*	*	195
Scotland	493	1.6	30,901

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

Figure 37 Measure 8: Prevalence of End Stage Renal Disease - Type 2 and other age 18+ by NHS board, Scotland 2020.



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

Table 50 Measure 8: Prevalence of End Stage Renal Disease - Type 2 and other age 18+ by NHS board, Scotland 2020.

NHS board	Developed End Stage Renal Disease		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	88	0.4	22,961
Borders	24	0.4	6,220
Dumfries & Galloway	61	0.7	8,980
Fife	112	0.5	20,766
Forth Valley	97	0.6	16,553
Grampian	164	0.6	27,273
Greater Glasgow and Clyde	475	0.8	59,899
Highland	109	0.6	17,194
Lanarkshire	224	0.6	38,049
Lothian	258	0.7	39,555
Orkney	*	*	1,118
Shetland	*	*	1,042
Tayside	118	0.5	21,800
Western Isles	15	1.1	1,416
Scotland	1,757	0.6	282,826

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

Measure 9: Insulin Pump Therapy

Percentage of people with diabetes using CSII (Insulin Pump) therapy - presented in defined age ranges.

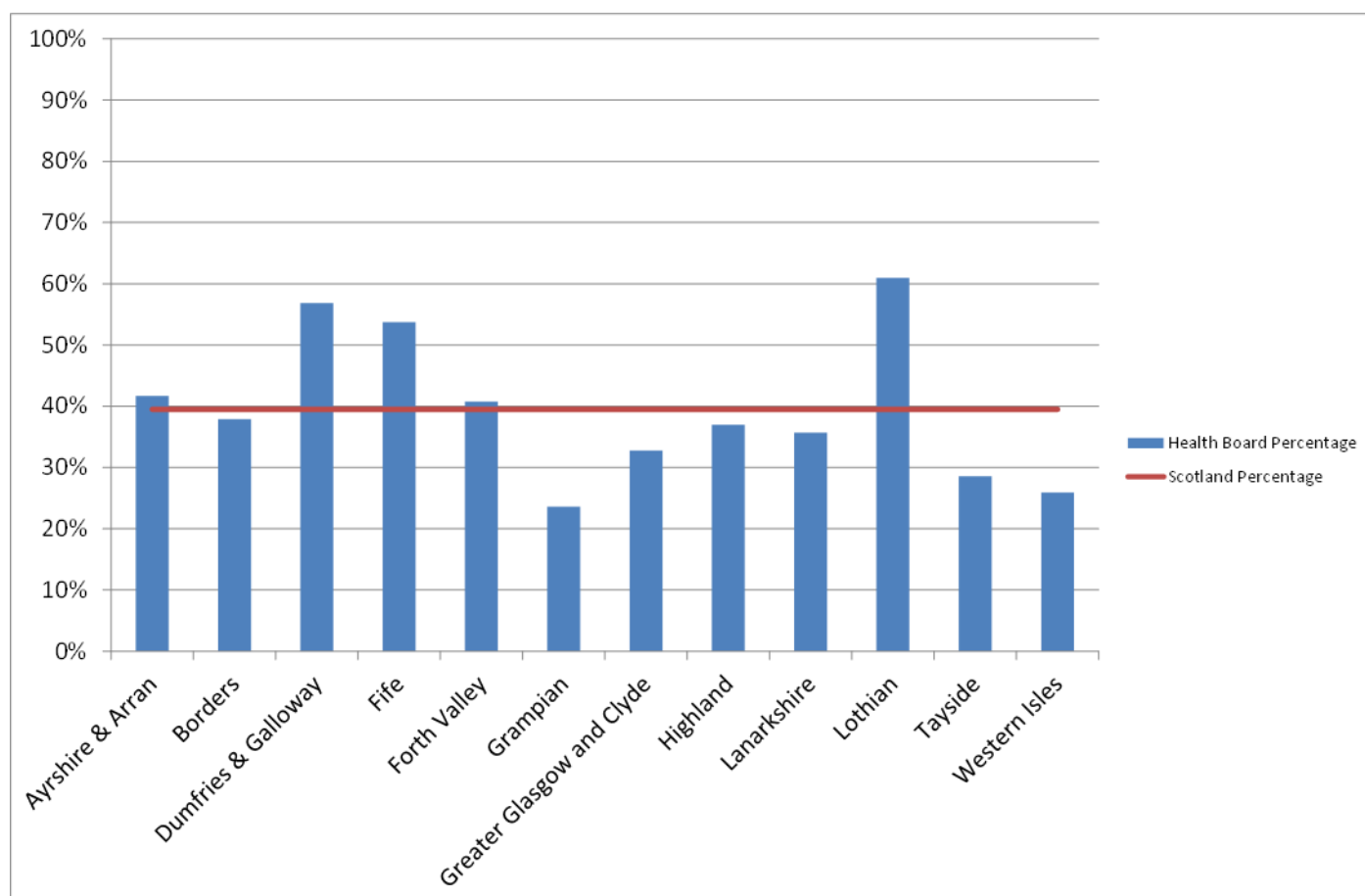
A national target was set in 2011 that 25% of all those in Scotland under 18 years of age with diabetes should have access to an insulin pump by March 2013. The figures show that this initial target has been met and, in most centres, exceeded. However, a clear majority remain using injection therapy.

Methodology

Included population = all people of any age with type 1 diabetes are included.

Numerator = number of people with type 1 diabetes in each age cohort identified as “Using an Insulin Pump Therapy Device”.

Denominator = the total number of people with type 1 diabetes in each age cohort.

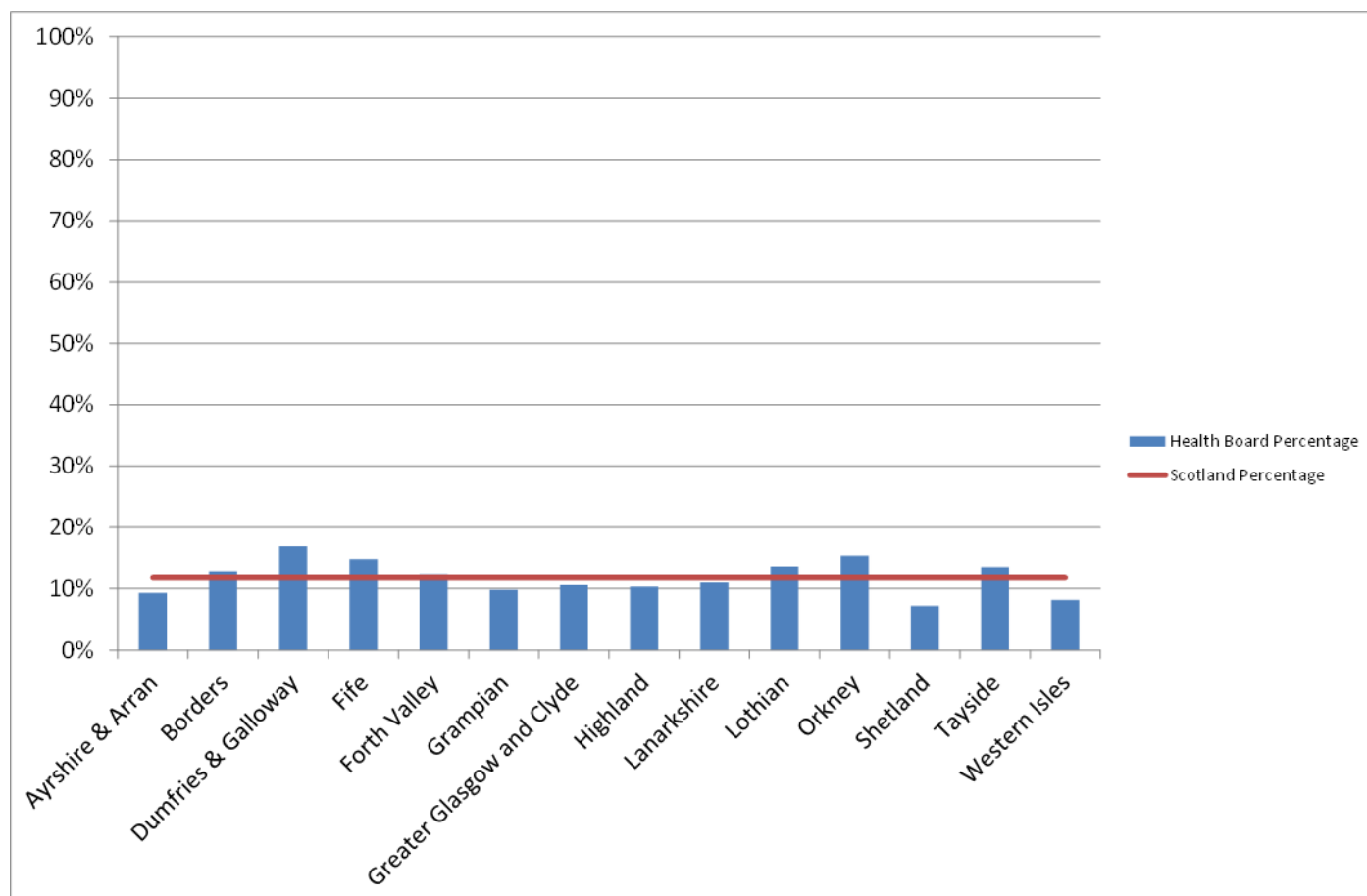
Figure 38 Measure 9: Insulin pump therapy - Type 1 age 0-17 by NHS board, Scotland 2020.

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

Table 51 Measure 9: Insulin pump therapy - Type 1 age 0-17 by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 0-17 (n)
	People (n)	%	
Ayrshire & Arran	101	41.7	242
Borders	22	37.9	58
Dumfries & Galloway	58	56.9	102
Fife	122	53.7	227
Forth Valley	86	40.8	211
Grampian	84	23.6	356
Greater Glasgow and Clyde	202	32.8	616
Highland	78	37.0	211
Lanarkshire	166	35.7	465
Lothian	255	61.0	418
Orkney	*	*	8
Shetland	*	*	16
Tayside	58	28.6	203
Western Isles	7	25.9	27
Scotland	1,249	39.5	3,160

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

Figure 39 Measure 9: Insulin pump therapy - Type 1 age 18+ by NHS board, Scotland 2020.**Table 52 Measure 9: Insulin pump therapy - Type 1 age 18+ by NHS board, Scotland 2020.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	204	9.3	2,192
Borders	91	12.9	706
Dumfries & Galloway	160	17.0	943
Fife	313	14.9	2,107
Forth Valley	221	12.3	1,801
Grampian	329	9.8	3,350
Greater Glasgow and Clyde	665	10.6	6,273
Highland	208	10.3	2,019
Lanarkshire	455	11.0	4,128
Lothian	652	13.7	4,774
Orkney	19	15.4	123
Shetland	10	7.2	139
Tayside	292	13.6	2,151
Western Isles	16	8.2	195
Scotland	3,635	11.8	30,901

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

Measure 10: Significant Weight Loss

Percentage of people with diabetes with a BMI ≥ 30 who have lost $\geq 5\%$ body weight in the last year - presented in defined age ranges (detailed description below).

Significant Weight Loss is not one of the applicable Processes of Care for those under 18 years of age, and consequently the data for those under 18 have been omitted.

Methodology

Included population = people with diabetes aged 18 or over who had a BMI ≥ 30 kg/m² recorded any time in the prior 15 months who also have a weight that precedes their latest weight (which must be recorded in the prior year) by 12 months (+/- 90 days) are included.

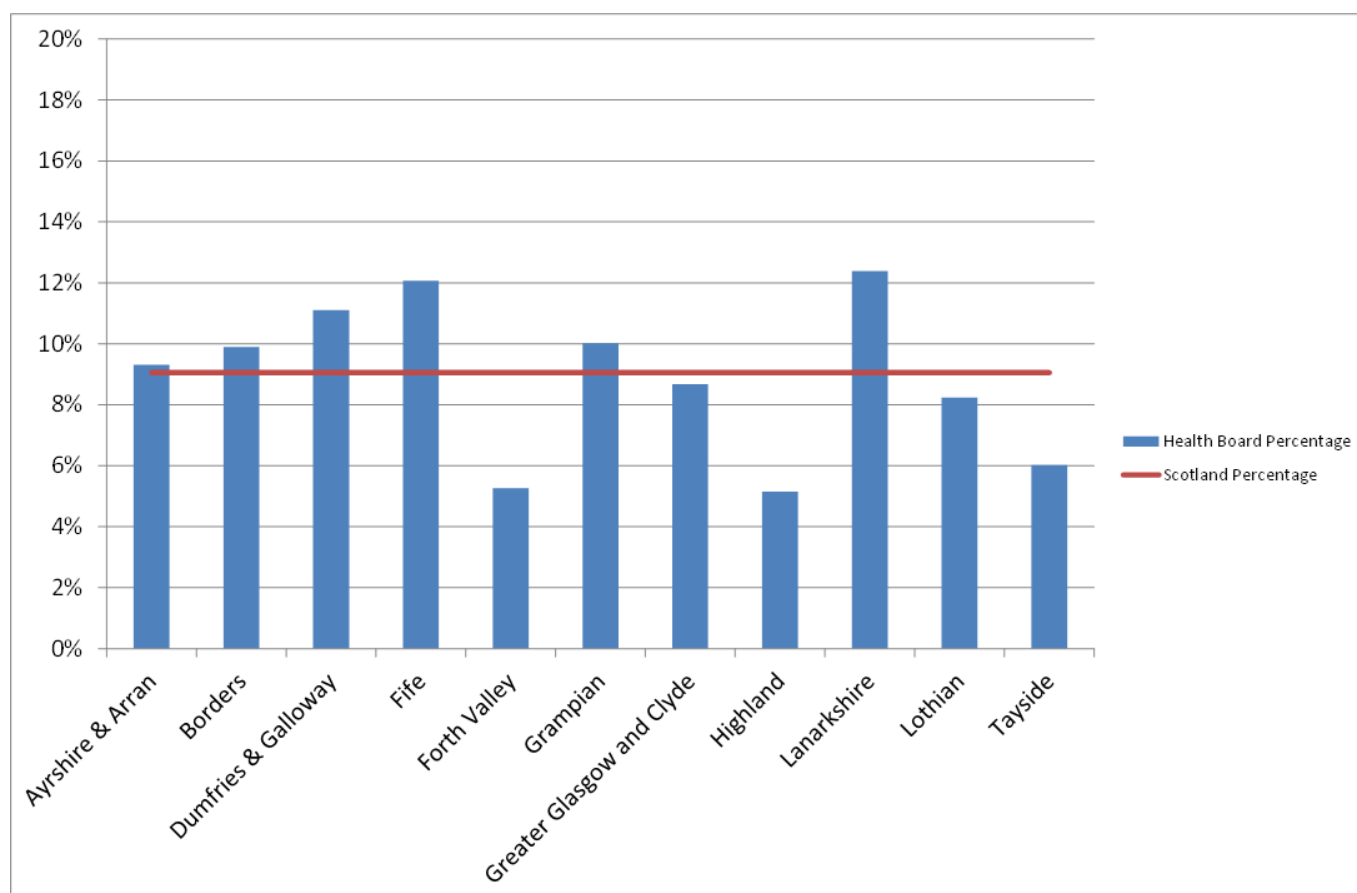
Numerator = number of people with diabetes aged 18 or over by type of diabetes whose latest weight shows a $\geq 5\%$ reduction since their weight 9-15 months ago.

Denominator = the total number of people with diabetes aged 18 or over by type of diabetes who meet the required inclusion criteria (see above).

Notes

People where their weight has reduced by 5% or more in the last year as determined by:

- Weight "now" is current weight recorded any time within the last year.
- Weight "one year ago" is the weight record closest to Weight "now" - 12 months within the time window of +/- 90 days (3 months).
- Patient meets the criteria if Weight "now" \leq (Weight "one year ago" - 5%).
- Only if both values can be determined will the calculation take place.

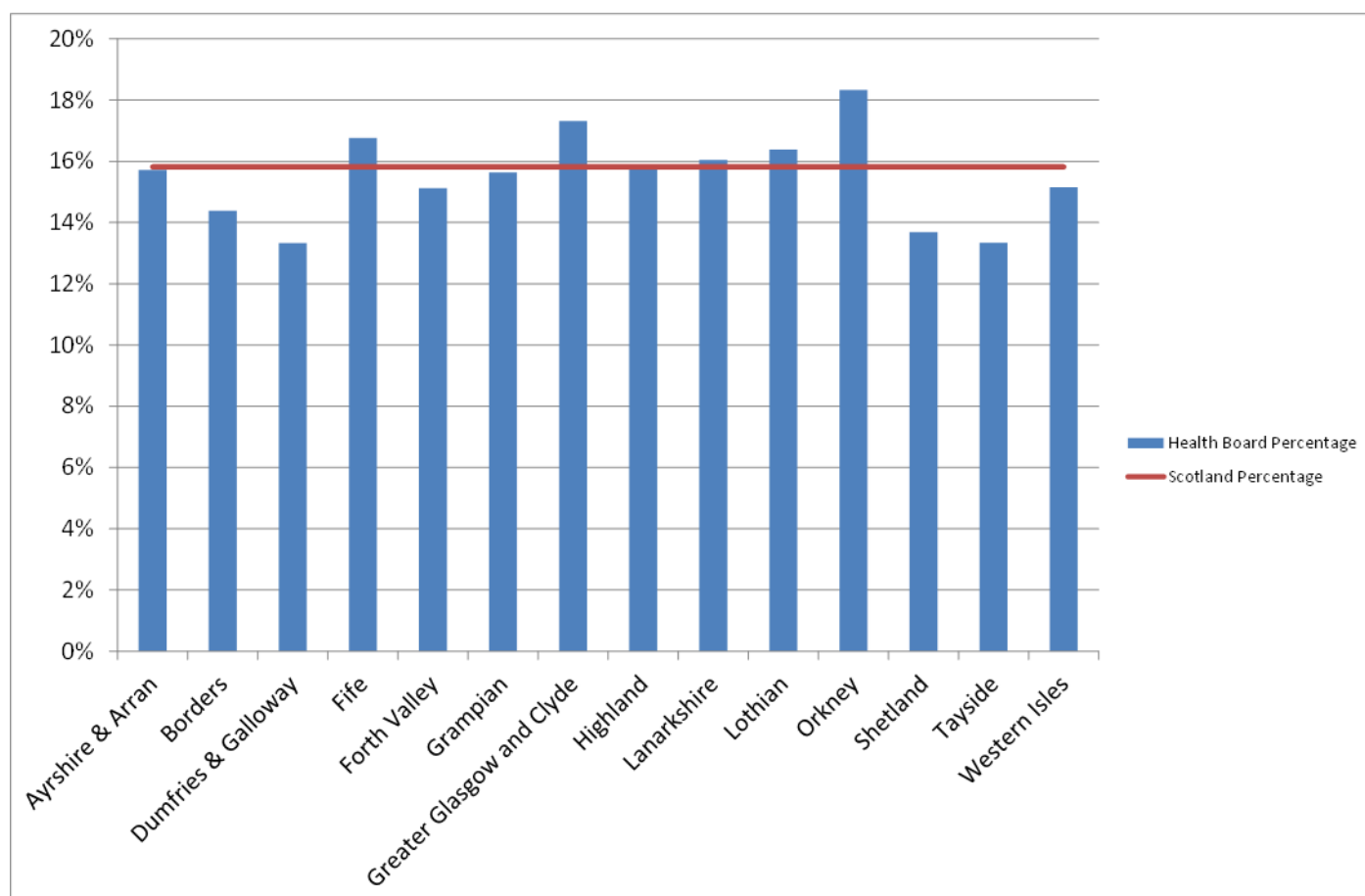
Figure 40 Measure 10: Significant weight loss - Type 1 age 18+ by NHS board, Scotland 2020.

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

Table 53 Measure 10: Significant weight loss - Type 1 age 18+ by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	15	9.3	161
Borders	9	9.9	91
Dumfries & Galloway	12	11.1	108
Fife	25	12.1	207
Forth Valley	6	5.3	114
Grampian	46	10.0	459
Greater Glasgow and Clyde	48	8.7	553
Highland	15	5.2	291
Lanarkshire	46	12.4	371
Lothian	30	8.2	364
Orkney	*	*	23
Shetland	*	*	22
Tayside	13	6.0	216
Western Isles	*	*	13
Scotland	271	9.1	2,993

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

Figure 41 Measure 10: Significant weight loss - Type 2 and other age 18+ by NHS board, Scotland 2020.**Table 54 Measure 10: Significant weight loss - Type 2 and other age 18+ by NHS board, Scotland 2020.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	580	15.7	3,688
Borders	189	14.4	1,313
Dumfries & Galloway	276	13.3	2,070
Fife	687	16.8	4,096
Forth Valley	463	15.1	3,062
Grampian	1,060	15.6	6,779
Greater Glasgow and Clyde	1,658	17.3	9,569
Highland	754	15.8	4,785
Lanarkshire	1,017	16.0	6,338
Lothian	1,143	16.4	6,970
Orkney	64	18.3	349
Shetland	40	13.7	292
Tayside	667	13.3	4,998
Western Isles	50	15.2	330
Scotland	8,648	15.8	54,639

Measure 11: Attended Structured Education

Percentage of people over 18 years of age with diabetes who have ever attended Level 3 structured education.

Attending Structural Education is not one of the applicable Processes of Care for those under 18 years of age, and consequently the data for those under 18 have been omitted.

Methodology

Included population = all people with diabetes aged 18 or over are included.

Numerator = number of people with diabetes aged 18 or over by type of diabetes who have at least one "Level 3" education record with "Education Status" = "Participated" at any time.

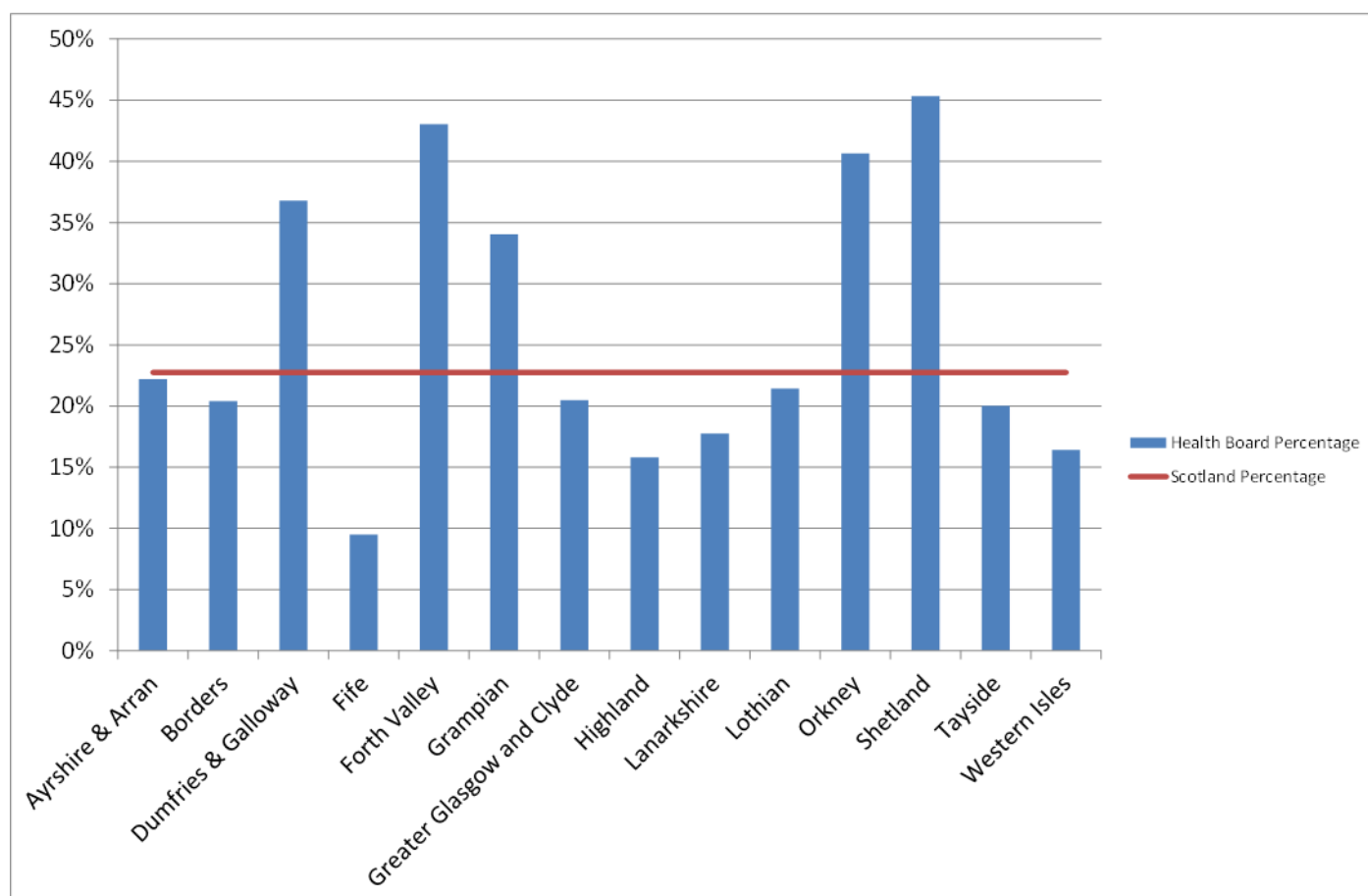
Denominator = the total number of people with diabetes aged 18 or over by type of diabetes.

Notes

An "Education Status" of "Participated" can only be recorded manually in SCI-Diabetes.

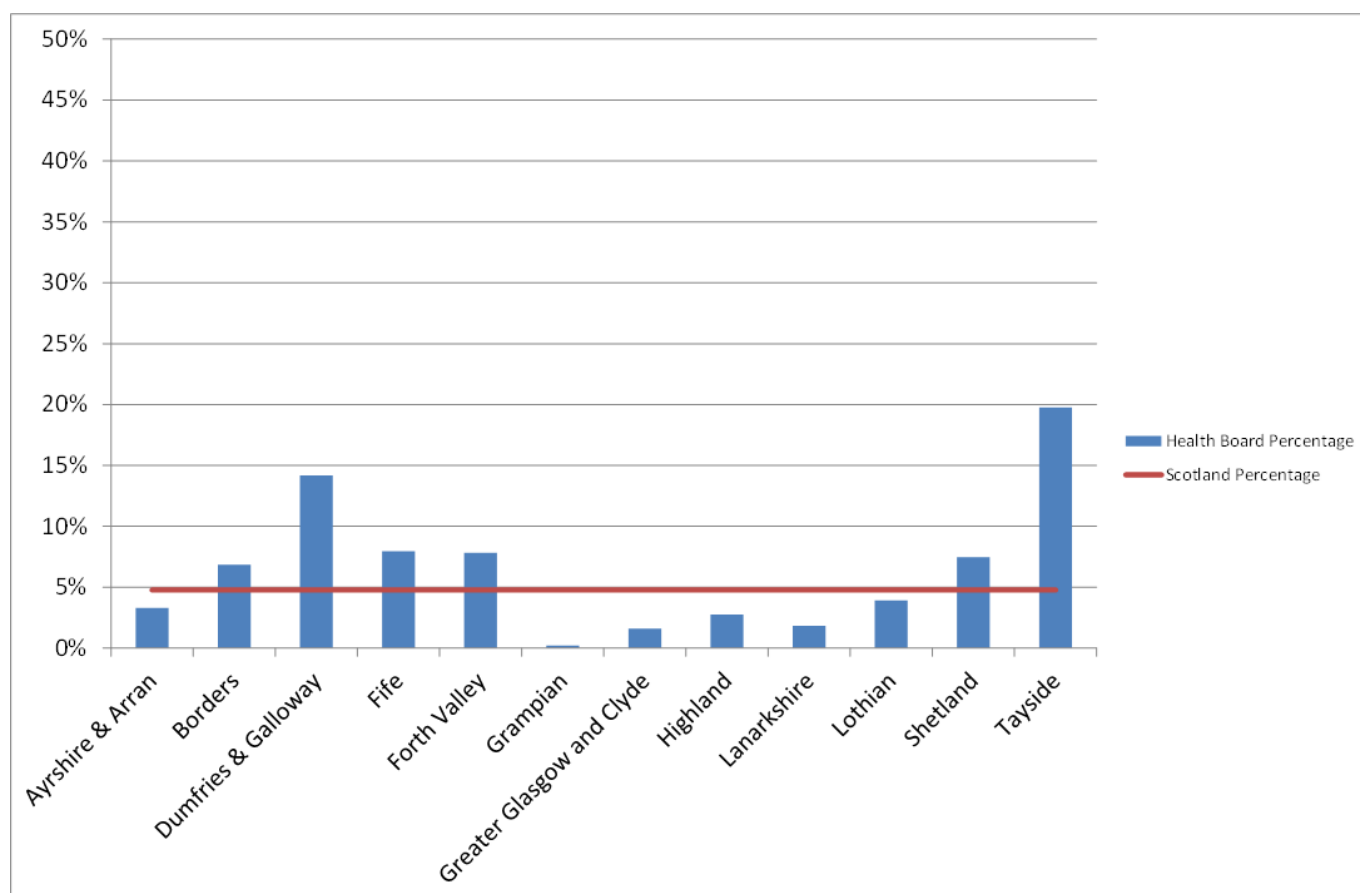
Comment

During the pandemic, delivering structured education has been challenging due to restrictions regarding face-to-face groups. Clinical teams have continued to support people with diabetes by adopting innovative alternatives through on-line platforms. Health Boards have different IT governance structures which, in turn, have led to an inequality of opportunity for on-line group education programmes. Solutions to these challenges continue to be explored both from an IT perspective and with HCPs delivering education 1 to 1 with alternatives for peer support. Collaboration continues with the Healthier Futures team as we address structured education delivery for the person with newly diagnosed type 2 diabetes. The opportunity for digital solutions continues alongside a toolkit of educational experiences to promote and support self-management and well-being.

Figure 42 Measure 11: Attended structured education - Type 1 age 18+ by NHS board, Scotland 2020.**Table 55 Measure 11: Record of having ever attended structured education - Type 1 age 18+ by NHS board, Scotland 2020.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	487	22.2	2,192
Borders	144	20.4	706
Dumfries & Galloway	347	36.8	943
Fife	200	9.5	2,107
Forth Valley	775	43.0	1,801
Grampian	1,140	34.0	3,350
Greater Glasgow and Clyde	1,285	20.5	6,273
Highland	319	15.8	2,019
Lanarkshire	733	17.8	4,128
Lothian	1,023	21.4	4,774
Orkney	50	40.7	123
Shetland	63	45.3	139
Tayside	431	20.0	2,151
Western Isles	32	16.4	195
Scotland	7,029	22.7	30,901

Figure 43 Measure 11: Record of having ever attended structured education - Type 1 age 18+ by NHS board, Scotland 2020.



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

Table 56 Measure 11: Record of having ever attended structured education - Type 2 and other age 18+ by NHS board, Scotland 2020.

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	757	3.3	22,961
Borders	427	6.9	6,220
Dumfries & Galloway	1,275	14.2	8,980
Fife	1,652	8.0	20,766
Forth Valley	1,295	7.8	16,553
Grampian	60	0.2	27,273
Greater Glasgow and Clyde	955	1.6	59,899
Highland	477	2.8	17,194
Lanarkshire	697	1.8	38,049
Lothian	1,545	3.9	39,555
Orkney	*	*	1,118
Shetland	78	7.5	1,042
Tayside	4,313	19.8	21,800
Western Isles	*	*	1,416
Scotland	13,538	4.8	282,826

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

Measure 12: Disengaged from Diabetes Care

Percentage of people with diabetes who are disengaged from diabetes care, i.e. absence of record of both HbA_{1c} and retinal screening in the preceding 15 months - presented in defined age ranges.

Disengaged from Diabetes Care is not one of the applicable Processes of Care for those under 18 years of age, and consequently the data for those under 18 have been omitted.

Methodology

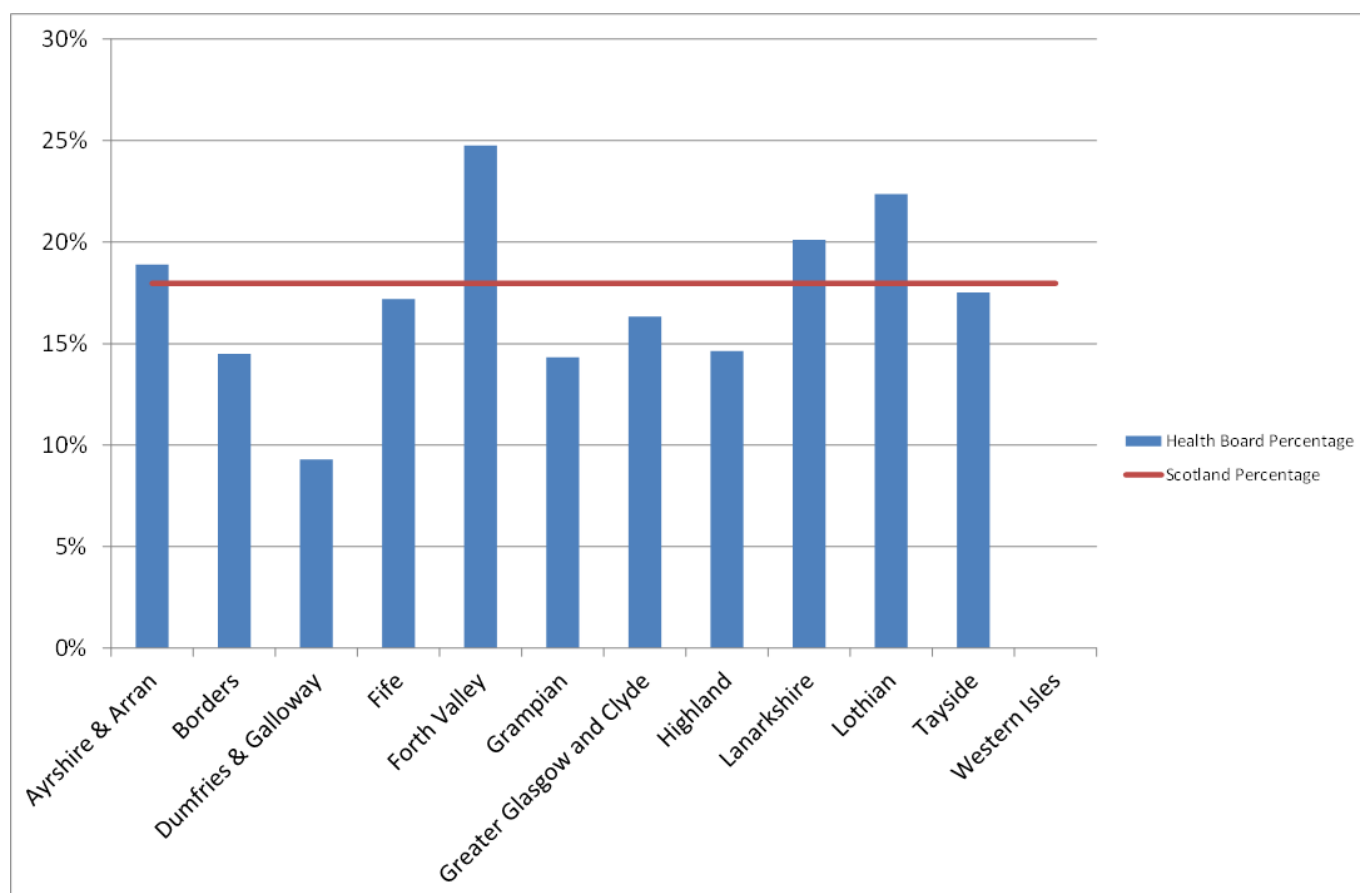
Included population = people with diabetes aged 18 or over who have a duration of diabetes ≥ 1 year are included.

Numerator = the total number of people in each age/type cohort who have no record of HbA_{1c} and no record of retinal screening in the prior 15 months.

Denominator = the total number of people in each age/type cohort who have a duration of diabetes ≥ 1 year

Notes

People currently suspended from eye-screening or who are under the care of Ophthalmology are considered to be "engaged" with service (in addition to those with a recorded HbA_{1c} or retinal screening).

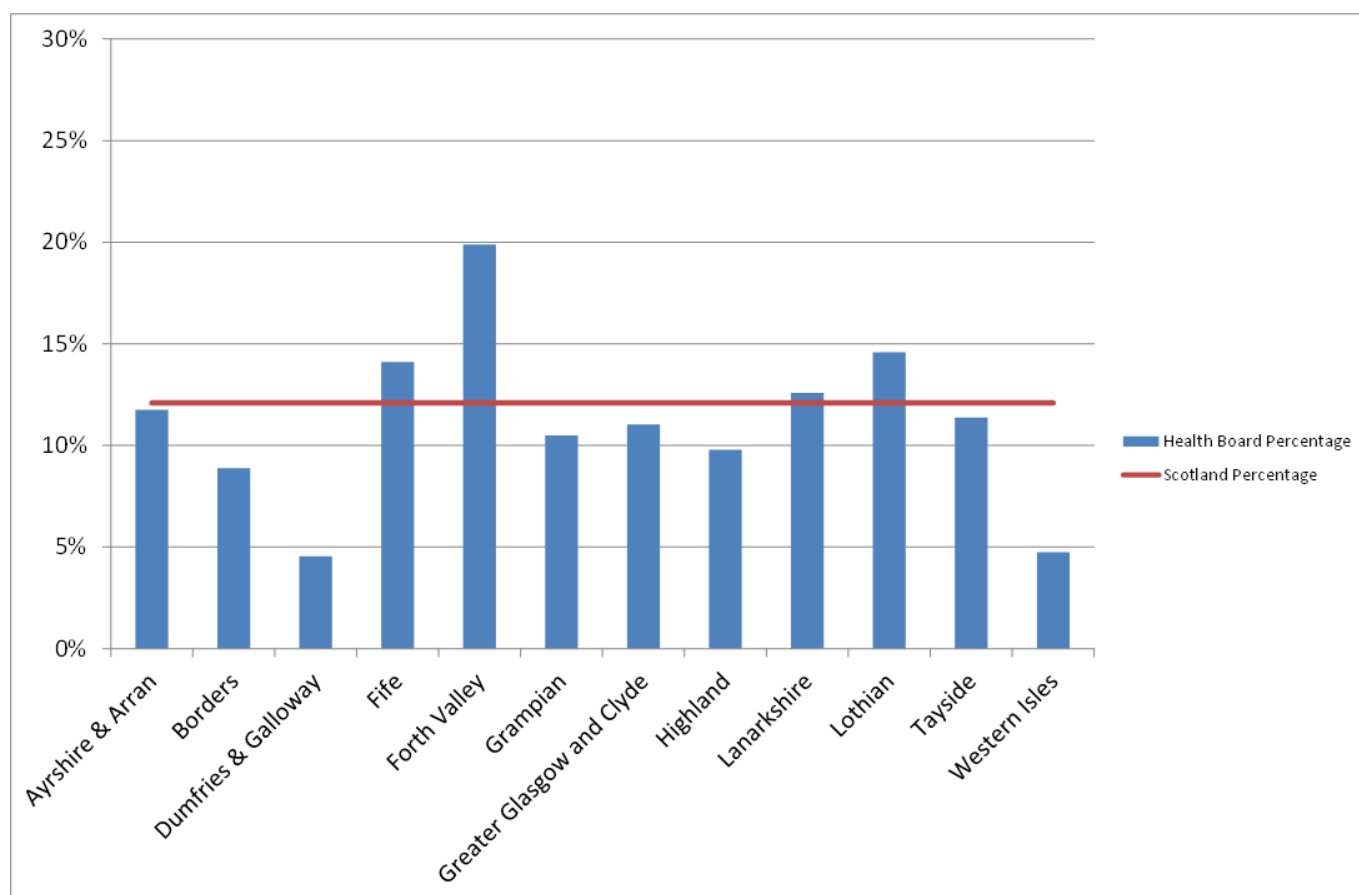
Figure 44 Measure 12: Disengaged from diabetes care - Type 1 age 18-25 by NHS board, Scotland 2020.

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

Table 57 Measure 12: Disengaged from diabetes care - Type 1 age 18-25 by NHS board, Scotland 2020.

NHS board	Disengaged		All aged 18-25 (n)
	People (n)	%	
Ayrshire & Arran	52	18.9	275
Borders	10	14.5	69
Dumfries & Galloway	*	*	86
Fife	38	17.2	221
Forth Valley	53	24.8	214
Grampian	54	14.3	377
Greater Glasgow and Clyde	127	16.3	777
Highland	30	14.6	205
Lanarkshire	93	20.1	462
Lothian	125	22.4	559
Orkney	*	*	14
Shetland	*	*	9
Tayside	48	17.5	274
Western Isles	0	0.0	18
Scotland	640	18.0	3,560

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

Figure 45 Measure 12: Disengaged from diabetes care - Type 1 age 26+ by NHS board, Scotland 2020.

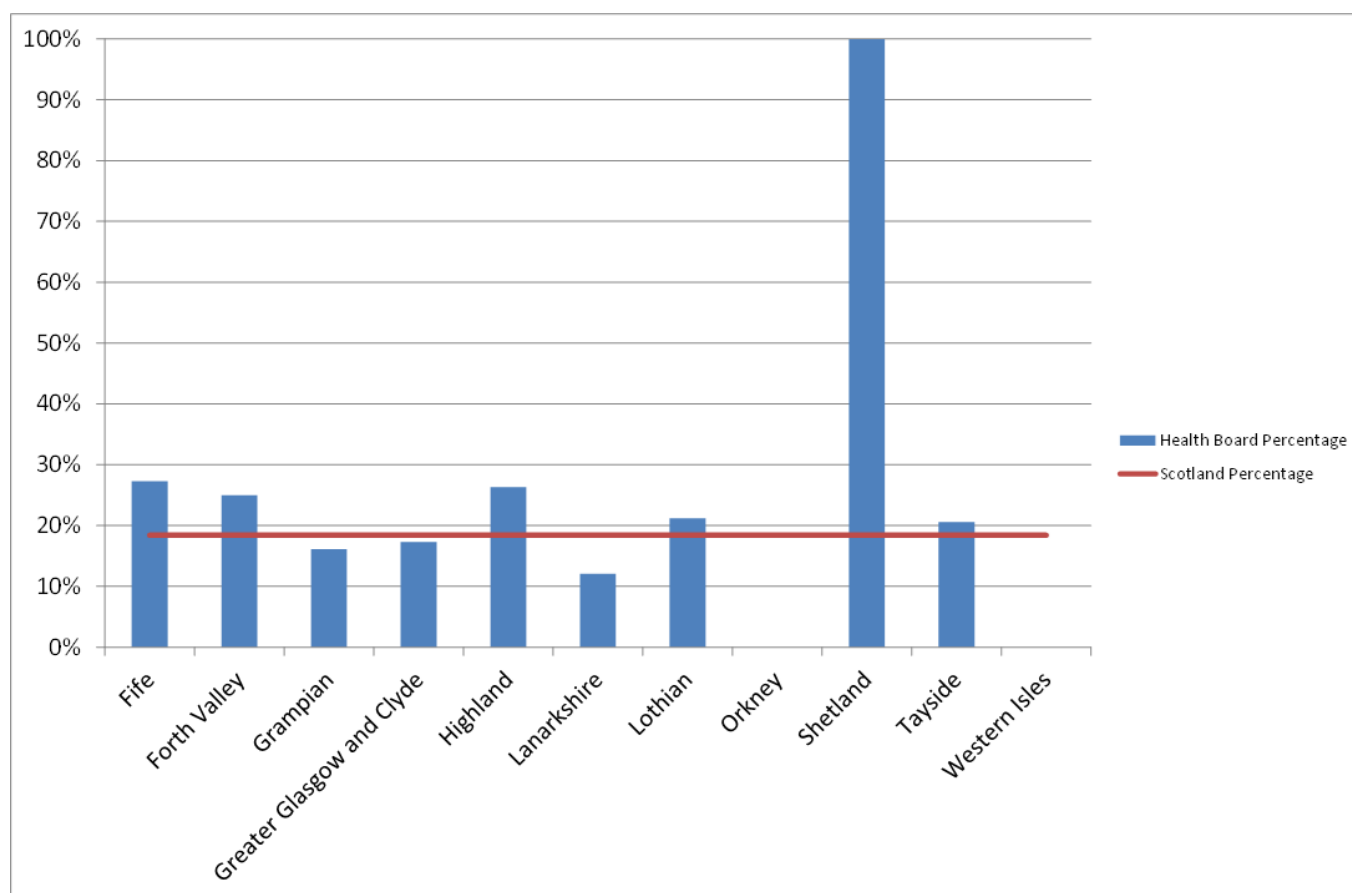
Note: Bars for boards with hidden data are not shown.

Table 58 Measure 12: Disengaged from diabetes care – Type 1 Age 26+ by NHS board, Scotland 2020.

NHS board	Disengaged		All aged 26+ (n)
	People (n)	%	
Ayrshire & Arran	221	11.8	1,879
Borders	55	8.9	620
Dumfries & Galloway	38	4.6	835
Fife	260	14.1	1,842
Forth Valley	309	19.9	1,554
Grampian	306	10.5	2,913
Greater Glasgow and Clyde	591	11.0	5,357
Highland	175	9.8	1,789
Lanarkshire	452	12.6	3,588
Lothian	598	14.6	4,100
Orkney	*	*	105
Shetland	*	*	127
Tayside	208	11.4	1,829
Western Isles	8	4.7	169
Scotland	3,231	12.1	26,707

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

Figure 46 Measure 12: Disengaged from diabetes care - Type 2 and other age 18-25 by NHS board, Scotland 2020.

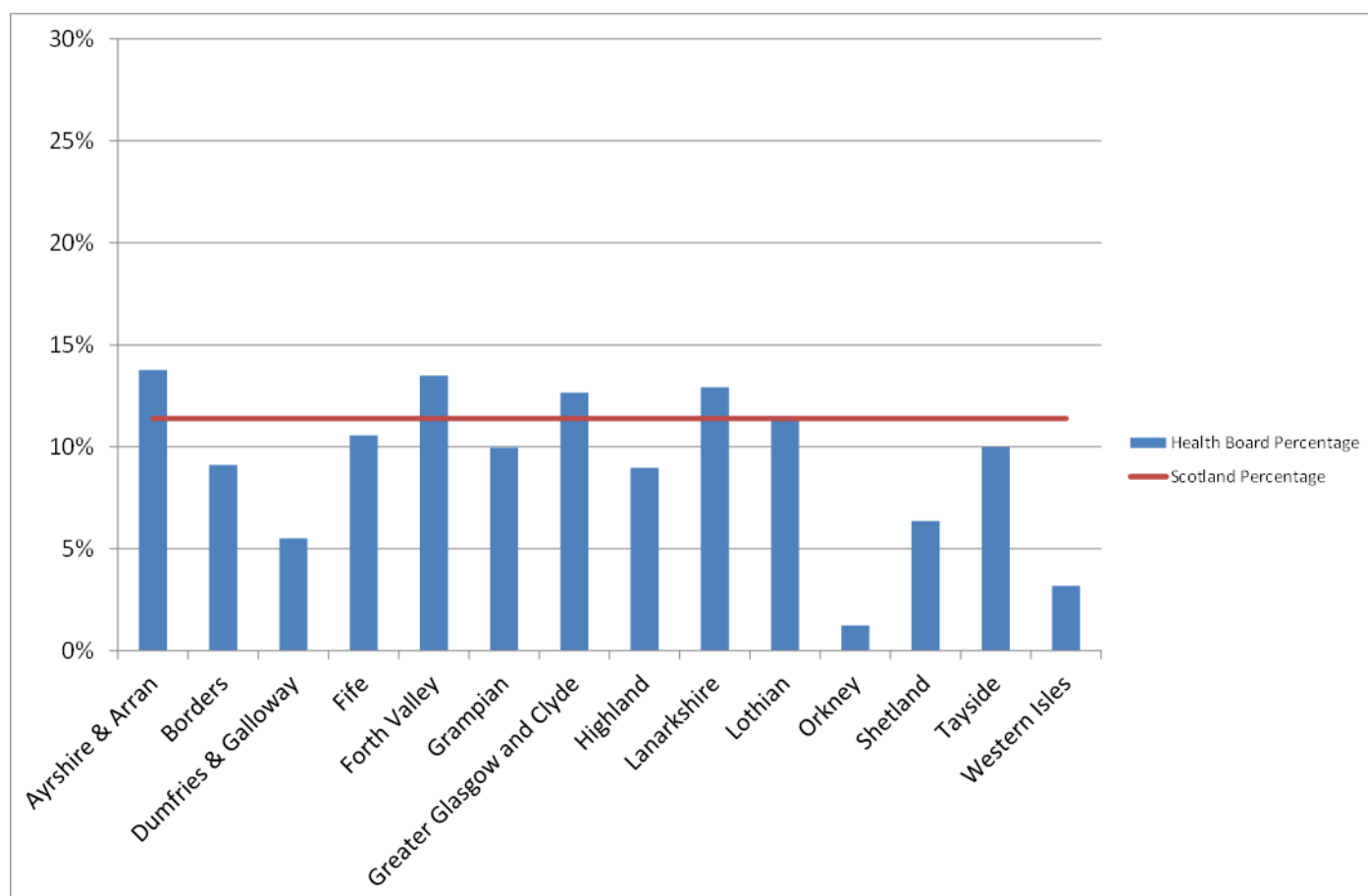


Note: Bars for boards with hidden data are not shown.

Table 59 Measure 12: Disengaged from diabetes care - Type 2 and other age 18-25 by NHS board, Scotland 2020.

NHS board	Disengaged		All aged 18-25 (n)
	People (n)	%	
Ayrshire & Arran	*	*	25
Borders	*	*	8
Dumfries & Galloway	*	*	12
Fife	9	27.3	33
Forth Valley	5	25.0	20
Grampian	5	16.1	31
Greater Glasgow and Clyde	18	17.3	104
Highland	5	26.3	19
Lanarkshire	7	12.1	58
Lothian	14	21.2	66
Orkney	0	0.0	*
Shetland	*	100.0	*
Tayside	7	20.6	34
Western Isles	0	0.0	*
Scotland	76	18.4	413

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

Figure 47 Measure 12: Disengaged from diabetes care - Type 2 and other age 26+ by NHS board, Scotland 2020.**Table 60 Measure 12: Disengaged from diabetes care - Type 2 and other age 26+ by NHS board, Scotland 2020.**

NHS board	Disengaged		All aged 26+ (n)
	People (n)	%	
Ayrshire & Arran	2,967	13.8	21,538
Borders	536	9.1	5,889
Dumfries & Galloway	466	5.5	8,432
Fife	2,077	10.6	19,659
Forth Valley	2,090	13.5	15,488
Grampian	2,545	10.0	25,543
Greater Glasgow and Clyde	7,121	12.7	56,265
Highland	1,416	9.0	15,773
Lanarkshire	4,582	12.9	35,437
Lothian	4,210	11.4	37,042
Orkney	13	1.2	1,050
Shetland	62	6.4	975
Tayside	2,079	10.0	20,814
Western Isles	42	3.2	1,318
Scotland	30,206	11.4	265,223

National and Regional Detail

This section includes additional national and regional (by NHS board) detail.

Prevalence Regional Detail

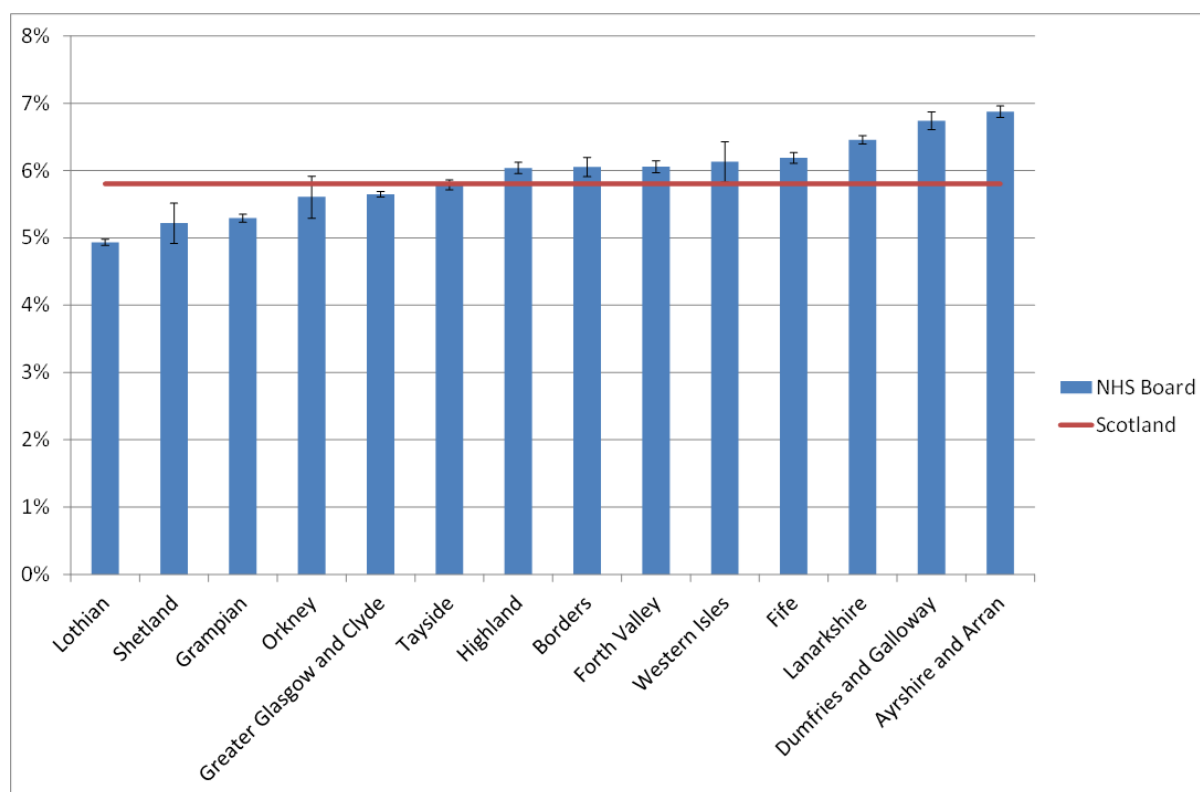
Age-adjusted prevalence is based on direct age/sex standardisation using the Scottish population as the reference population structure. Population figures are based on mid-year population estimates published by National Records of Scotland. As a consequence of delayed publication dates of population estimated, surveys have in each case used population figures for the previous year - so that the 2020 survey uses diabetes data from 2020 but mid-year population estimates from 2019. This will lead to a very small overestimate of diabetes prevalence.

Differences in prevalence are due to several factors. One is age - type 2 diabetes is more common in older age groups so the age structure of an area will affect the crude prevalence. A health board area with an older population will have a higher crude prevalence, e.g. the crude (unadjusted) prevalence of diabetes in Dumfries & Galloway is above the Scottish average; however when the figure is adjusted for the age of the population, the Dumfries & Galloway prevalence is actually lower than the Scottish average. Other reasons for differences in observed prevalence are given at the start of this section.

Table 61 Crude and age-adjusted prevalence of diabetes (all types), by NHS board, ranked by age-adjusted prevalence, Scotland 2020.

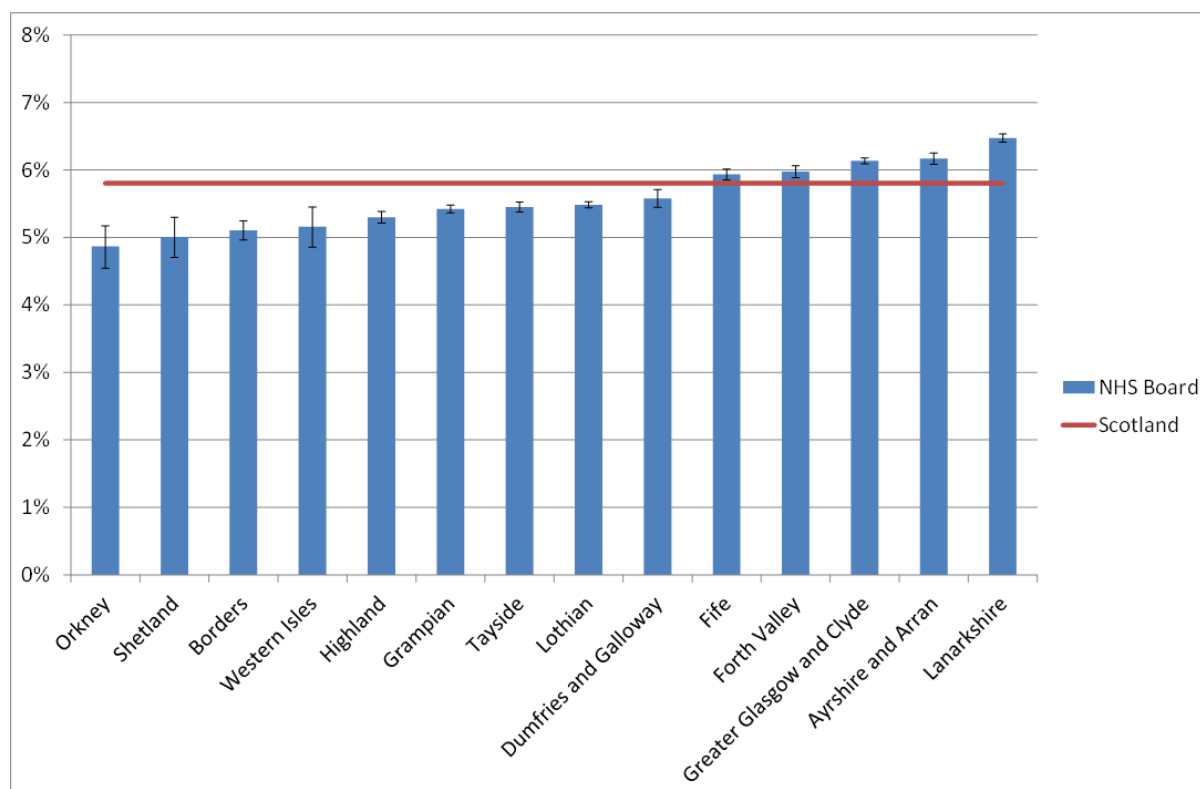
NHS board	Population (n)	Number on the diabetes register at the end of the year (n)	Crude prevalence (%)	Age-adjusted prevalence (%)
Orkney	22,270	1,249	5.6	4.9
Shetland	22,920	1,197	5.2	5.0
Borders	115,510	6,992	6.1	5.1
Western Isles	26,720	1,639	6.1	5.2
Highland	321,700	19,431	6.0	5.3
Grampian	585,700	30,994	5.3	5.4
Tayside	417,470	24,161	5.8	5.5
Lothian	907,580	44,780	4.9	5.5
Dumfries and Galloway	148,860	10,031	6.7	5.6
Fife	373,550	23,119	6.2	5.9
Forth Valley	306,640	18,573	6.1	6.0
Greater Glasgow and Clyde	1,183,120	66,824	5.6	6.1
Ayrshire and Arran	369,360	25,399	6.9	6.2
Lanarkshire	661,900	42,739	6.5	6.5
Scotland	5,463,300	317,128	5.8	5.8

Figure 48 Crude diabetes prevalence (all types) by NHS Health Board, ranked by prevalence, Scotland 2020.



Note: Vertical capped lines show 95% confidence intervals.

Figure 49 Age-adjusted diabetes prevalence (all types) by NHS Health Board, ranked by prevalence, Scotland 2020.



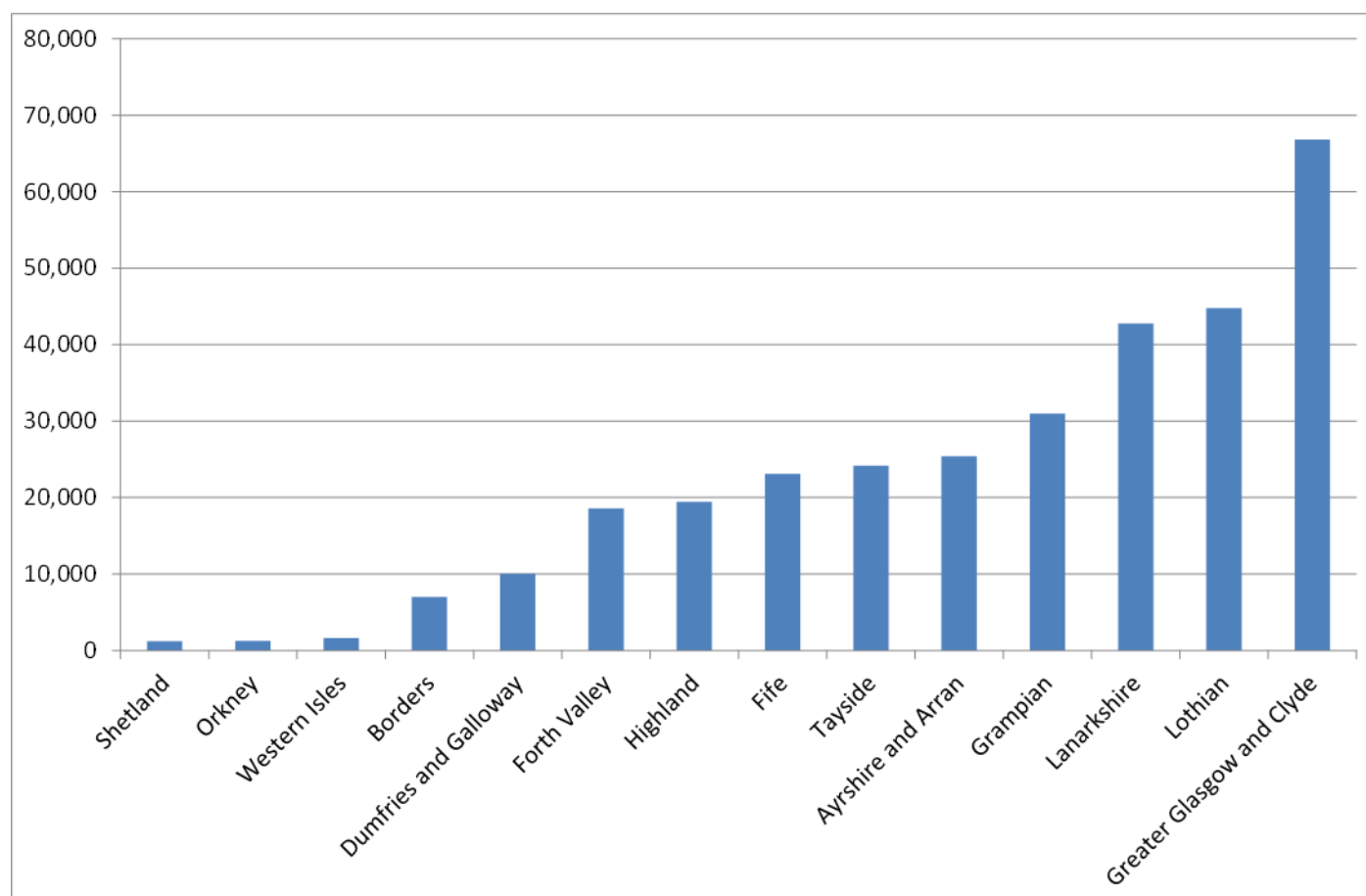
Note: Vertical lines show 95% confidence intervals.

Table 61 and Figure 48 and Figure 49 show both 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 differs between boards and that older populations have higher diabetes prevalence. Table 62 shows that the prevalence of diabetes is particularly high among those aged 65 and over.

Table 62 Crude prevalence of diabetes for people aged 65 and over (all types), by NHS board, ranked by prevalence, Scotland 2020.

NHS board	Age >= 65 (n)	Age >= 65 with Diabetes (n)	Prevalence in those aged >= 65 (%)
Western Isles	6,895	925	13.4
Orkney	5,306	716	13.5
Shetland	4,686	657	14.0
Borders	28,616	4,151	14.5
Highland	75,298	11,109	14.8
Dumfries and Galloway	38,570	5,894	15.3
Lothian	148,954	22,871	15.4
Tayside	89,691	13,820	15.4
Grampian	107,946	16,865	15.6
Fife	77,024	12,549	16.3
Ayrshire and Arran	84,228	13,804	16.4
Greater Glasgow and Clyde	195,952	32,448	16.6
Forth Valley	59,174	9,874	16.7
Lanarkshire	121,805	21,676	17.8
Scotland	1,044,145	167,359	16.0

Figure 50 Number of people with diabetes (all types) in each NHS Health Board, Scotland 2020.



Note: The remainder of this report focuses on type 1 and type 2 diabetes and excludes other types.

Incidence of Type 2 Diabetes

Table 63 Type 2 diabetes: Number of new cases and incidence rate (per 100,000 population per year) by age, Scotland 2013-2020.

Age	2013		2014		2015		2016		2017		2018		2019		2020		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases (n)	Rate	Cases (n)	Rate	Cases (n)	Rate	Cases (n)	Rate	Population	Cases (n)	Rate
0-9	*	0	0	0	0	0	0	0	*	0	0	0	*	0	570,291	0	0
10-19	*	1	19	3	20	3	17	3	*	4	17	3	*	4	573,342	22	4
20-29	178	25	197	28	165	23	228	31	205	28	188	26	216	30	723,392	254	35
30-39	810	125	756	117	834	129	869	132	898	134	884	129	1,017	146	710,152	977	138
40-49	2,570	333	2,467	326	2,432	329	2,364	328	2,225	316	2,169	317	2,378	357	655,386	2,209	337
50-59	4,387	650	4,210	612	4,451	636	4,417	619	4,266	591	4,252	584	4,872	665	734,128	4,447	606
60-69	5,023	930	4,513	830	4,677	853	4,570	825	4,331	771	4,268	767	4,901	879	563,179	4,264	757
>=70	4,876	898	4,217	769	4,472	801	4,508	801	4,269	749	4,202	711	5,123	845	621,161	4,257	685
Total	17,853	353	16,379	324	17,051	336	16,973	334	16,216	317	15,980	312	18,530	361	5,150,910	16,430	319

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. The Scottish at-risk population figures exclude people with frank diabetes at the end of the previous year whose age is unknown (n = 128). The methodology used in calculating incidence figures were updated in 2017, see the Type 1 Diabetes Incidence section for more details.

See the [Type 1 Diabetes Incidence](#) section for information on people with type 1 diabetes.

Table 64 Type 1 diabetes: Number of new cases and crude incidence rate for all ages (cases per 100,000 population per year) by NHS board, ranked by descending rate in the latest year, Scotland 2014-2020.

NHS board	2014		2015		2016		2017		2018		2019		2020		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Mid 2019 Population without diabetes	Cases	Rate
Western Isles	8	31	*	27	8	31	*	24	6	24	*	20	25,147	15	60
Dumfries and Galloway	20	14	23	16	25	18	27	19	30	21	34	24	139,014	39	28
Borders	12	11	19	18	26	24	15	14	16	15	23	21	108,478	26	24
Greater Glasgow and Clyde	193	18	194	18	202	19	225	20	210	19	208	19	1,116,788	249	22
Forth Valley	56	20	55	19	43	15	59	21	70	24	71	25	288,424	61	21
Lanarkshire	93	15	110	18	113	18	117	19	125	20	127	21	620,002	131	21
Fife	52	15	50	14	74	21	67	19	67	19	71	20	350,696	74	21
Tayside	59	15	67	17	76	19	62	16	69	18	64	16	393,283	79	20
Lothian	147	18	136	17	163	20	145	17	155	18	194	23	863,564	172	20
Orkney	0	0	*	10	*	10	*	19	*	19	*	19	21,021	*	19
Ayrshire and Arran	73	21	67	19	51	15	60	17	63	18	58	17	344,348	64	19
Grampian	111	20	111	20	108	19	125	22	105	19	98	18	555,449	103	19
Shetland	5	23	7	32	*	9	7	32	*	23	6	27	21,747	*	18
Highland	54	18	50	16	50	16	59	19	68	22	61	20	302,949	47	16
Scotland	883	17	898	18	943	19	978	19	993	19	1,024	20	5,150,910	1,068	21

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. This table is deliberately limited to only 7 years of information due to limited space.

Table 65 Type 1 diabetes: Crude incidence rate of new cases for all ages (cases per 100,000 population per year) by NHS board, ranked by descending rate in the latest year, Scotland 2012-2020.

NHS board	2012	2013	2014	2015	2016	2017	2018	2019	2020
Western Isles	36	19	31	27	31	24	24	20	60
Dumfries and Galloway	14	15	14	16	18	19	21	24	28
Borders	19	15	11	18	24	14	15	21	24
Greater Glasgow and Clyde	20	16	18	18	19	20	19	19	22
Forth Valley	25	18	20	19	15	21	24	25	21
Lanarkshire	21	16	15	18	18	19	20	21	21
Fife	18	14	15	14	21	19	19	20	21
Tayside	19	17	15	17	19	16	18	16	20
Lothian	19	19	18	17	20	17	18	23	20
Orkney	16	0	0	10	10	19	19	19	19
Ayrshire and Arran	23	18	21	19	15	17	18	17	19
Grampian	17	16	20	20	19	22	19	18	19
Shetland	19	5	23	32	9	32	23	27	18
Highland	16	20	18	16	16	19	22	20	16
Scotland	20	17	17	18	19	19	19	20	21

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. This table is deliberately limited to only 9 years of information due to limited space.

Table 66 Type 2 diabetes: Number of new cases and crude incidence rate for all ages (cases per 100,000 population per year) by NHS board, ranked by descending rate in the latest year, Scotland 2014-2020.

NHS board	2014		2015		2016		2017		2018		2019		2020		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Mid 2019 Population without diabetes	Cases	Rate
Highland	826	271	908	298	1,039	341	1,040	341	1,045	343	1,378	454	302,949	1,324	437
Ayrshire and Arran	1,287	367	1,357	389	1,371	394	1,254	361	1,280	370	1,316	381	344,348	1,366	397
Lanarkshire	2,041	329	2,379	384	2,269	368	1,965	318	2,037	329	2,844	459	620,002	2,385	385
Western Isles	80	307	91	351	94	366	105	412	92	361	95	375	25,147	96	382
Dumfries and Galloway	482	341	506	359	533	379	492	351	429	307	514	369	139,014	515	370
Forth Valley	844	297	986	346	1,017	355	1,051	365	911	316	1,255	435	288,424	999	346
Greater Glasgow and Clyde	3,807	354	4,022	372	3,604	331	3,453	314	3,497	316	3,725	336	1,116,788	3,405	305
Orkney	67	326	70	341	71	346	89	430	59	284	74	353	21,021	63	300
Grampian	1,710	309	1,706	306	1,551	277	1,530	273	1,601	287	1,845	332	555,449	1,656	298
Fife	1,367	394	1,074	310	1,125	324	1,172	336	1,115	319	1,411	403	350,696	1,030	294
Shetland	76	343	77	348	59	267	55	249	47	214	61	279	21,747	62	285
Borders	382	354	397	368	358	333	350	325	338	312	358	330	108,478	308	284
Lothian	2,096	258	2,067	252	2,445	295	2,436	290	2,339	276	2,494	292	863,564	2,296	266
Tayside	1,314	336	1,411	360	1,437	366	1,224	312	1,190	303	1,160	296	393,283	925	235
Scotland	16,379	324	17,051	336	16,973	334	16,216	317	15,980	312	18,530	361	5,150,910	16,430	319

Note: This table is deliberately limited to only 7 years of information due to limited space.

Table 67 Type 2 diabetes: Crude incidence rate for all ages (cases per 100,000 population per year) by NHS board, ranked by descending rate in the latest year, Scotland 2012-2020.

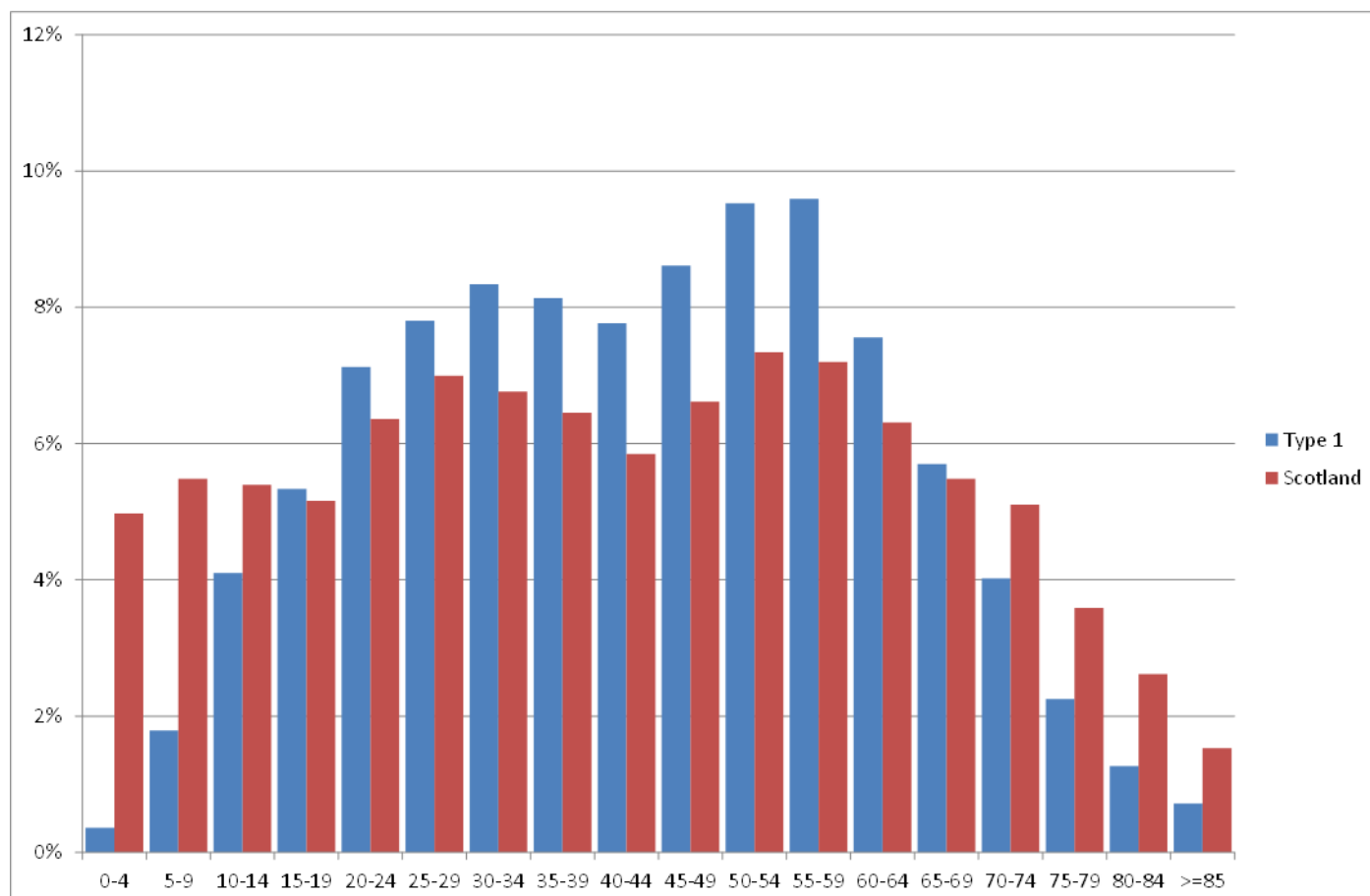
NHS board	2012	2013	2014	2015	2016	2017	2018	2019	2020
Highland	348	336	271	298	341	341	343	454	437
Ayrshire and Arran	453	373	367	389	394	361	370	381	397
Lanarkshire	390	405	329	384	368	318	329	459	385
Western Isles	302	342	307	351	366	412	361	375	382
Dumfries and Galloway	402	361	341	359	379	351	307	369	370
Forth Valley	373	345	297	346	355	365	316	435	346
Greater Glasgow and Clyde	358	359	354	372	331	314	316	336	305
Orkney	318	443	326	341	346	430	284	353	300
Grampian	351	364	309	306	277	273	287	332	298
Fife	390	402	394	310	324	336	319	403	294
Shetland	237	230	343	348	267	249	214	279	285
Borders	416	357	354	368	333	325	312	330	284
Lothian	279	285	258	252	295	290	276	292	266
Tayside	373	346	336	360	366	312	303	296	235
Scotland	360	353	324	336	334	317	312	361	319

Note: This table is deliberately limited to only 9 years of information due to limited space.

Age and Sex

Type 2 diabetes is more common in older people; 52.8% (167,359) of all people with diabetes recorded in the survey are aged 65 years or older (Table 62). Figure 51 and Figure 52 show the age distribution of people with type 1 and type 2 diabetes compared with the age distribution of the general population.

Figure 51 Type 1 diabetes: Age distribution of people recorded as having diabetes compared with the age distribution of general population, Scotland 2020.



The difference between the age distributions is likely to relate to two factors. The first is the increasing incidence of type 1 diabetes in young people and the second is the recognised decrease of life expectancy of those with type 1 diabetes. A 2015 study of the Scottish type 1 diabetes population (<http://dx.doi.org/10.1001/jama.2014.16425>), using data from SCI-Diabetes, showed that life expectancy, while reduced compared to people without diabetes, has improved over time.

Figure 52 Type 2 diabetes: Age distribution of people recorded as having diabetes compared with the age distribution of general population, Scotland 2020.

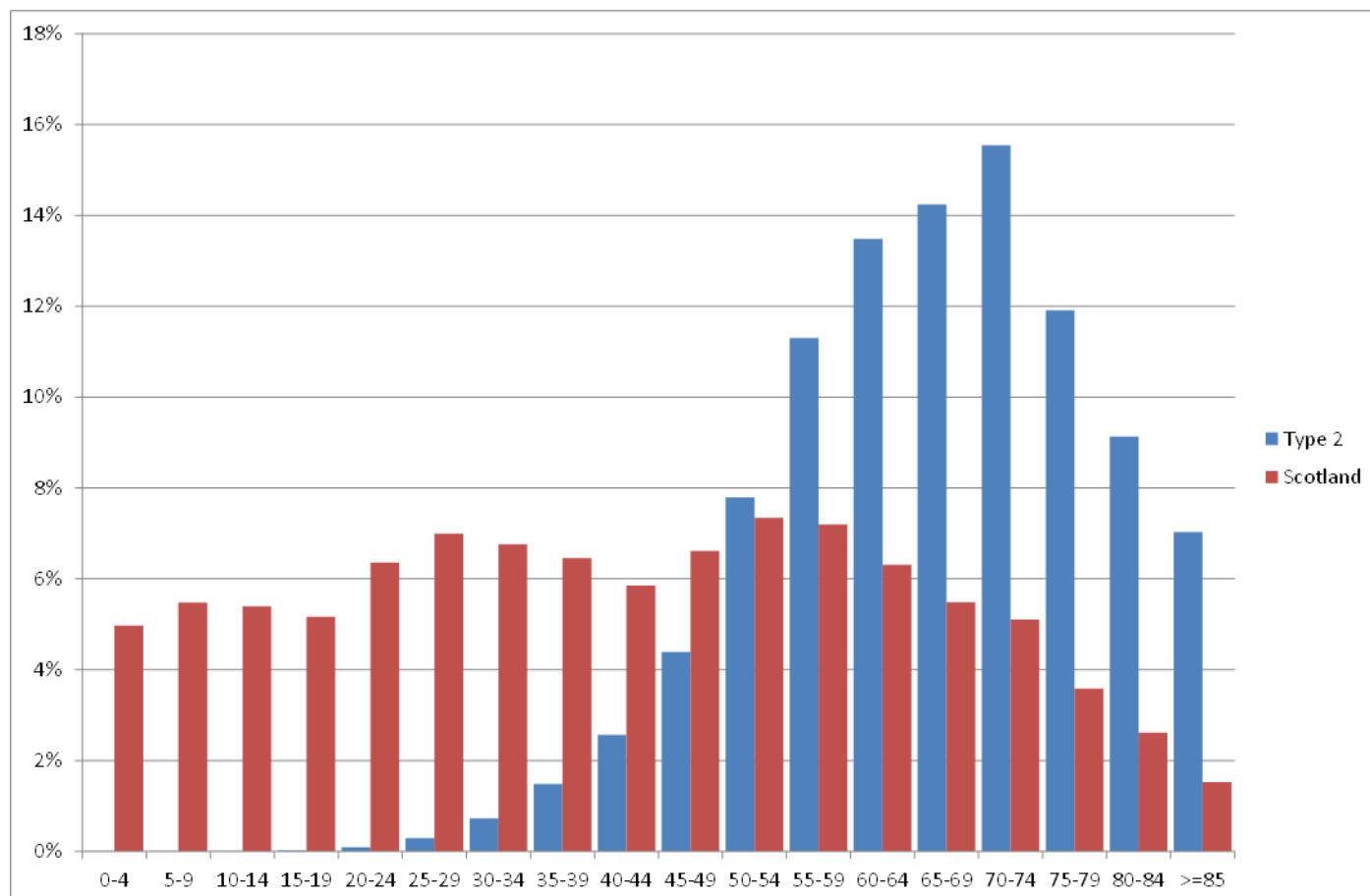


Table 68 Age group of people recorded as having type 1 or type 2 diabetes, percentage in each age group and cumulative percentage in each age group, by diabetes type, Scotland 2020.

Age	Type 1 diabetes			Type 2 diabetes		
	People (n)	%	Cumulative Percentage (%)	People (n)	%	Cumulative Percentage (%)
0-4	123	0.4	0.4	*	0.0	0.0
5-9	609	1.8	2.1	*	0.0	0.0
10-14	1,396	4.1	6.2	*	0.0	0.0
15-19	1,817	5.3	11.6	63	0.0	0.0
20-24	2,427	7.1	18.7	253	0.1	0.1
25-29	2,658	7.8	26.5	810	0.3	0.4
30-34	2,841	8.3	34.9	2,022	0.7	1.1
35-39	2,771	8.1	43.0	4,134	1.5	2.6
40-44	2,645	7.8	50.8	7,141	2.6	5.2
45-49	2,933	8.6	59.4	12,202	4.4	9.6
50-54	3,246	9.5	68.9	21,665	7.8	17.4
55-59	3,267	9.6	78.5	31,420	11.3	28.7
60-64	2,574	7.6	86.0	37,501	13.5	42.1
65-69	1,942	5.7	91.7	39,602	14.2	56.4
70-74	1,370	4.0	95.8	43,235	15.5	71.9
75-79	766	2.2	98.0	33,127	11.9	83.8
80-84	432	1.3	99.3	25,392	9.1	93.0
>=85	244	0.7	100.0	19,556	7.0	100.0
Scotland	34,061	100.0	100.0	278,143	100.0	100.0

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

Greater proportions of people with diagnosed diabetes are male than female; 55.7% (18,980) of those with type 1 diabetes and 56.4% (158,877) of those with type 2 diabetes. These proportions have remained relatively stable since the survey started in 2001.

Mortality

Table 69 The number and crude percentage of those diagnosed with diabetes population (all diabetes types) who have died within the last year, by NHS board, ranked by mortality, Scotland 2020.

NHS board	Deaths	
	n	% of population
Western Isles	51	3.0
Shetland	42	3.4
Highland	725	3.6
Forth Valley	728	3.8
Grampian	1,227	3.8
Fife	930	3.9
Dumfries and Galloway	411	3.9
Lothian	1,855	4.0
Borders	300	4.1
Orkney	54	4.1
Tayside	1,053	4.2
Lanarkshire	1,874	4.2
Ayrshire and Arran	1,151	4.3
Greater Glasgow and Clyde	3,036	4.3
Scotland	13,437	4.1

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 as people die during the year the size of the population that remains and is still at risk of death becomes very slightly smaller. As a result, these figures slightly underestimate the true mortality risk. 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.

Type of Diabetes Regional Detail

Table 70 Number of people with diabetes and the distribution of diabetes type, by NHS board, ranked by descending percentage with type 2 diabetes, Scotland 2020.

NHS board	Type 1		Type 2		Other types of diabetes	Total
	n	%	n	%		
Ayrshire and Arran	2,434	9.6	22,800	89.8	165	25,399
Fife	2,334	10.1	20,544	88.9	241	23,119
Tayside	2,354	9.7	21,469	88.9	338	24,161
Orkney	131	10.5	1,107	88.6	11	1,249
Dumfries and Galloway	1,045	10.4	8,856	88.3	130	10,031
Greater Glasgow and Clyde	6,892	10.3	58,919	88.2	1,013	66,824
Forth Valley	2,012	10.8	16,357	88.1	204	18,573
Lanarkshire	4,612	10.8	37,361	87.4	766	42,739
Grampian	3,706	12.0	27,015	87.2	273	30,994
Borders	766	11.0	6,079	86.9	147	6,992
Highland	2,231	11.5	16,772	86.3	428	19,431
Lothian	5,192	11.6	38,532	86.0	1,056	44,780
Western Isles	223	13.6	1,404	85.7	12	1,639
Shetland	155	12.9	1,024	85.5	18	1,197
Scotland	34,087	10.7	278,239	87.7	4,802	317,128

Note: Percentages (of the total diabetes population) have been calculated for type 1 and type 2 diabetes only.

Ethnicity

Information on ethnic group was available for 81.7% of the registered population with type 1 and type 2 diabetes (Table 73). The completeness of this information has risen from 69.6% in 2010. Type 2 diabetes is much more common and tends to present at an earlier age in South Asian than White ethnic groups.

Table 71 Type 1 diabetes: Completeness of recording of ethnic group by NHS board, ranked by decreasing completeness, Scotland 2020.

NHS board	Ethnic group identified	
	People (n)	Percentage (%)
Dumfries and Galloway	1,004	96.1
Shetland	148	95.5
Greater Glasgow and Clyde	6,518	94.6
Forth Valley	1,899	94.4
Borders	718	93.7
Fife	2,157	92.4
Lothian	4,792	92.3
Lanarkshire	3,997	86.7
Highland	1,884	84.4
Western Isles	184	82.5
Orkney	103	78.6
Tayside	1,815	77.1
Grampian	2,735	73.8
Ayrshire and Arran	1,710	70.3
Scotland	29,664	87.0

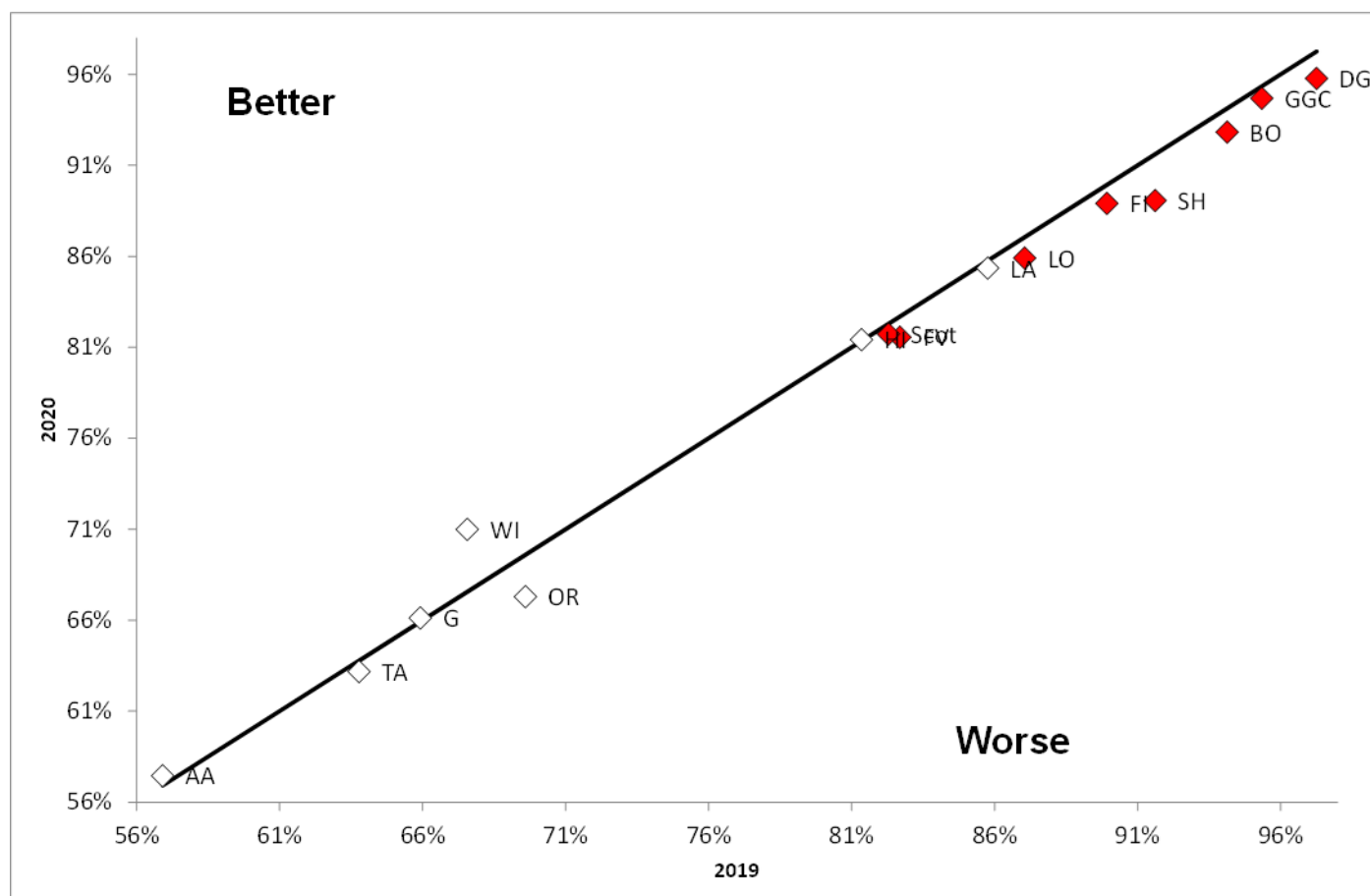
Table 72 Type 2 diabetes: Completeness of recording of ethnic group by NHS board, ranked by decreasing completeness, Scotland 2020.

NHS board	Ethnic group identified	
	People (n)	Percentage (%)
Dumfries and Galloway	8,478	95.7
Greater Glasgow and Clyde	55,797	94.7
Borders	5,636	92.7
Fife	18,183	88.5
Shetland	902	88.1
Lanarkshire	31,824	85.2
Lothian	32,769	85.0
Highland	13,588	81.0
Forth Valley	13,081	80.0
Western Isles	971	69.2
Orkney	730	65.9
Grampian	17,575	65.1
Tayside	13,234	61.6
Ayrshire and Arran	12,787	56.1
Scotland	225,555	81.1

Table 73 Completeness of recording of ethnic group for people with diabetes (type 1 and type 2 combined) by year, Scotland 2011-2020.

Year	Identified	
	People (n)	%
2020	255,219	81.7
2019	253,375	82.3
2018	246,969	82.2
2017	241,576	82.0
2016	235,741	81.7
2015	228,993	81.4
2014	222,041	81.1
2013	210,682	79.2
2012	199,587	77.7
2011	190,397	77.5

Figure 53 Completeness of recording of ethnic group for people recorded as having type 1 or type 2 diabetes (combined), Scotland, from 2019 to 2020.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020. If any board has changed by more than 4% between 2019 and 2020, arrows showing the direction of change have been added.

Key:

Abbreviation	Health Board	Abbreviation	Health Board	Abbreviation	Health Board
AA	Ayrshire and Arran	G	Grampian	OR	Orkney
BO	Borders	GGC	Greater Glasgow and Clyde	Scot	Scotland
DG	Dumfries and Galloway	HI	Highland	SH	Shetland
FI	Fife	LA	Lanarkshire	TA	Tayside
FV	Forth Valley	LO	Lothian	WI	Western Isles

Table 74 Recorded ethnic group for type 1, type 2 and combined type 1 and type 2 diabetes, Scotland 2020.

Ethnic group	Type 1 diabetes		Type 2 diabetes		Type 1 and 2	
	People (n)	%	People (n)	%	People (n)	%
A – White	28,208	82.8	204,790	73.6	232,998	74.6
B - Mixed or multiple ethnic groups	666	2.0	6,446	2.3	7,112	2.3
C - Asian, Asian Scottish, or Asian British	420	1.2	10,911	3.9	11,331	3.6
D - African, Caribbean, or Black	159	0.5	1,524	0.5	1,683	0.5
E - Other ethnic group	211	0.6	1,884	0.7	2,095	0.7
Not recorded	4,423	13.0	52,684	18.9	57,107	18.3

Duration of Type 2 Diabetes

The date of diagnosis was recorded for 99.2% of people with either type 1 or type 2 diabetes, of whom 5.6% have had diabetes for less than one year and 13.5% have had diabetes for 20 years or more (Table 75). It should be noted that not all dates of diagnosis are accurate, especially for those with long-standing diabetes.

Table 75 Duration of diabetes (years since diagnosis) by type of diabetes for people with type 1 or type 2 diabetes, Scotland 2020.

Duration (Years)	Type 1 diabetes		Type 2 diabetes		Type 1 and Type 2	
	People (n)	%	People (n)	%	People (n)	Total %
<1	1,060	3.1	16,239	5.9	17,299	5.6
1-4	4,014	11.9	64,885	23.5	68,899	22.2
5-9	4,770	14.1	72,342	26.2	77,112	24.9
10-14	4,426	13.1	57,696	20.9	62,122	20.1
15-19	4,178	12.4	38,284	13.9	42,462	13.7
20-24	3,854	11.4	17,079	6.2	20,933	6.8
25-29	3,031	9.0	5,944	2.2	8,975	2.9
30-34	2,488	7.4	2,263	0.8	4,751	1.5
34-39	2,049	6.1	795	0.3	2,844	0.9
40-44	1,606	4.8	228	0.1	1,834	0.6
45-49	1,042	3.1	133	0.0	1,175	0.4
>=50	1,212	3.6	142	0.1	1,354	0.4
Total	33,730	100.0	276,030	100.0	309,760	100.0

Note: Excludes people where date of diagnosis not known (type 1 n = 357; type 2 n = 2,209).

See the [Duration of Type 1 Diabetes](#) section for information on people with type 1 diabetes.

Body Mass Index

Body Mass Index (BMI) was recorded for 66.5% of people with type 1 or type 2 diabetes in the previous 15 months (Table 76). This is a decrease from 89.2% recorded in 2012.

Table 76 Proportion of people with type 1 or type 2 diabetes (combined) with a record of BMI in the previous 15 months, Scotland 2020.

Year	BMI recorded (%)
2020	66.5
2019	82.1
2018	81.8
2017	82.8
2016	84.6
2015	86.5
2014	87.7
2013	88.7
2012	89.2
2011	88.7

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3,328).

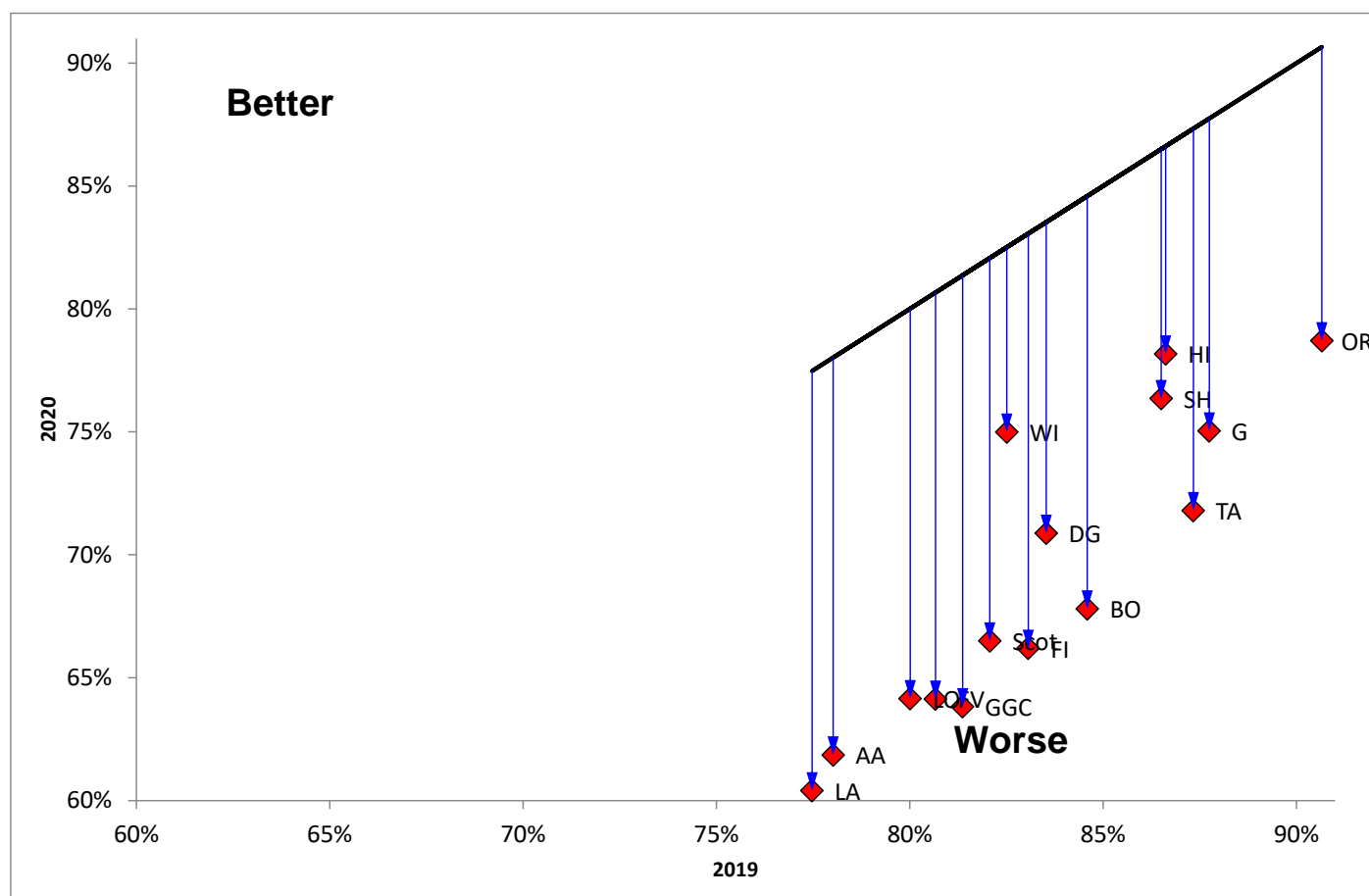
Body Mass Index Regional Detail

Table 77 Proportion of people recorded as having type 1 or type 2 diabetes with a record of BMI within the previous 15 months, by NHS board and diabetes type, ranked by decreasing completeness for type 2 diabetes, Scotland 2020.

NHS board	BMI recorded (%)		Total recorded	Total not recorded
	Type 1 diabetes	Type 2 diabetes		
Orkney	75.6	79.0	968	262
Highland	76.7	78.3	14,685	4,102
Shetland	85.6	75.1	888	275
Western Isles	74.4	75.1	1,199	400
Grampian	77.9	74.7	22,780	7,581
Tayside	67.5	72.2	16,955	6,662
Dumfries and Galloway	70.4	70.9	6,942	2,853
Borders	65.7	68.0	4,598	2,184
Fife	65.5	66.3	14,986	7,655
Forth Valley	52.0	65.5	11,644	6,514
Lothian	63.3	64.2	27,765	15,519
Greater Glasgow and Clyde	67.4	63.4	41,591	23,580
Ayrshire and Arran	56.6	62.4	15,457	9,533
Lanarkshire	58.9	60.6	25,018	16,402
Scotland	65.8	66.6	205,476	103,522

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (type 1 n = 3,186, type 2 n = 142)

Figure 54 Proportion of people recorded as having type 1 or type 2 diabetes (combined) who had a record of BMI, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for all boards with more than 1.5% change between 2019 and 2020. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Table 78 Type 1 diabetes: Percentage of people with a record of BMI in the last 15 months grouped by BMI category, NHS board and ranked from low to high by percentage with BMI $\geq 40\text{kg/m}^2$, Scotland 2020.

NHS board	BMI (kg/m²,%)						Total recorded (n)	Not recorded (n)
	Under-weight	Normal	Over-weight	Obese				
	<18.5	18.5-24.9	25-29.9	30-34.9	35-39.9	≥40		
Forth Valley	1.8	33.4	37.7	18.3	6.2	2.6	936	865
Greater Glasgow and Clyde	2.2	35.3	36.4	17.5	5.9	2.7	4,225	2,048
Tayside	2.0	33.3	36.6	19.5	5.9	2.7	1,453	698
Lanarkshire	2.1	30.7	37.0	19.1	8.1	2.9	2,430	1,698
Highland	1.1	33.1	37.7	19.4	5.7	3.0	1,548	471
Lothian	2.2	35.9	36.0	17.1	5.4	3.4	3,023	1,751
Grampian	1.4	33.4	37.7	18.5	5.6	3.4	2,610	740
Ayrshire and Arran	2.2	31.1	36.6	19.3	7.3	3.5	1,241	951
Dumfries and Galloway	1.5	34.8	34.0	18.5	7.5	3.6	664	279
Fife	1.9	31.1	37.5	20.6	5.2	3.8	1,381	726
Borders	1.9	29.3	35.1	20.3	9.3	4.1	464	242
Orkney	*	29.0	37.6	18.3	8.6	*	93	30
Shetland	*	33.6	34.5	18.5	10.1	*	119	20
Western Isles	*	35.9	40.7	16.6	4.1	*	145	50
Scotland	1.9	33.5	36.8	18.5	6.3	3.1	20,332	10,569

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

Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3,186).

Of people with type 1 or type 2 diabetes and a record of BMI (Table 78 and Table 79), 31.7% were overweight (BMI 25-29.9 kg/m^2) and 53.4% were obese (BMI 30 kg/m^2 or over).

Of people with type 1 diabetes and a record of BMI (Table 78), 36.8% were overweight (BMI 25-29.9 kg/m^2) and 27.9% were obese (BMI 30 kg/m^2 or over).

Table 79 Type 2 diabetes: Percentage of people with a record of BMI in the last 15 months grouped by BMI category, NHS board and ranked from low to high by percentage with BMI $\geq 40\text{kg/m}^2$, Scotland 2020.

NHS board	BMI (kg/m², %)						Total recorded (n)	Not recorded (n)
	Under-weight	Normal	Over-weight	Obese				
	<18.5	18.5-24.9	25-29.9	30-34.9	35-39.9	≥40		
Greater Glasgow and Clyde	0.5	13.7	32.6	28.2	14.8	10.1	37,366	21,532
Tayside	0.3	11.6	32.1	29.4	15.9	10.7	15,502	5,964
Grampian	0.5	12.1	31.3	29.9	15.5	10.7	20,170	6,841
Highland	0.4	11.7	32.2	29.4	15.4	10.8	13,137	3,631
Borders	0.5	12.0	30.3	29.3	16.9	10.9	4,134	1,942
Ayrshire and Arran	0.6	12.1	30.9	29.1	16.1	11.2	14,216	8,582
Dumfries and Galloway	0.5	11.7	30.4	29.4	16.8	11.2	6,278	2,574
Lothian	0.6	12.7	31.6	28.8	14.8	11.4	24,742	13,768
Lanarkshire	0.6	11.6	29.9	30.4	15.9	11.6	22,588	14,704
Western Isles	*	*	30.2	31.1	15.8	11.7	1,054	350
Forth Valley	0.4	10.6	29.9	29.7	16.9	12.5	10,708	5,649
Orkney	0.0	10.6	31.3	28.3	16.2	13.5	875	232
Fife	0.4	10.8	28.8	29.3	17.1	13.5	13,605	6,929
Shetland	*	*	28.2	28.5	19.5	15.1	769	255
Scotland	0.5	12.2	31.2	29.3	15.7	11.2	185,144	92,953

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Excludes children under 18 years of age or who have no recorded date of birth (n = 142).

Of people with type 2 diabetes and a record of BMI (Table 79), 31.2% were overweight (BMI 25-29.9 kg/m^2) and 56.2% were obese (BMI 30 kg/m^2 or over).

Glycaemic Control National and Regional Detail

82.4% of people with type 1 or type 2 diabetes had an HbA_{1c} recorded in the previous 15 months (Table 80). It should be noted that HbA_{1c} is higher in the winter with an average variability of around 6 mmol/mol.

Table 80 Percentage of people recorded as having type 1 or type 2 diabetes (combined) with a record of HbA_{1c} in previous 15 months, Scotland 2020.

Year	Recorded within previous 15 months (%)
2020	82.4
2019	91.1
2018	91.0
2017	91.6
2016	92.6
2015	93.5
2014	94.0
2013	93.3
2012	92.1
2011	91.1

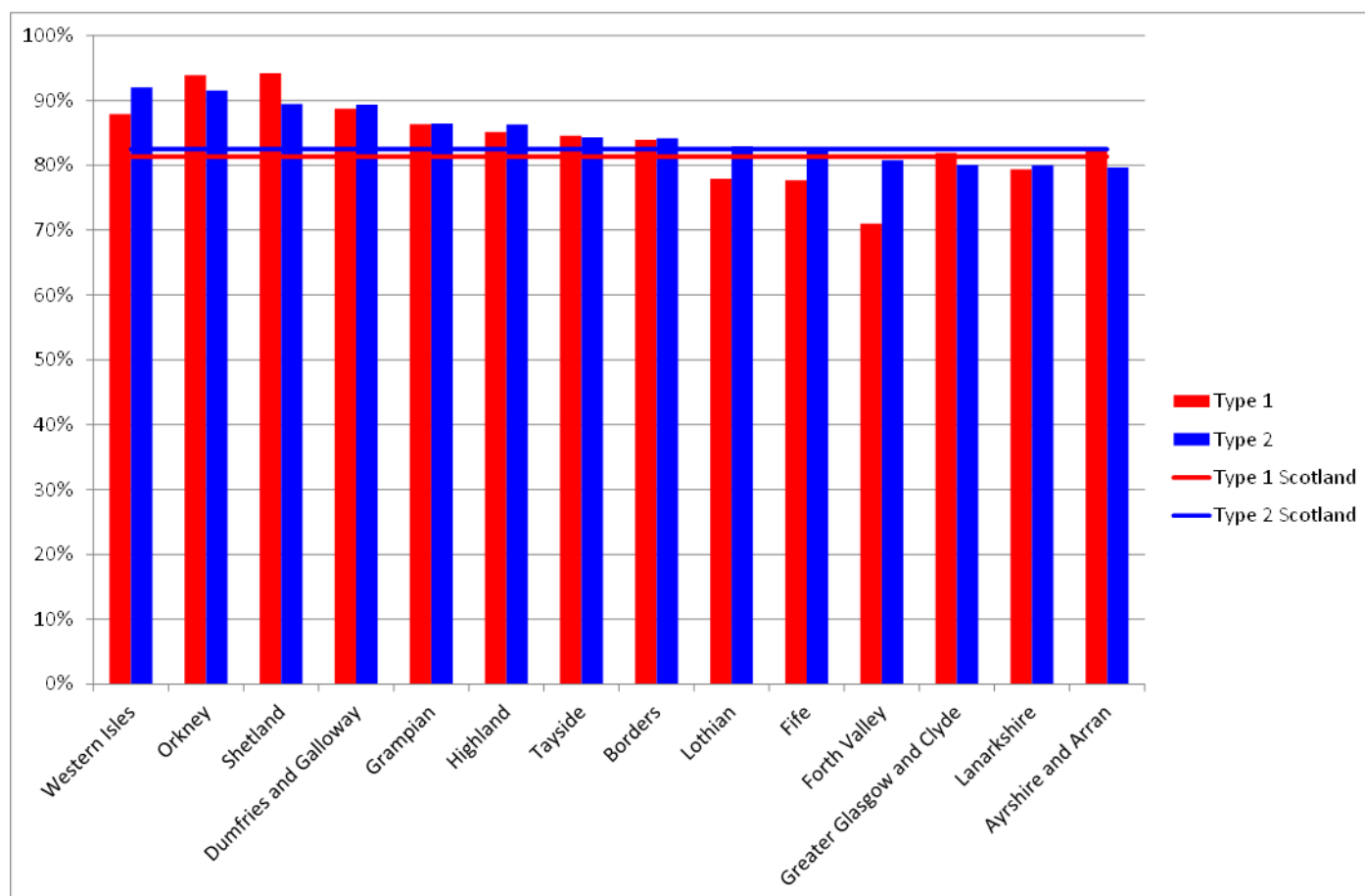
Table 81 Type 2 diabetes: Number and percentage of people with a record of HbA_{1c} in each HbA_{1c} category by year, Scotland 2011-2020.

Year	HbA _{1c} (mmol/mol)						Total recorded (n)	Not recorded (n)
	<58		58-75		>75			
	n	%	n	%	n	%		
2020	117,776	51.3	66,838	29.1	44,871	19.6	229,485	48,754
2019	138,374	55.3	70,314	28.1	41,390	16.6	250,078	24,364
2018	141,143	57.9	64,905	26.6	37,694	15.5	243,742	23,873
2017	141,866	58.7	62,440	25.8	37,306	15.4	241,612	21,659
2016	140,185	58.6	61,832	25.8	37,240	15.6	239,257	18,471
2015	136,132	57.8	61,509	26.1	37,836	16.1	235,477	15,404
2014	141,426	61.4	54,780	23.8	33,981	14.8	230,187	13,863
2013	135,767	61.1	53,972	24.3	32,426	14.6	222,165	14,440
2012	126,141	59.7	52,547	24.8	32,775	15.5	211,463	16,504
2011	123,974	62.1	46,475	23.3	29,177	14.6	199,626	17,888

See the [Type 1 Diabetes Glycaemic Control](#) section for information on people with type 1 diabetes.

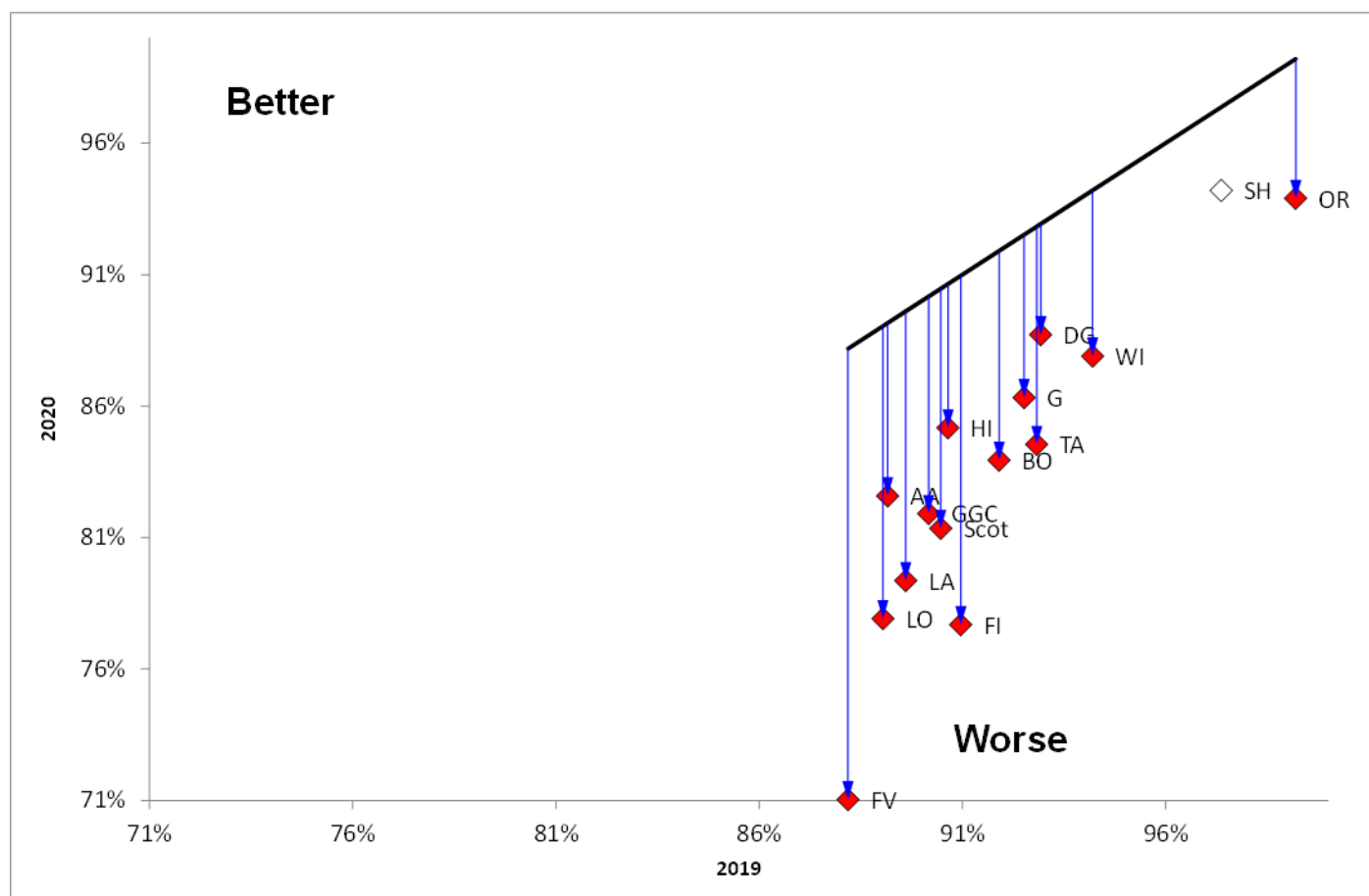
While all laboratories in Scotland are using a standardised (IFCC aligned) HbA_{1c} assay, there are some slight differences in actual results between laboratories and some concerns remain about comparability.

Figure 55 Percentage of people with type 1 or type 2 diabetes with a record of HbA_{1c} within the previous 15 months by NHS board and diabetes type, ranked by decreasing percentage of people with type 2 diabetes, Scotland 2020.



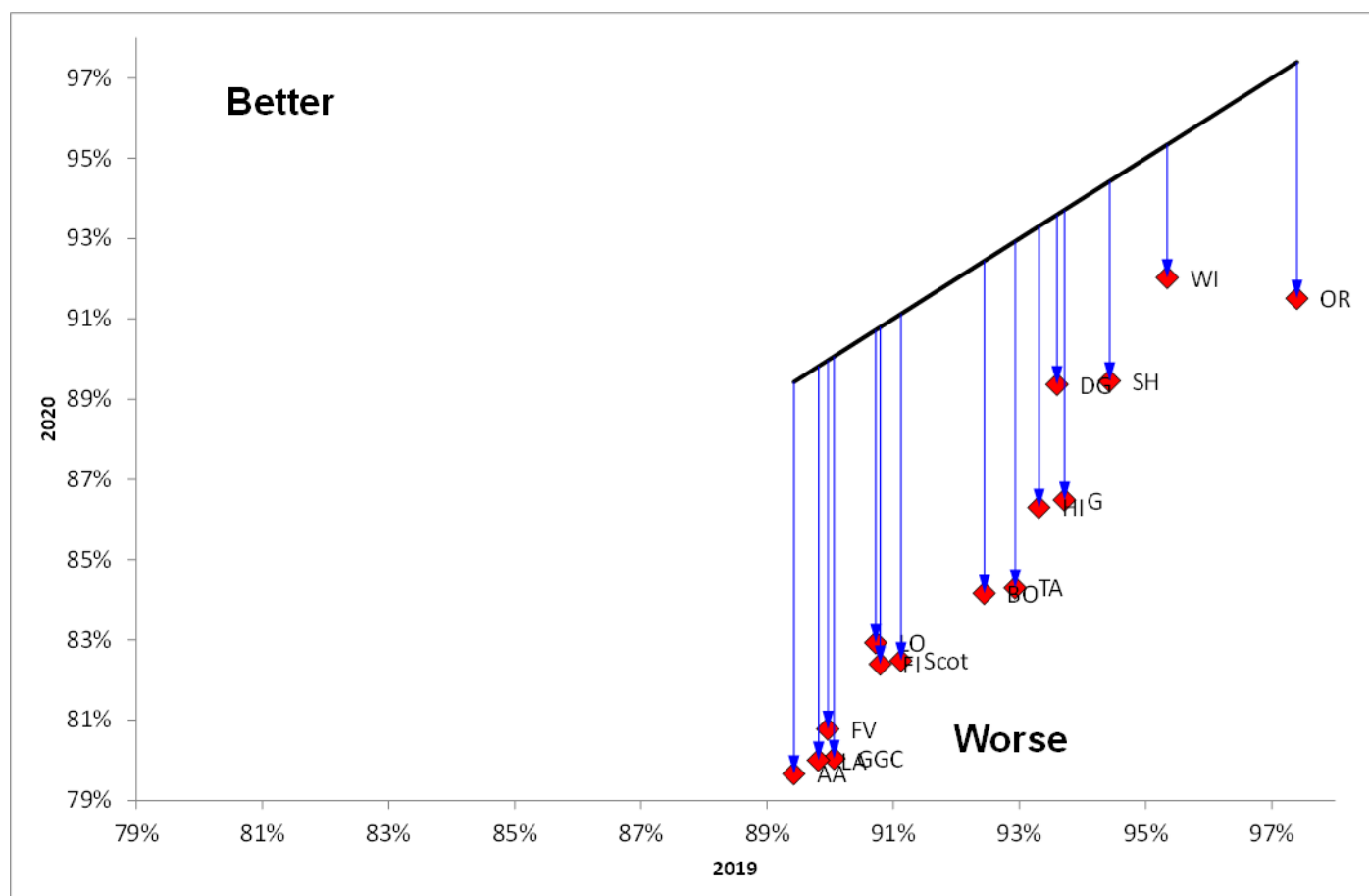
Note: Horizontal lines show figures for Scotland as a whole and bars are ranked by figures for type 2 diabetes

Figure 56 Proportion of people with type 1 diabetes with a record of HbA_{1c} within the previous 15 months by health board, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for all boards with more than 3.5% change over that period. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Figure 57 Proportion of people with type 2 diabetes with a record of HbA_{1c} within the previous 15 months by health board, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for all boards with more than 1.5% change over that period. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Table 82 Number and percentage of people with type 1 or type 2 diabetes with a record of HbA1c within the previous 15 months, by diabetes type and NHS board, ranked by decreasing percentage of people with type 2 diabetes, Scotland 2020.

NHS board	Type 1 diabetes			Type 2 diabetes		
	Recorded within previous 15 months		Not recorded (n)	Recorded within previous 15 months		Not recorded (n)
	N	%		n	%	
Western Isles	196	87.9	27	1,292	92.0	112
Orkney	123	93.9	8	1,013	91.5	94
Shetland	146	94.2	9	916	89.5	108
Dumfries and Galloway	927	88.7	118	7,914	89.4	942
Grampian	3,199	86.3	507	23,363	86.5	3,652
Highland	1,900	85.2	331	14,474	86.3	2,298
Tayside	1,990	84.5	364	18,097	84.3	3,372
Borders	643	83.9	123	5,116	84.2	963
Lothian	4,045	77.9	1,147	31,952	82.9	6,580
Fife	1,813	77.7	521	16,927	82.4	3,617
Forth Valley	1,429	71.0	583	13,212	80.8	3,145
Greater Glasgow and Clyde	5,645	81.9	1,247	47,159	80.0	11,760
Lanarkshire	3,660	79.4	952	29,888	80.0	7,473
Ayrshire and Arran	2,010	82.6	424	18,162	79.7	4,638
Scotland	27,726	81.3	6,361	229,485	82.5	48,754

Figure 58 Type 1 diabetes: Percentage of people with a recorded HbA_{1c}, in each HbA_{1c} category for HbA_{1c} recorded in the previous 15 months, by NHS board, ranked by decreasing percentage of those with a recoded HbA_{1c} under 58 mmol/mol, Scotland 2020.

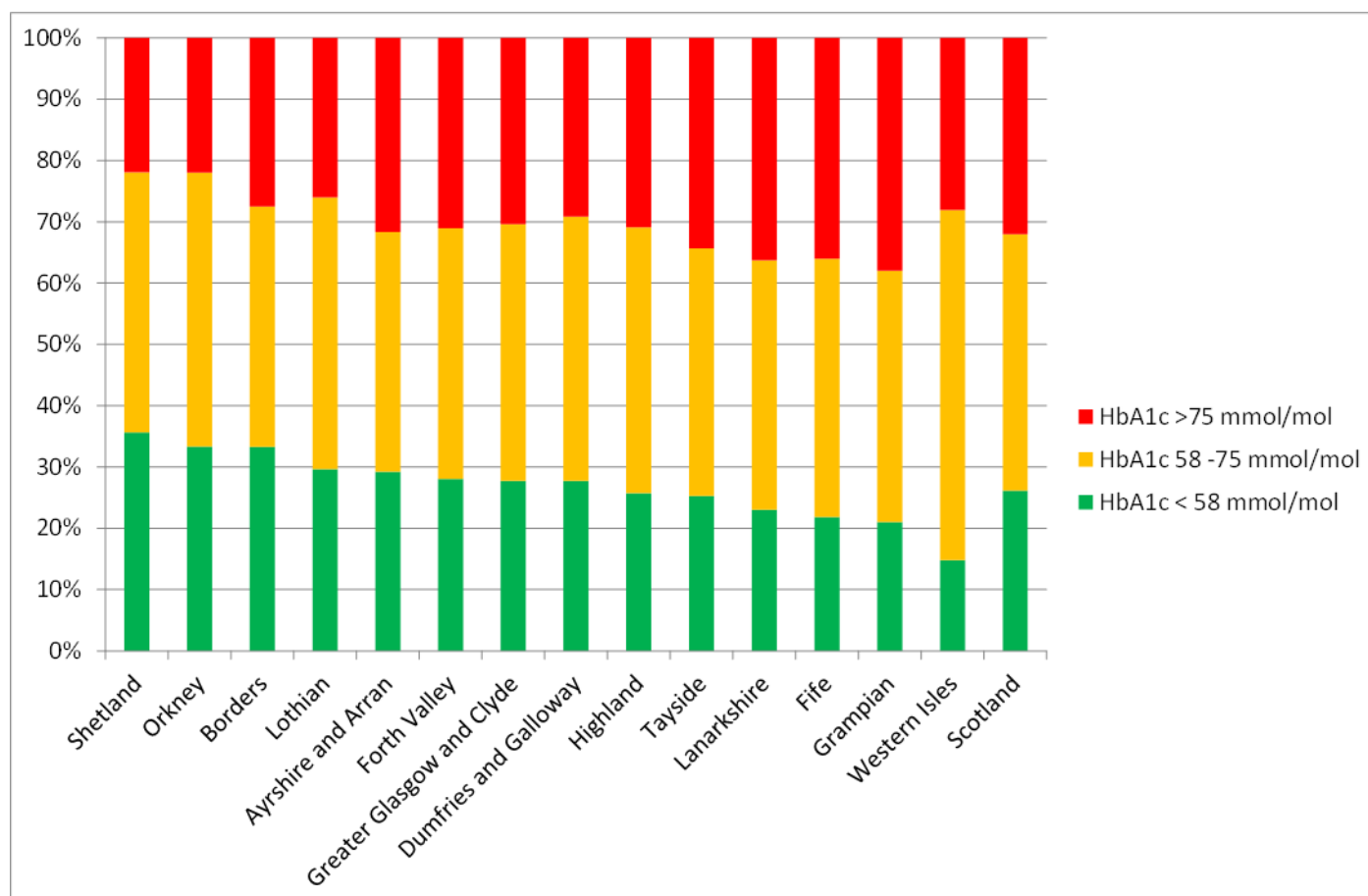
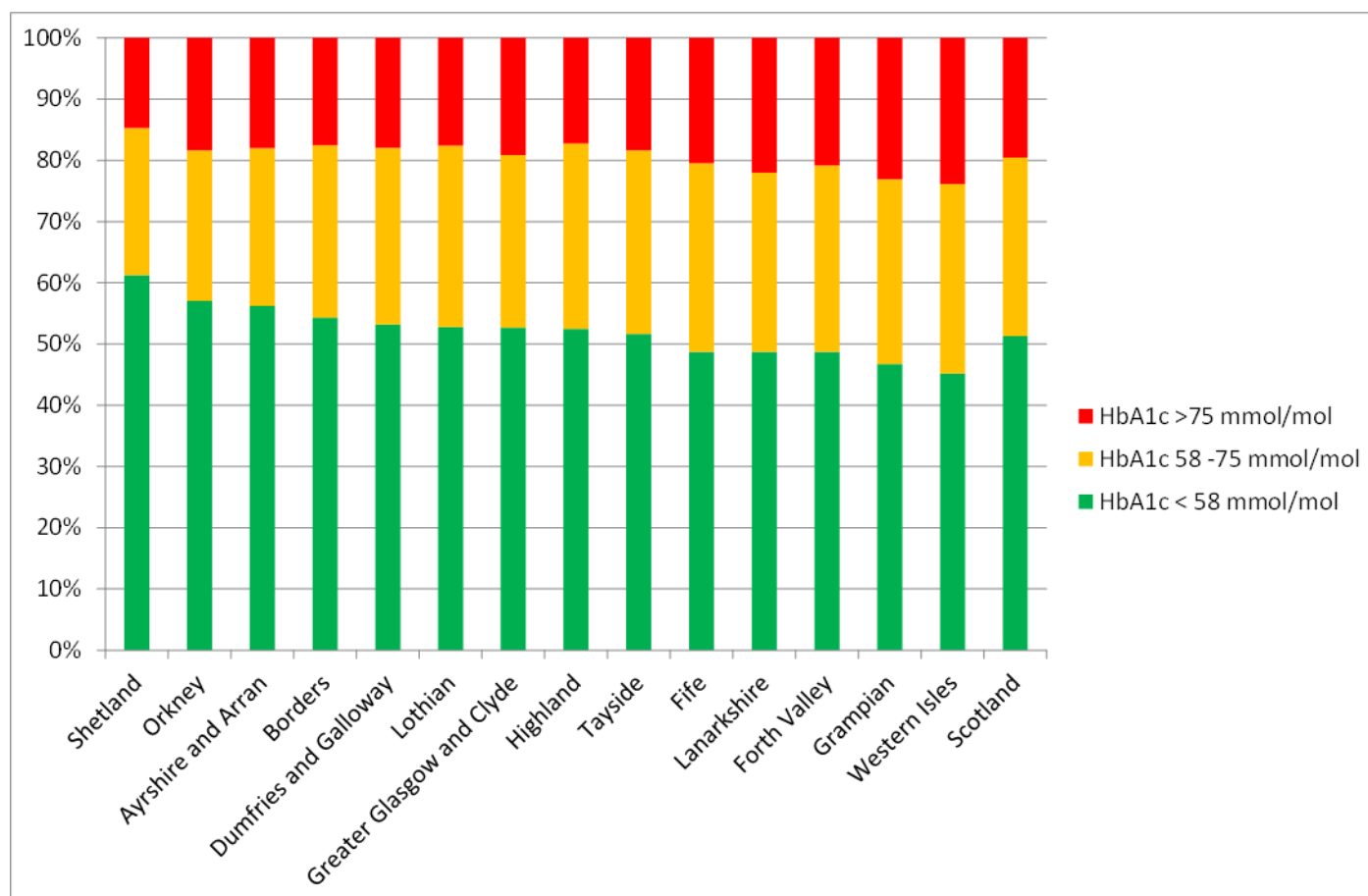


Figure 59 Type 2 diabetes: Percentage of people with a recorded HbA_{1c}, in each HbA_{1c} category for HbA_{1c} recorded in the previous 15 months, by NHS board, ranked by decreasing percentage of those with a recorded HbA_{1c} under 58 mmol/mol, Scotland 2020.



In 48.6% of people with type 1 or type 2 diabetes with a recorded result, HbA_{1c} was less than 58 mmol/mol, although this proportion differed by type of diabetes (Table 83 and Table 84).

Table 83 Type 1 diabetes: HbA_{1c} category as a percentage of people with HbA_{1c} recorded in previous 15 months, by NHS board, ranked from high to low by percentage with HbA_{1c} under 58 mmol/mol, Scotland 2020.

NHS board	HbA _{1c} (mmol/mol)						Total recorded (n)	Not recorded (n)
	<58		58-75		>75			
	n	%	n	%	n	%		
Shetland	52	35.6	62	42.5	32	21.9	146	9
Orkney	41	33.3	55	44.7	27	22.0	123	8
Borders	214	33.3	252	39.2	177	27.5	643	123
Lothian	1,200	29.7	1,793	44.3	1,052	26.0	4,045	1,147
Ayrshire and Arran	587	29.2	786	39.1	637	31.7	2,010	424
Forth Valley	401	28.1	584	40.9	444	31.1	1,429	583
Greater Glasgow and Clyde	1,566	27.7	2,363	41.9	1,716	30.4	5,645	1,247
Dumfries and Galloway	257	27.7	400	43.1	270	29.1	927	118
Highland	489	25.7	824	43.4	587	30.9	1,900	331
Tayside	503	25.3	804	40.4	683	34.3	1,990	364
Lanarkshire	843	23.0	1,489	40.7	1,328	36.3	3,660	952
Fife	396	21.8	764	42.1	653	36.0	1,813	521
Grampian	671	21.0	1,313	41.0	1,215	38.0	3,199	507
Western Isles	29	14.8	112	57.1	55	28.1	196	27
Scotland	7,249	26.1	11,601	41.8	8,876	32.0	27,726	6,361

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

Table 84 Type 2 diabetes: HbA_{1c} category as percentage of people with HbA_{1c} recorded in previous 15 months, by NHS board, ranked from high to low by percentage with HbA_{1c} under 58 mmol/mol, Scotland 2020.

NHS board	HbA _{1c} (mmol/mol)						Total recorded (n)	Not recorded (n)
	<58		58 -75		>75			
	N	%	n	%	n	%		
Shetland	561	61.2	220	24.0	135	14.7	916	108
Orkney	578	57.1	249	24.6	186	18.4	1,013	94
Ayrshire and Arran	10,219	56.3	4,677	25.8	3,266	18.0	18,162	4,638
Borders	2,778	54.3	1,440	28.1	898	17.6	5,116	963
Dumfries and Galloway	4,212	53.2	2,280	28.8	1,422	18.0	7,914	942
Lothian	16,876	52.8	9,458	29.6	5,618	17.6	31,952	6,580
Greater Glasgow and Clyde	24,853	52.7	13,288	28.2	9,018	19.1	47,159	11,760
Highland	7,595	52.5	4,384	30.3	2,495	17.2	14,474	2,298
Tayside	9,347	51.6	5,429	30.0	3,321	18.4	18,097	3,372
Fife	8,252	48.8	5,205	30.7	3,470	20.5	16,927	3,617
Lanarkshire	14,566	48.7	8,740	29.2	6,582	22.0	29,888	7,473
Forth Valley	6,437	48.7	4,018	30.4	2,757	20.9	13,212	3,145
Grampian	10,918	46.7	7,050	30.2	5,395	23.1	23,363	3,652
Western Isles	584	45.2	400	31.0	308	23.8	1,292	112
Scotland	117,776	51.3	66,838	29.1	44,871	19.6	229,485	48,754

Table 85 Type 1 diabetes: HbA_{1c} category as percent of all those with HbA_{1c} recorded in the previous 15 months (HbA_{1c} in mmol/mol), by NHS board, ranked by percentage with HbA_{1c} over 75 mmol/mol, Scotland 2020.

NHS board	HbA _{1c} (mmol/mol, %)						Total recorded (n)	Not recorded (n)
	<53	53-57	58-63	64-68	69-75	>75		
Shetland	22.6	13.0	17.8	13.7	11.0	21.9	146	9
Orkney	17.9	15.4	19.5	12.2	13.0	22.0	123	8
Lothian	16.7	13.0	17.7	13.8	12.8	26.0	4,045	1,147
Borders	17.9	15.4	16.2	12.0	11.0	27.5	643	123
Western Isles	8.2	6.6	17.3	23.0	16.8	28.1	196	27
Dumfries and Galloway	15.1	12.6	17.9	12.1	13.2	29.1	927	118
Greater Glasgow and Clyde	15.9	11.8	17.0	12.9	12.0	30.4	5,645	1,247
Highland	15.2	10.6	16.5	13.0	13.8	30.9	1,900	331
Forth Valley	16.2	11.9	15.7	12.3	12.8	31.1	1,429	583
Ayrshire and Arran	15.4	13.8	14.6	12.8	11.6	31.7	2,010	424
Tayside	15.4	9.8	14.9	12.5	13.1	34.3	1,990	364
Fife	12.8	9.0	15.9	13.0	13.2	36.0	1,813	521
Lanarkshire	13.0	10.0	14.5	12.5	13.6	36.3	3,660	952
Grampian	11.7	9.3	13.9	12.9	14.2	38.0	3,199	507
Scotland	14.9	11.3	16.0	13.0	12.9	32.0	27,726	6,361

Table 86 Type 2 diabetes: HbA_{1c} category as percent of all those with HbA_{1c} recorded in the previous 15 months (HbA_{1c} in mmol/mol), by NHS board, ranked by percentage with HbA_{1c} over 75 mmol/mol, Scotland 2020.

NHS board	HbA _{1c} (mmol/mol, %)						Total recorded (n)	Not recorded (n)
	<53	53-57	58-63	64-68	69-75	>75		
Shetland	47.2	14.1	10.5	8.4	5.1	14.7	916	108
Highland	37.4	15.1	14.4	8.5	7.3	17.2	14,474	2,298
Borders	39.6	14.7	13.4	7.6	7.2	17.6	5,116	963
Lothian	37.9	14.9	13.9	8.5	7.2	17.6	31,952	6,580
Dumfries and Galloway	38.6	14.6	13.3	8.4	7.1	18.0	7,914	942
Ayrshire and Arran	41.5	14.8	11.5	8.0	6.3	18.0	18,162	4,638
Tayside	37.1	14.6	13.7	8.8	7.6	18.4	18,097	3,372
Orkney	42.3	14.7	12.2	6.9	5.4	18.4	1,013	94
Greater Glasgow and Clyde	38.5	14.2	13.0	8.0	7.2	19.1	47,159	11,760
Fife	33.9	14.8	14.2	8.8	7.7	20.5	16,927	3,617
Forth Valley	34.1	14.6	14.0	8.7	7.8	20.9	13,212	3,145
Lanarkshire	34.2	14.6	13.5	8.2	7.5	22.0	29,888	7,473
Grampian	33.0	13.7	13.4	8.8	7.9	23.1	23,363	3,652
Western Isles	30.8	14.4	15.0	8.0	8.0	23.8	1,292	112
Scotland	36.8	14.5	13.4	8.4	7.3	19.6	229,485	48,754

Table 87 Mean HbA_{1c} (mmol/mol) recorded in the previous 15 months, by NHS board, for people with type 1 diabetes by age and for type 2 diabetes (all ages combined), ranked by mean HbA_{1c} for those with type 2 diabetes, Scotland 2020.

NHS board	Type 1 diabetes: Age in years											Type 2 diabetes (all ages)
	0-4	5-9	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60-79	>79	
Shetland	-	-	59	62	77	81	60	70	64	63	72	58
Ayrshire and Arran	66	63	66	70	72	75	72	71	69	65	64	60
Borders	53	67	69	70	62	73	69	72	66	64	66	60
Orkney	77	54	54	62	82	65	63	60	65	63	0	60
Dumfries and Galloway	78	63	72	70	84	72	69	68	67	66	63	61
Greater Glasgow and Clyde	68	64	68	69	72	70	68	69	71	67	64	61
Highland	71	64	62	67	74	70	70	70	69	69	68	61
Lothian	65	60	64	71	72	68	66	68	69	66	66	61
Tayside	58	68	69	77	73	75	72	70	71	67	66	61
Fife	81	64	71	77	79	75	71	71	72	70	76	63
Forth Valley	66	58	64	71	75	75	68	70	70	68	77	63
Lanarkshire	71	62	66	72	79	73	71	72	71	70	72	63
Grampian	69	64	70	79	78	74	70	71	73	71	76	64
Western Isles	64	59	66	77	67	82	69	67	70	69	74	64

Cardiovascular Risk National and Regional Detail

Blood Pressure

67.5% of people with type 1 and 75.1% of people with type 2 diabetes had their BP recorded within the previous 15 months (Table 88). The proportions of people whose blood pressure has been recorded has declined over the last 10 years.

Note: Data from people of all ages are included in these blood pressure figures, in contrast to the processes of care, where there are restrictions.

Table 88 Number and percentage of people with type 1 or type 2 diabetes with a recorded BP within the previous 15 months, Scotland 2011-2020.

Year	Type 1 diabetes			Type 2 diabetes		
	BP Recorded		Population (n)	BP Recorded		Population (n)
	n	%		n	%	
2020	23,011	67.5	34,087	209,077	75.1	278,239
2019	28,008	83.7	33,452	243,171	88.6	274,442
2018	27,458	83.6	32,828	237,210	88.6	267,615
2017	26,524	84.3	31,447	236,329	89.8	263,271
2016	26,248	84.9	30,899	236,721	91.8	257,728
2015	26,298	86.6	30,356	234,631	93.5	250,881
2014	26,201	87.9	29,802	230,710	94.5	244,050
2013	25,395	86.8	29,261	224,420	94.9	236,605
2012	24,574	85.2	28,849	215,702	94.6	227,967
2011	24,165	85.5	28,272	204,782	94.1	217,514

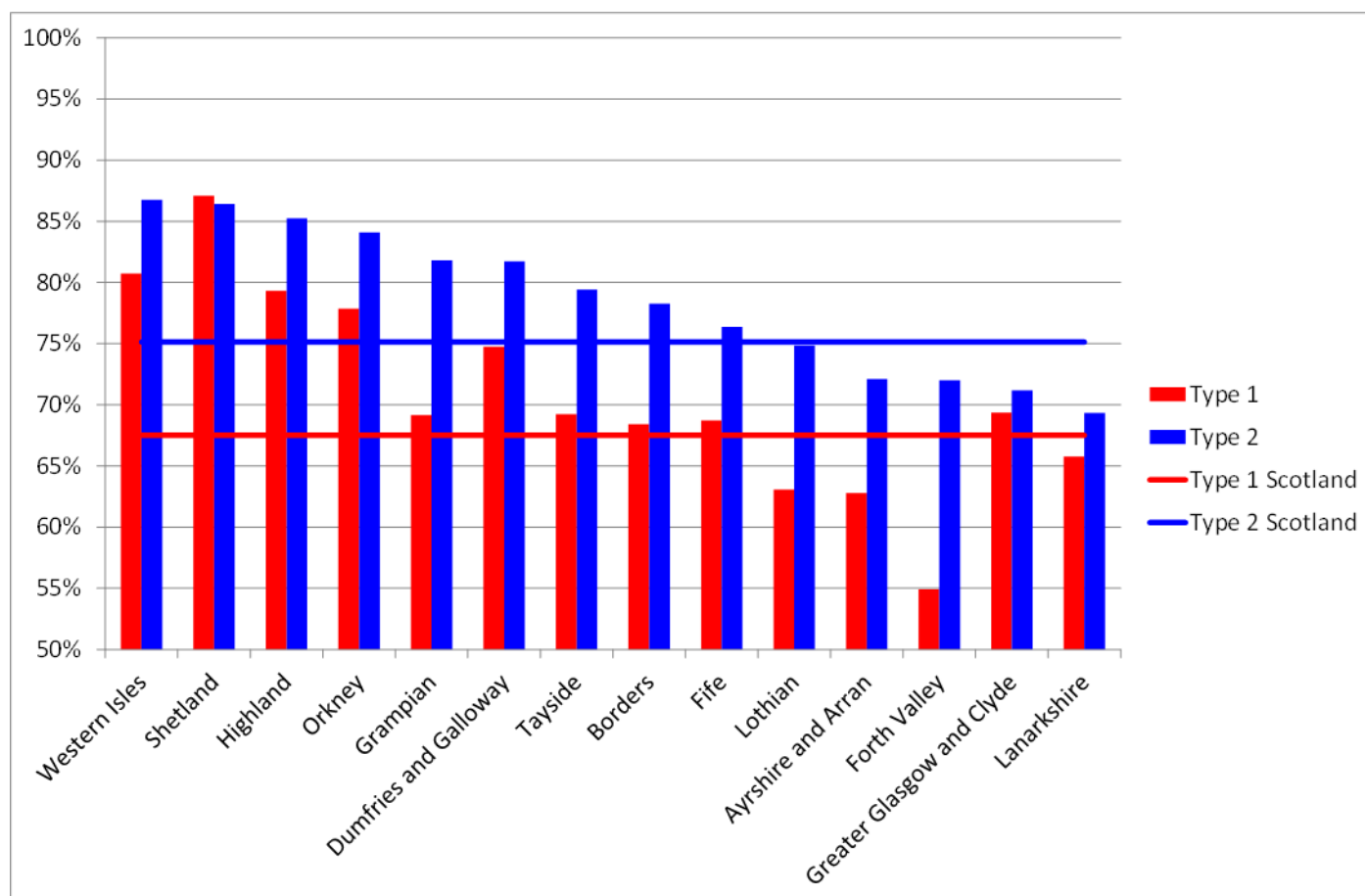
See the [Type 1 Diabetes Blood Pressure](#) section for information on people with type 1 diabetes.

Blood Pressure Regional Detail

Overall, 75.1% of people with type 1 or type 2 diabetes had their BP recorded within the previous 15 months (Table 89). Of those, 70.3% had a systolic BP less than or equal to 140 mmHg (Table 90 and Table 92), suggesting reasonable control of blood pressure. Figures for blood pressure recording by NHS board are shown in Figure 60. Data for blood pressure control for people with type 1 diabetes are shown in Figure 61, Figure 62 and Figure 63 (Table 90 and Table 91) and for people with type 2 diabetes in Figure 64, Figure 65 and Figure 66 (Table 92 and Table 93).

Note: Data from people of all ages are included in these blood pressure figures, in contrast to the processes of care, where there are restrictions.

Figure 60 Percentage of people with type 1 or type 2 diabetes (by diabetes type) with a recording of BP in the previous 15 months, by NHS board; ranked by figures for type 2, Scotland 2020.



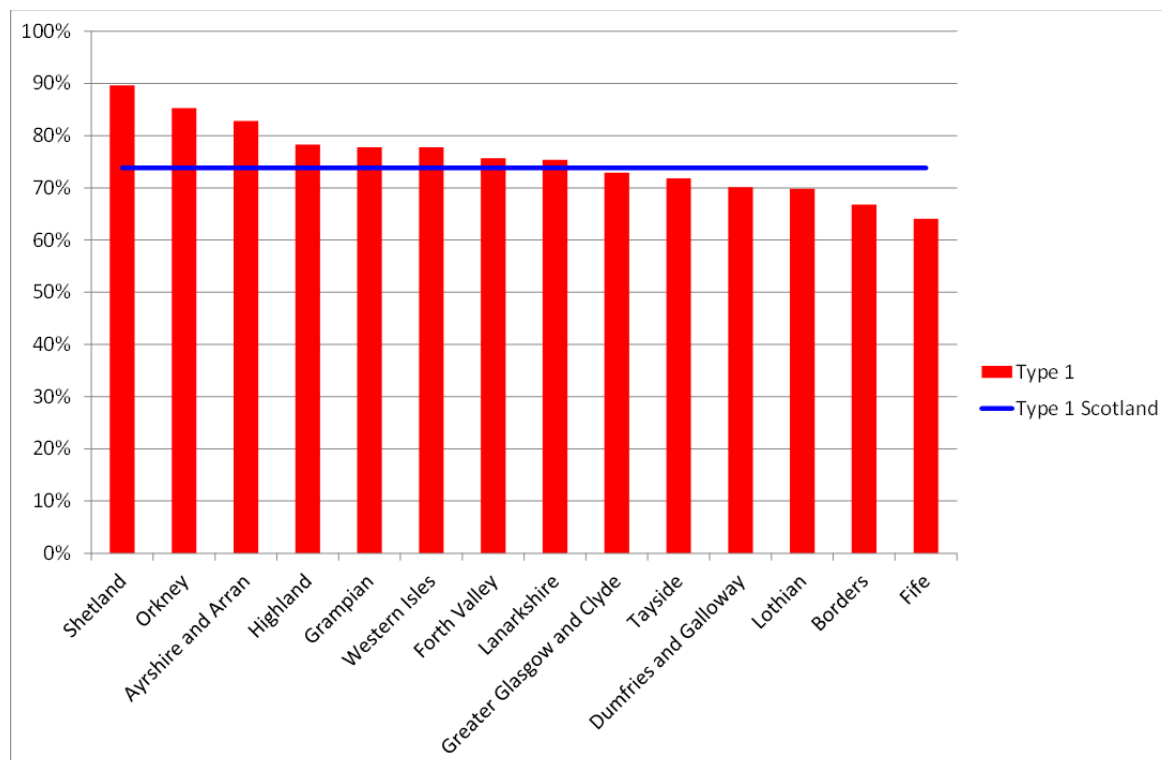
Note: Y axis is interrupted at 50%; Horizontal lines show mean levels for Scotland as a whole.

Table 89 Number and percentage of people with type 1 and type 2 diabetes with a recording of BP in the previous 15 months, by NHS board and diabetes type, ranked by figures for type 2 diabetes, Scotland 2020.

NHS board	Recorded within previous 15 months			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Western Isles	180	80.7	1,218	86.8
Shetland	135	87.1	885	86.4
Highland	1,770	79.3	14,297	85.2
Orkney	102	77.9	931	84.1
Grampian	2,563	69.2	22,096	81.8
Dumfries and Galloway	781	74.7	7,238	81.7
Tayside	1,630	69.2	17,053	79.4
Borders	524	68.4	4,758	78.3
Fife	1,604	68.7	15,691	76.4
Lothian	3,275	63.1	28,841	74.8
Ayrshire and Arran	1,528	62.8	16,441	72.1
Forth Valley	1,105	54.9	11,779	72.0
Greater Glasgow and Clyde	4,780	69.4	41,949	71.2
Lanarkshire	3,034	65.8	25,900	69.3
Scotland	23,011	67.5	209,077	75.1

Note: The numbers in this table relate to all ages.

Figure 61 Type 1 diabetes: Percentage of people with most recent systolic blood pressure (SBP) ≤ 140 mmHg in the last 15 months by NHS board, ranked by percentage >140 mmHg, Scotland 2020.



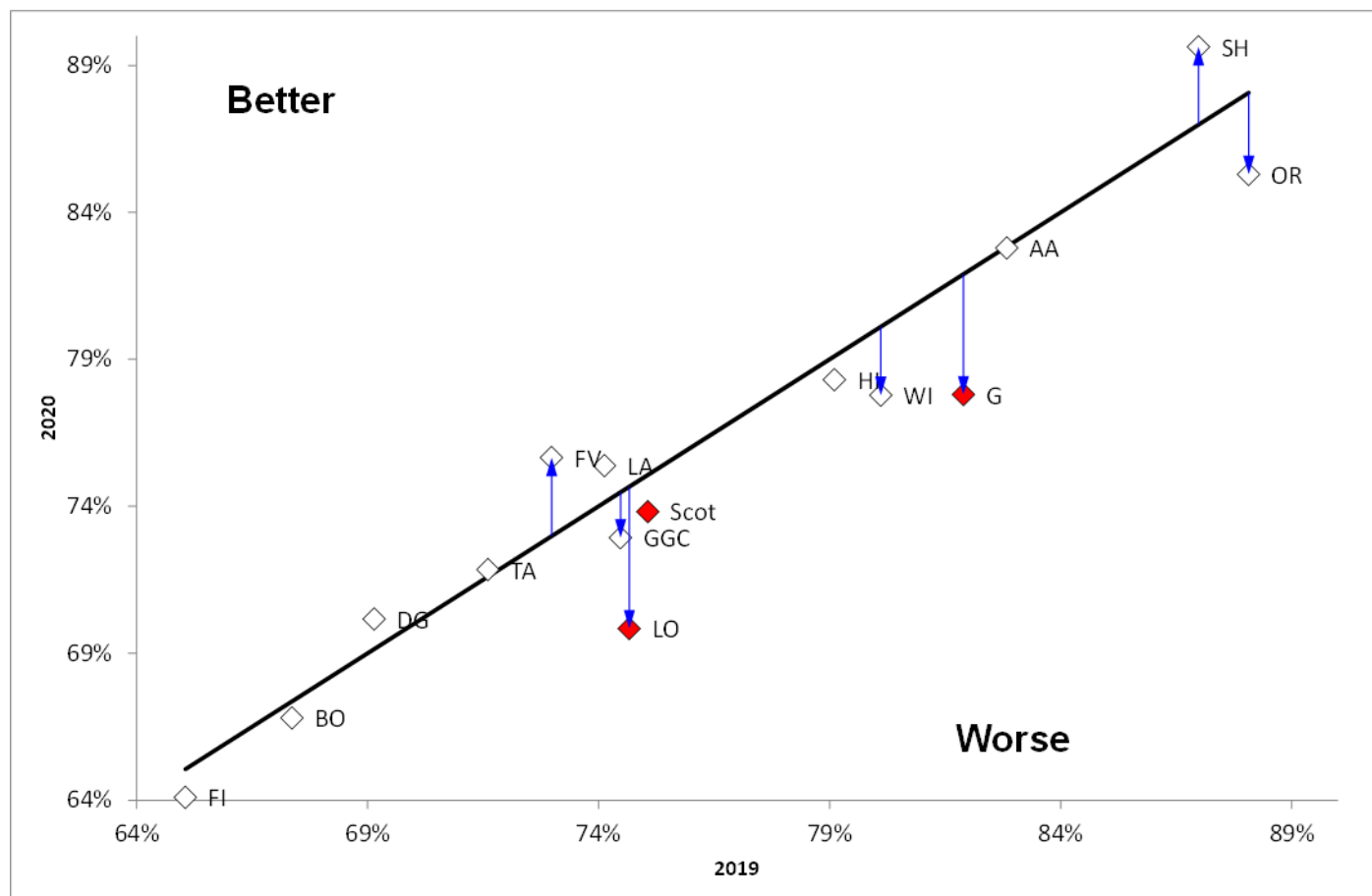
Note: Horizontal line indicates mean level for Scotland as a whole.

Table 90 Type 1 diabetes: Number and percentage of people with systolic blood pressure (SBP) ≤ 140 mmHg by NHS board, ranked by percentage >140 mmHg, Scotland 2020.

NHS board	Systolic BP ≤ 140		Systolic BP >140		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Shetland	121	89.6	14	10.4	135	20	12.9
Orkney	87	85.3	15	14.7	102	29	22.1
Ayrshire and Arran	1,265	82.8	263	17.2	1,528	906	37.2
Highland	1,386	78.3	384	21.7	1,770	461	20.7
Grampian	1,994	77.8	569	22.2	2,563	1,143	30.8
Western Isles	140	77.8	40	22.2	180	43	19.3
Forth Valley	836	75.7	269	24.3	1,105	907	45.1
Lanarkshire	2,287	75.4	747	24.6	3,034	1,578	34.2
Greater Glasgow and Clyde	3,486	72.9	1,294	27.1	4,780	2,112	30.6
Tayside	1,171	71.8	459	28.2	1,630	724	30.8
Dumfries and Galloway	548	70.2	233	29.8	781	264	25.3
Lothian	2,287	69.8	988	30.2	3,275	1,917	36.9
Borders	350	66.8	174	33.2	524	242	31.6
Fife	1,028	64.1	576	35.9	1,604	730	31.3
Scotland	16,986	73.8	6,025	26.2	23,011	11,076	32.5

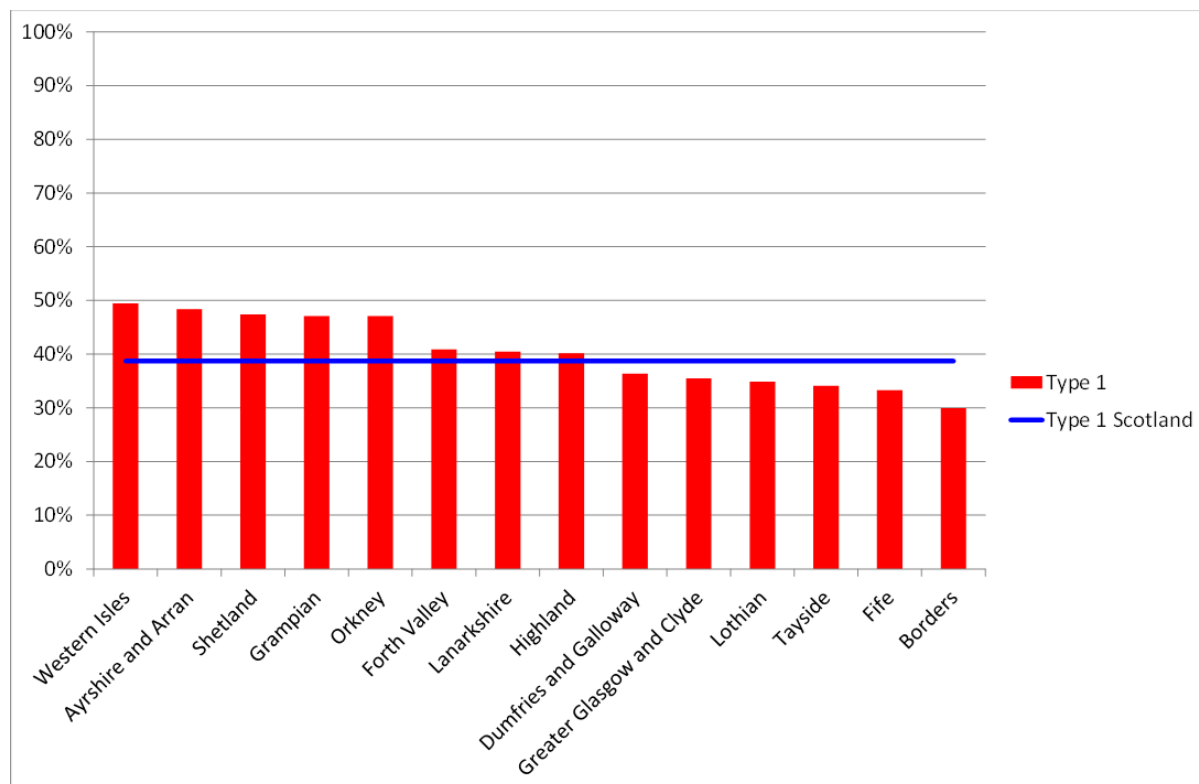
Note: Restricted to most recent value recorded in the previous 15 months – those with only older results are classed as missing (not recorded).

Figure 62 Type 1 diabetes: Percentage of people with SBP ≤ 140 mmHg, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for all boards with more than 2.5% change over that period. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Figure 63 Type 1 diabetes: Percentage of people with most recent blood pressure in the last 15 months <130 mmHg (systolic) and ≤80 mmHg (diastolic), by NHS board, ranked by percentage of those who met the target, Scotland 2020.



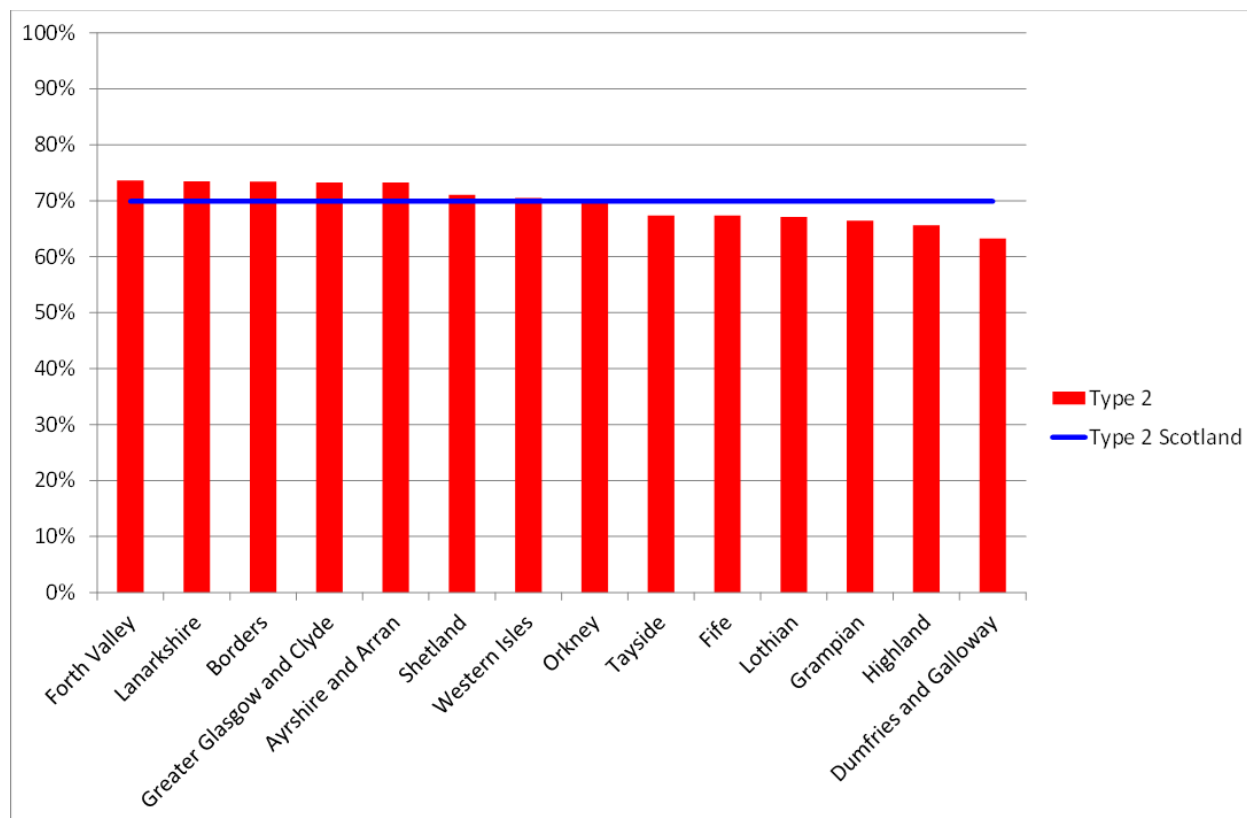
Note: Horizontal line indicates mean level for Scotland as a whole.

Table 91 Type 1 diabetes: Number and percentage of people most recent blood pressure in the last 15 months <130 mmHg (systolic) and ≤80 mmHg (diastolic), by NHS board, ranked by percentage of those who met the target, Scotland 2020.

NHS board	Met BP target		Did not meet BP target		Total recorded (n)	Not recorded	
	N	%	n	%		n	%
Western Isles	89	49.4	91	50.6	180	43	19.3
Ayrshire and Arran	739	48.4	789	51.6	1,528	906	37.2
Shetland	64	47.4	71	52.6	135	20	12.9
Grampian	1,207	47.1	1,356	52.9	2,563	1,143	30.8
Orkney	48	47.1	54	52.9	102	29	22.1
Forth Valley	452	40.9	653	59.1	1,105	907	45.1
Lanarkshire	1,227	40.4	1,807	59.6	3,034	1,578	34.2
Highland	711	40.2	1,059	59.8	1,770	461	20.7
Dumfries and Galloway	284	36.4	497	63.6	781	264	25.3
Greater Glasgow and Clyde	1,696	35.5	3,084	64.5	4,780	2,112	30.6
Lothian	1,141	34.8	2,134	65.2	3,275	1,917	36.9
Tayside	556	34.1	1,074	65.9	1,630	724	30.8
Fife	534	33.3	1,070	66.7	1,604	730	31.3
Borders	157	30.0	367	70.0	524	242	31.6
Scotland	8,905	38.7	14,106	61.3	23,011	11,076	32.5

Note: Those with only results older than 15 months are classed as missing (not recorded).

Figure 64 Type 2 diabetes: Percentage of people with most recent systolic blood pressure (SBP) ≤ 140 mmHg in the last 15 months by NHS board, ranked by percentage >140 mmHg, Scotland 2020.



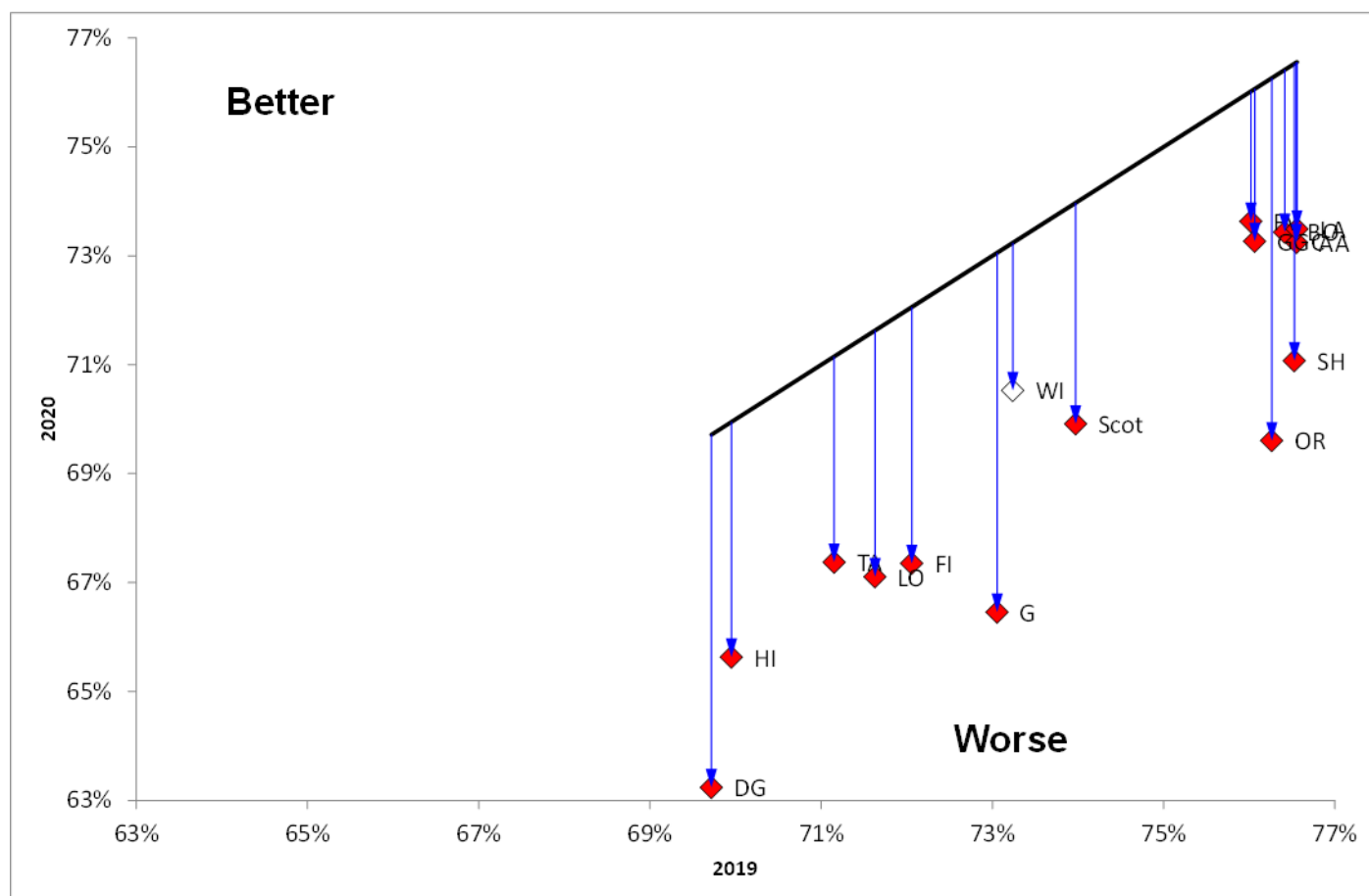
Horizontal line indicates mean level for Scotland as a whole

Table 92 Type 2 diabetes: Number and percentage of people with systolic blood pressure (SBP) ≤ 140 mmHg by NHS board, ranked by percentage >140 mmHg, Scotland 2020.

NHS board	BP ≤ 140		BP >140		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Forth Valley	8,673	73.6	3,106	26.4	11,779	4,578	28.0
Lanarkshire	19,034	73.5	6,866	26.5	25,900	11,461	30.7
Borders	3,494	73.4	1,264	26.6	4,758	1,321	21.7
Greater Glasgow and Clyde	30,734	73.3	11,215	26.7	41,949	16,970	28.8
Ayrshire and Arran	12,042	73.2	4,399	26.8	16,441	6,359	27.9
Shetland	629	71.1	256	28.9	885	139	13.6
Western Isles	859	70.5	359	29.5	1,218	186	13.2
Orkney	648	69.6	283	30.4	931	176	15.9
Tayside	11,489	67.4	5,564	32.6	17,053	4,416	20.6
Fife	10,568	67.4	5,123	32.6	15,691	4,853	23.6
Lothian	19,354	67.1	9,487	32.9	28,841	9,691	25.2
Grampian	14,684	66.5	7,412	33.5	22,096	4,919	18.2
Highland	9,383	65.6	4,914	34.4	14,297	2,475	14.8
Dumfries and Galloway	4,577	63.2	2,661	36.8	7,238	1,618	18.3
Scotland	146,168	69.9	62,909	30.1	209,077	69,162	24.9

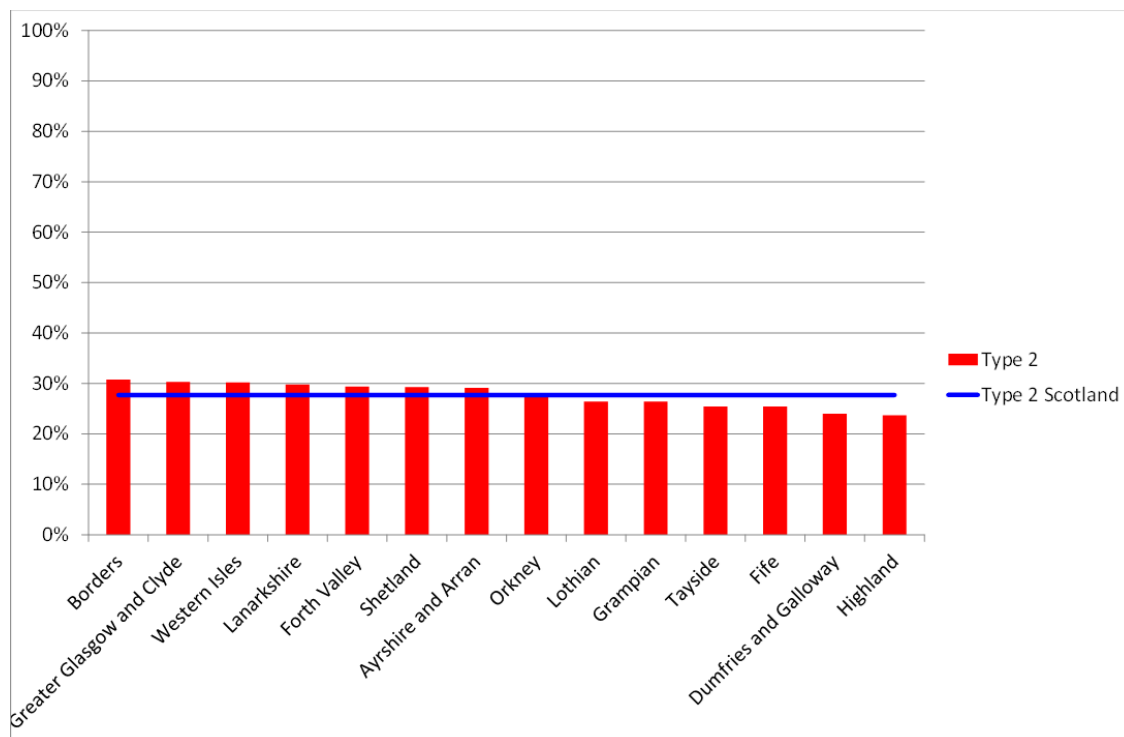
Note: Those with only results older than 15 months are classed as missing (not recorded).

Figure 65 Type 2 diabetes: Percentage of people with SBP ≤ 140 mmHg, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for all boards with more than 2.5% change over that period. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Figure 66 Type 2 diabetes: Percentage of people with most recent blood pressure in the last 15 months <130 mmHg (systolic) and ≤80 mmHg (diastolic), by NHS board, ranked by percentage of those who met the target, Scotland 2020.



Note: Horizontal line indicates mean level for Scotland as a whole.

Table 93 Type 2 diabetes: Number and percentage of people with most recent blood pressure in the last 15 months <130 mmHg (systolic) and ≤80 mmHg (diastolic), by NHS board, ranked by percentage of those who met the target, Scotland 2020.

NHS board	Met BP target		Did not meet BP target		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Borders	1,465	30.8	3,293	69.2	4,758	1,321	21.7
Greater Glasgow and Clyde	12,700	30.3	29,249	69.7	41,949	16,970	28.8
Western Isles	368	30.2	850	69.8	1,218	186	13.2
Lanarkshire	7,721	29.8	18,179	70.2	25,900	11,461	30.7
Forth Valley	3,463	29.4	8,316	70.6	11,779	4,578	28.0
Shetland	259	29.3	626	70.7	885	139	13.6
Ayrshire and Arran	4,784	29.1	11,657	70.9	16,441	6,359	27.9
Orkney	259	27.8	672	72.2	931	176	15.9
Lothian	7,614	26.4	21,227	73.6	28,841	9,691	25.2
Grampian	5,832	26.4	16,264	73.6	22,096	4,919	18.2
Tayside	4,339	25.4	12,714	74.6	17,053	4,416	20.6
Fife	3,988	25.4	11,703	74.6	15,691	4,853	23.6
Dumfries and Galloway	1,735	24.0	5,503	76.0	7,238	1,618	18.3
Highland	3,387	23.7	10,910	76.3	14,297	2,475	14.8
Scotland	57,914	27.7	151,163	72.3	209,077	69,162	24.9

Note. Restricted to most recent value recorded in the previous 15 months – those with only older results are classed as missing (not recorded).

Table 94 Percentage of people with diabetes (type 1 and type 2 combined) with systolic blood pressure (SBP) ≤ 140 mmHg by year, Scotland 2011-2020.

Year	Total	Systolic BP ≤ 140 (%)	Systolic BP > 140 (%)	Not recorded (%)
2020	312,326	70.3	29.7	25.7
2019	307,894	74.1	25.9	11.9
2018	300,443	74.5	25.5	11.9
2017	294,718	74.9	25.1	10.8
2016	288,627	76.6	23.4	7.2
2015	281,237	77.8	22.2	6.2
2014	273,852	78.5	21.5	6.0
2013	256,866	78.6	21.4	6.4
2012	256,816	77.5	22.5	6.9
2011	228,948	76.0	24.0	6.6

Table 95 Type 1 diabetes: Mean BP (mmHg) recorded in previous 15 months in people aged <40 years, by NHS board, ranked by mean systolic BP, Scotland 2020.

NHS board	Mean systolic BP (mmHg)	Mean diastolic BP (mmHg)
Orkney	118	70
Ayrshire and Arran	119	73
Western Isles	121	76
Grampian	123	75
Shetland	123	75
Forth Valley	124	77
Highland	124	75
Lanarkshire	124	75
Dumfries and Galloway	125	78
Greater Glasgow and Clyde	126	77
Lothian	126	79
Tayside	126	77
Borders	127	78
Fife	128	75

Table 96 Type 2 diabetes: Mean BP recorded in previous 15 months in people aged 50-59 years, by NHS board, ranked by mean systolic BP, Scotland 2020.

NHS board	Mean systolic BP (mmHg)	Mean diastolic BP (mmHg)
Orkney	131	78
Lanarkshire	133	79
Borders	133	80
Forth Valley	133	80
Greater Glasgow and Clyde	133	80
Shetland	133	81
Ayrshire and Arran	134	79
Western Isles	134	80
Tayside	134	81
Lothian	134	82
Dumfries and Galloway	135	81
Fife	135	81
Grampian	135	81
Highland	135	81

Total Cholesterol Summary

Cholesterol level was recorded in 69.5% of people with type 1 or type 2 diabetes within the previous 15 months (Table 97).

Table 97 Number and percentage of people with diabetes (type 1 and type 2 combined) with cholesterol <5 mmol/l, by year (denominator those with recording of cholesterol within the previous 15 months) by year, Scotland 2011-2020.

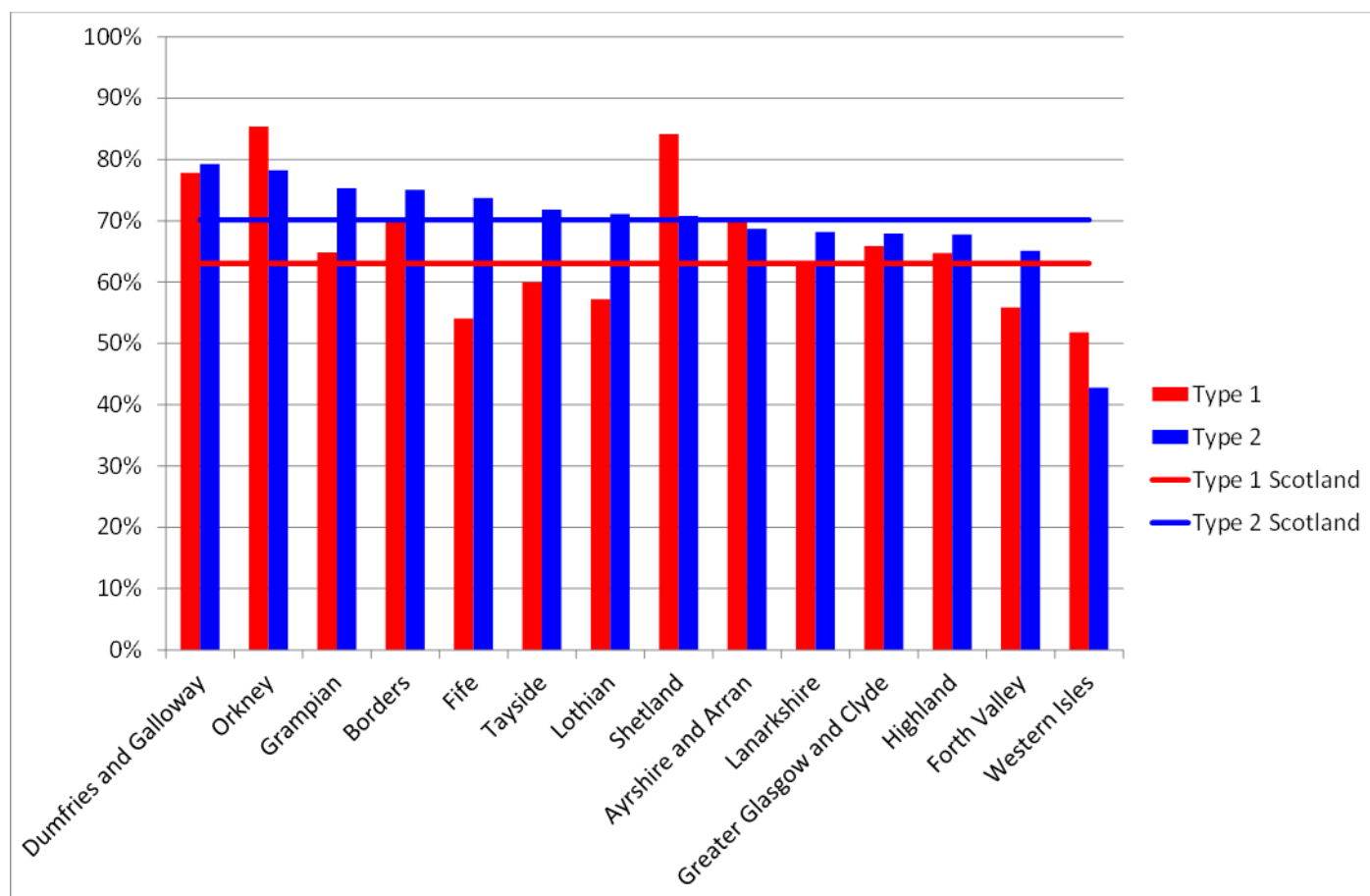
Year	Cholesterol ≤5		Cholesterol >5		Not recorded		Recorded (%)	Total Eligible Population (n)
	Number	%	Number	%	Number	%		
2020	164,240	76.5	50,415	23.5	94,343	30.5	69.5	308,998
2019	197,513	78.1	55,467	21.9	51,677	17.0	83.0	304,657
2018	192,771	77.6	55,554	22.4	48,918	16.5	83.5	297,243
2017	188,985	76.5	58,131	23.5	44,446	15.2	84.8	291,562
2016	191,365	77.6	55,287	22.4	38,805	13.6	86.4	285,457
2015	194,520	78.9	52,093	21.1	31,512	11.3	88.7	278,125
2014	196,091	79.8	49,502	20.2	25,132	9.3	90.7	270,725
2013	191,130	79.9	47,970	20.1	23,654	9.0	91.0	262,754
2012	182,643	79.5	47,145	20.5	23,895	9.4	90.6	253,683
2011	174,832	79.8	44,364	20.2	25,604	10.4	89.6	245,786

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3,328).

See the [Type 1 Diabetes Total Cholesterol](#) section for information on people with type 1 diabetes.

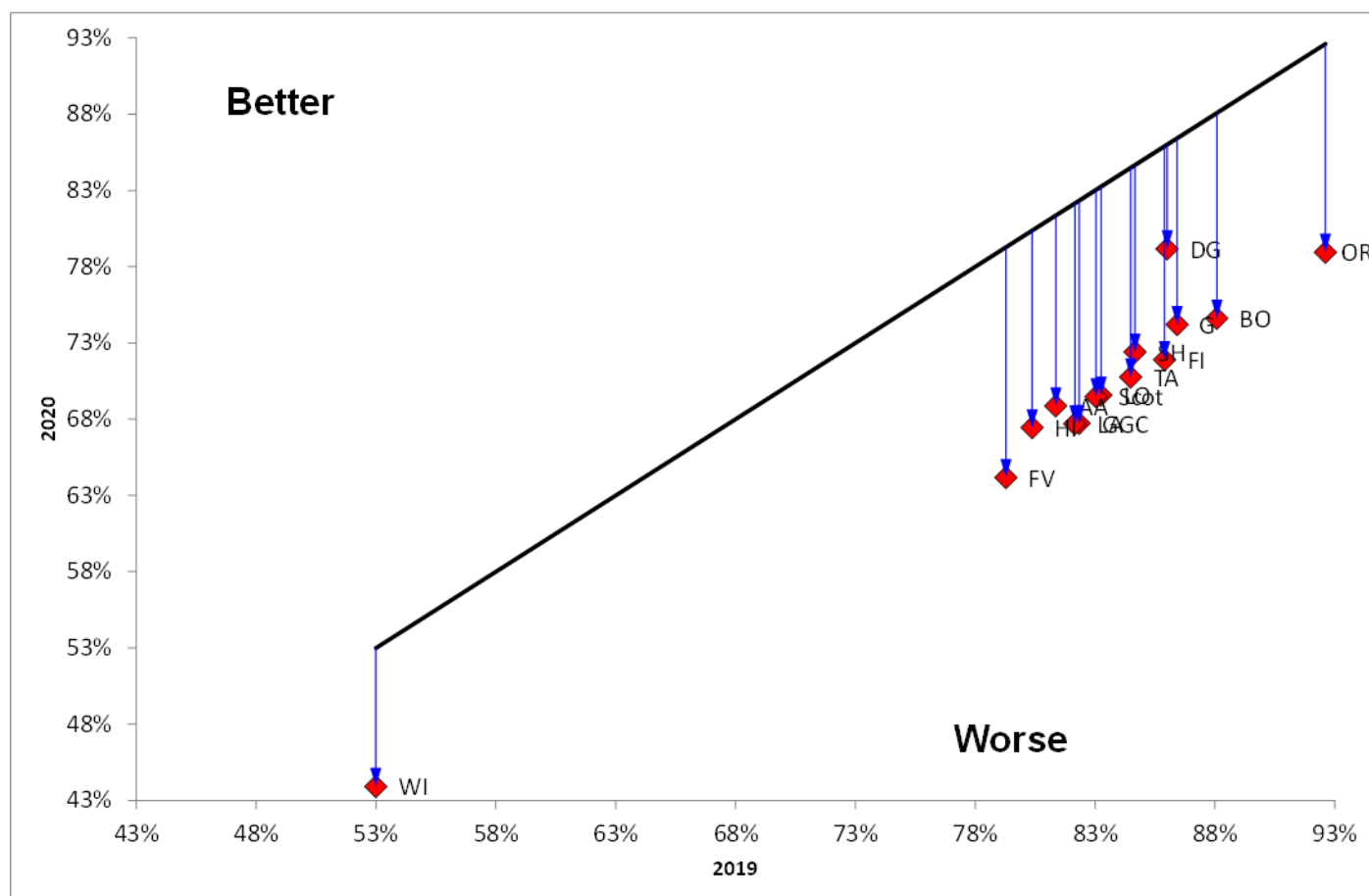
Total Cholesterol Regional Detail

Figure 67 Percentage of people with type 1 or type 2 diabetes with a record of cholesterol within the previous 15 months by diabetes type and NHS board, ranked by the percentage of people with type 2 diabetes with a record of cholesterol, Scotland 2020.



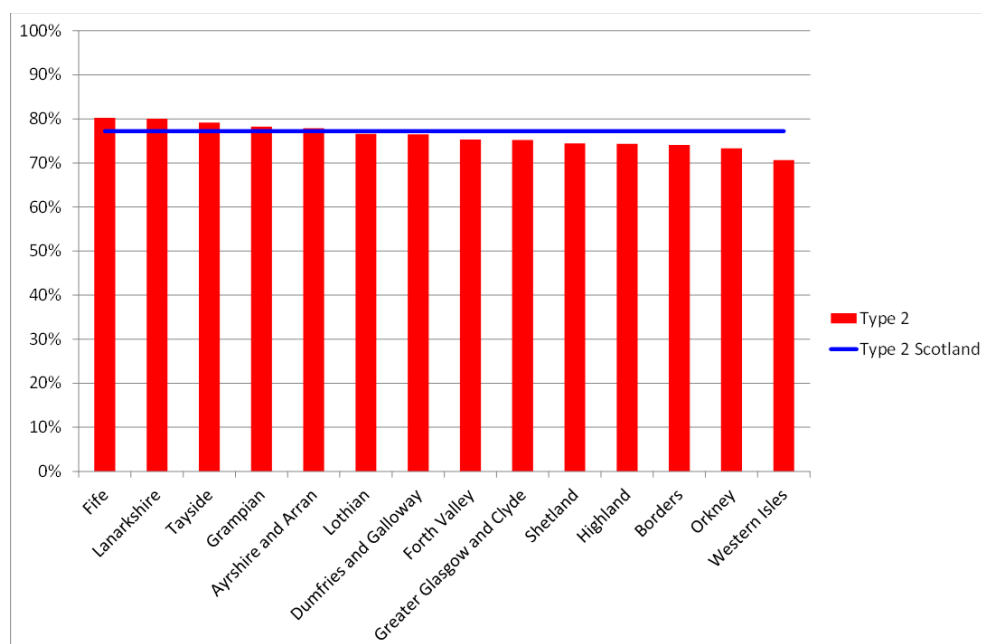
Note: Horizontal lines indicate figures for Scotland as a whole. Excludes children under 18 years or who have no recorded date of birth (type 1 n = 3,186, type 2 n = 142).

Figure 68 Percentage of people with diabetes (type 1 and type 2 combined) with a record of cholesterol within the previous 15 months, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for boards with more than 1% change over the period. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Figure 69 Type 2 diabetes: Percentage of people with cholesterol ≤ 5 mmol/l, by NHS board (denominator those with recording of cholesterol within the previous 15 months), Scotland 2020.



Note: Excludes children under 18 years or who have no recorded date of birth (n = 142); Horizontal line indicates mean level for Scotland as a whole.

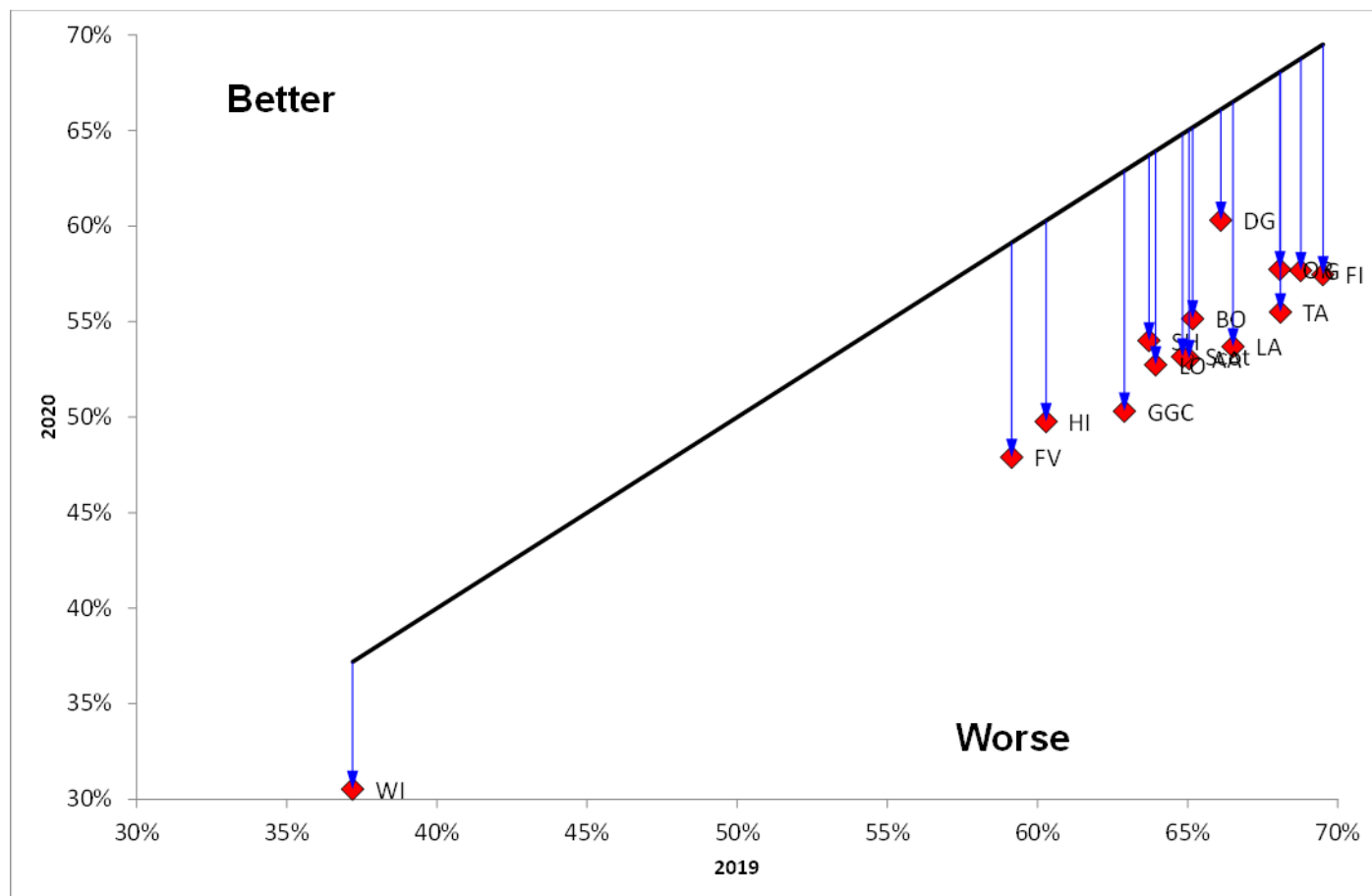
Total cholesterol was less than or equal to 5 mmol/l in 76.5% of people with a recorded result (Table 10 and Table 98).

Table 98 Type 2 diabetes: Number and percentage of people with cholesterol ≤ 5 mmol/l, by NHS board (denominator those with recording of cholesterol within the previous 15 months), ranked by percentage of people with cholesterol ≤ 5 mmol/l, Scotland 2020.

NHS board	Total cholesterol ≤ 5 (%)	Total recorded (n)	Not recorded (%)
Fife	80.2	15,137	26.3
Lanarkshire	80.1	25,419	31.8
Tayside	79.1	15,421	28.2
Grampian	78.3	20,355	24.6
Ayrshire and Arran	77.9	15,666	31.3
Lothian	76.6	27,383	28.9
Dumfries and Galloway	76.5	7,019	20.7
Forth Valley	75.3	10,646	34.9
Greater Glasgow and Clyde	75.2	40,001	32.1
Shetland	74.5	725	29.2
Highland	74.4	11,362	32.2
Borders	74.1	4,562	24.9
Orkney	73.3	866	21.8
Western Isles	70.6	601	57.2
Scotland	77.2	195,163	29.8

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 142).

Figure 70 Percentage of people with diabetes (type 1 and type 2 combined) with cholesterol ≤ 5 mmol/l within the previous 15 months, Scotland, from 2019 to 2020.



Note: Arrows showing the direction of change have been added for all boards with more than 1.5% change over that period. Points in red indicate statistically significant change. The diagonal line shows no change between 2019 and 2020.

Table 99 Type 2 diabetes: Mean total cholesterol recorded in previous 15 months in people aged 50-59 years, by NHS board, ranked by mean cholesterol, Scotland 2020.

NHS board	Mean total cholesterol (mmol/l)
Lanarkshire	4.2
Fife	4.2
Tayside	4.3
Ayrshire and Arran	4.3
Grampian	4.3
Shetland	4.3
Dumfries and Galloway	4.3
Lothian	4.4
Forth Valley	4.4
Greater Glasgow and Clyde	4.4
Orkney	4.4
Highland	4.4
Western Isles	4.4
Borders	4.5

Smoking Status National and Regional Detail

The smoking status in the last 15 months was recorded for 56.5% of people with diabetes (type 1 and 2 combined) (Table 100). Of those who were recorded, 16.0% reported that they currently smoke. Note: Data from people of all ages are included in these smoking figures.

Table 100 Percentage of people with diabetes (type 1 and type 2 combined) who were recorded as current, ex- or never-smokers (denominator those with record of smoking status) by year, Scotland 2014-2020.

Year	Current smoker (%)	Ex-smoker (%)	Never smoked (%)	Not recorded (%)
2020	16.0	35.9	48.1	43.5
2019	16.0	36.1	47.9	27.0
2018	16.3	36.5	47.2	26.5
2017	16.9	36.3	46.8	24.7
2016	17.7	36.4	45.9	21.8
2015	18.1	36.6	45.4	18.8
2014	18.8	36.3	45.0	15.4

Table 101 and Table 102 show those with a recorded smoking status in the last 15 months. 18.9% of people with type 1 diabetes and 15.7% of people with type 2 diabetes report that they currently smoke. Figure 71 and Figure 72 graphically show the percentages of the smoking status, using people with diabetes with a record of smoking status (type 1 and type 2 combined) as the denominator.

See the type 1 Smoking Status section for information on people with type 1 diabetes.

Note: Data from people of all ages are included in these smoking figures.

Figure 71 Type 1 diabetes: Smoking status as a percentage of all those with a recorded smoking status, by NHS Health Board, ordered by current smoker percentage, Scotland 2020.

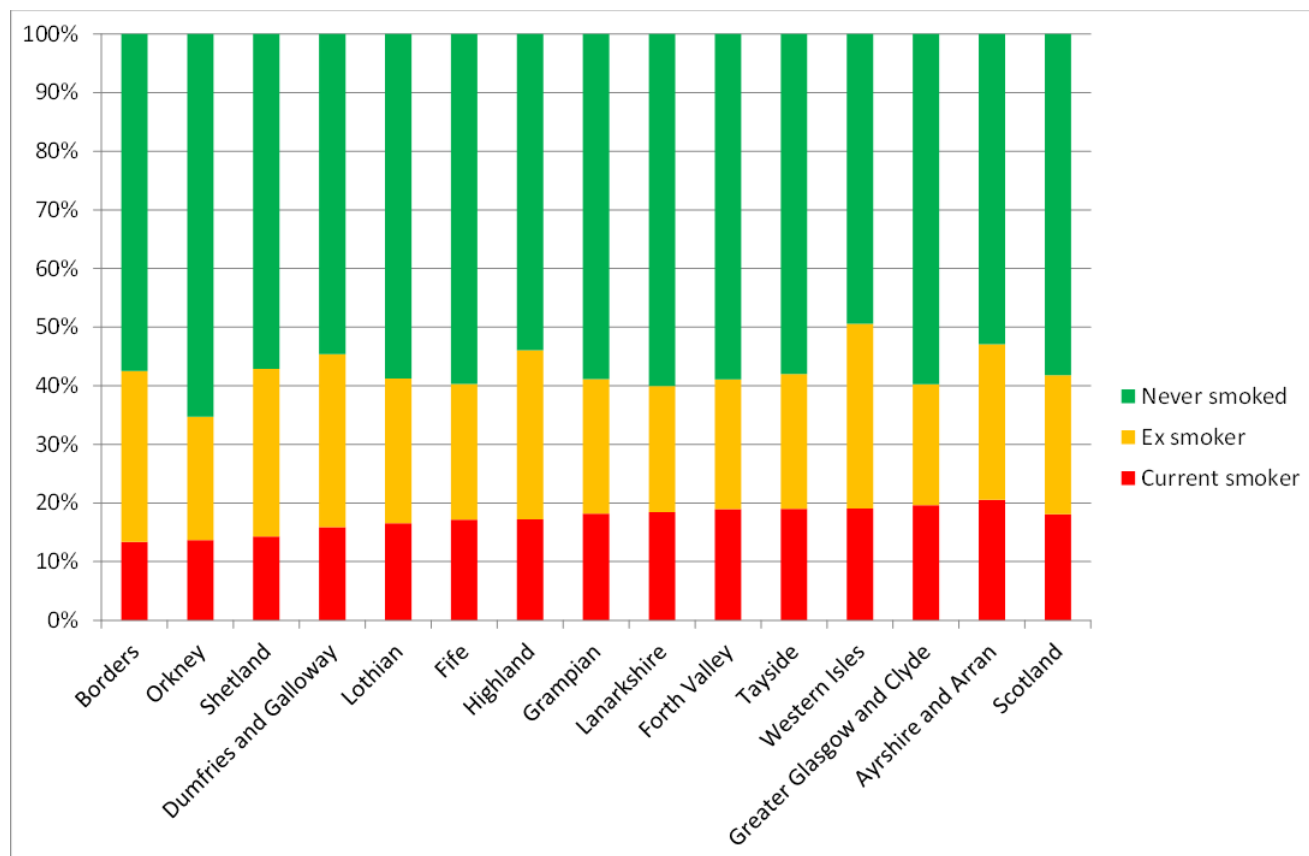


Table 101 Type 1 diabetes: Percentage of people who were recorded as current, ex- or never-smokers, by NHS board (denominator those with a record of smoking status); ordered by current smoker percentage, Scotland 2020.

NHS board	No. with known status	Current smoker (%)	Ex-smoker (%)	Never smoked (%)	Recorded (%)
Borders	433	13.4	29.1	57.5	56.5
Orkney	95	13.7	21.1	65.3	72.5
Shetland	133	14.3	28.6	57.1	85.8
Dumfries and Galloway	597	15.9	29.5	54.6	57.1
Lothian	2,547	16.6	24.7	58.7	49.1
Fife	1,401	17.1	23.2	59.7	60.0
Highland	1,341	17.2	28.9	53.9	60.1
Grampian	1,747	18.2	23.0	58.8	47.1
Lanarkshire	1,801	18.4	21.5	60.0	39.1
Forth Valley	980	19.0	22.1	58.9	48.7
Tayside	1,136	19.0	23.0	58.0	48.3
Western Isles	89	19.1	31.5	49.4	39.9
Greater Glasgow and Clyde	3,466	19.6	20.7	59.7	50.3
Ayrshire and Arran	1,026	20.6	26.5	52.9	42.2
Scotland	16,792	18.1	23.7	58.2	49.3

Figure 72 Type 2 diabetes: Smoking status as a percentage of all those with a recorded smoking status, by NHS Health Board, ordered by current smoker percentage, Scotland 2020.

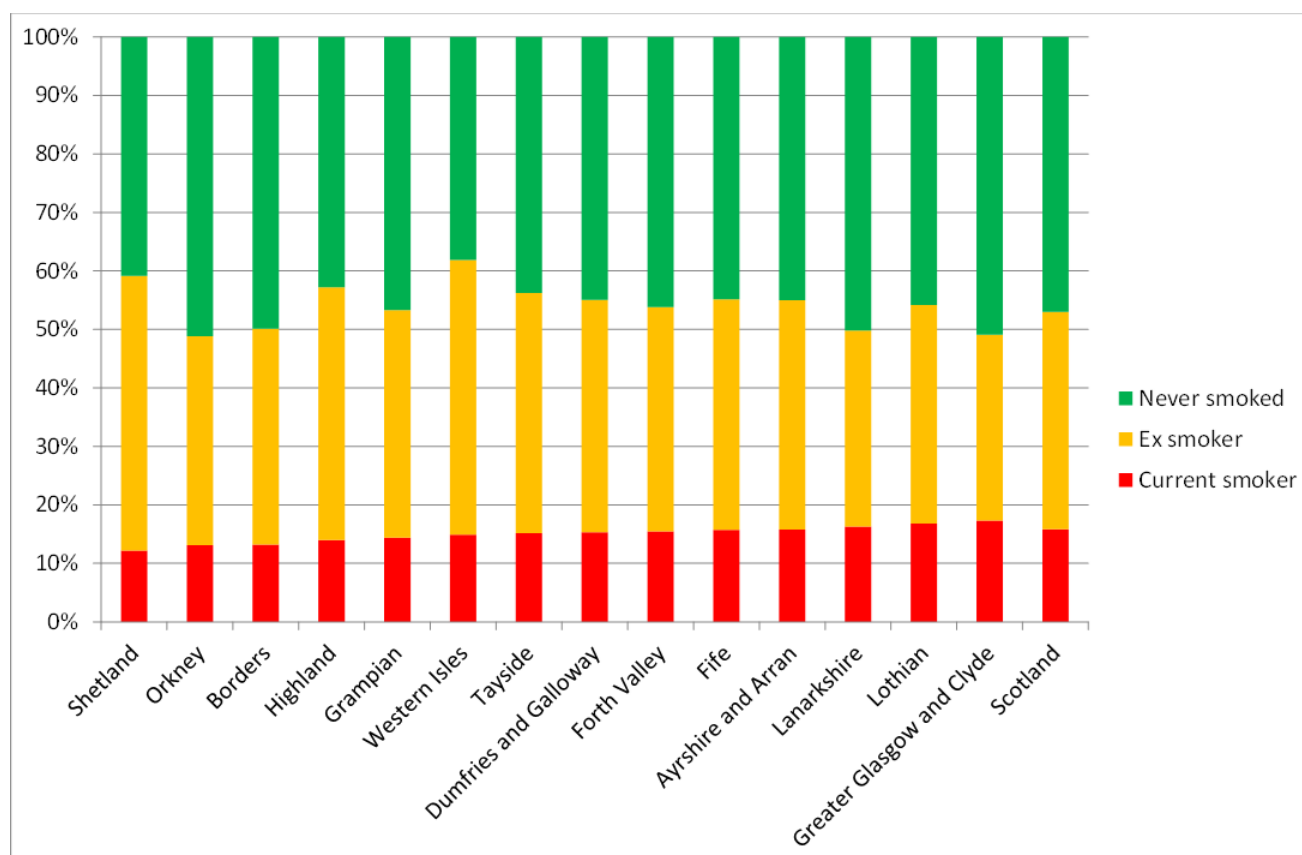


Table 102 Type 2 diabetes: Percentage of people who were recorded as current, ex- or never-smokers, by NHS board (denominator those with a record of smoking status); ordered by current smoker percentage, Scotland 2020.

NHS board	No. with known status	Current smoker (%)	Ex smoker (%)	Never smoked (%)	Recorded (%)
Shetland	720	12.2	46.9	40.8	70.3
Orkney	719	13.1	35.7	51.2	65.0
Borders	3,731	13.2	36.9	49.9	61.4
Highland	11,320	14.0	43.2	42.8	67.5
Grampian	16,484	14.4	38.9	46.7	61.0
Western Isles	887	14.9	47.0	38.1	63.2
Tayside	13,391	15.2	41.0	43.8	62.4
Dumfries and Galloway	5,022	15.3	39.7	45.0	56.7
Forth Valley	9,729	15.5	38.4	46.2	59.5
Fife	11,718	15.7	39.4	44.9	57.0
Ayrshire and Arran	13,172	15.8	39.2	45.0	57.8
Lanarkshire	20,225	16.3	33.5	50.2	54.1
Lothian	20,538	16.8	37.4	45.8	53.3
Greater Glasgow and Clyde	32,129	17.3	31.8	50.9	54.5
Scotland	159,785	15.8	37.2	47.0	57.4

Complications of Diabetes Regional Detail

Myocardial Infarction and Cardiac Revascularisation Summary

28,072 (9.0%) of registered people have a record of a previous MI in primary care records (Table 103). Others will have had an MI but not survived. There have been improvements in recording, increased use of procedures and better survival following an MI in recent years. 22,136 (7.1%) people included in the survey have a record of having undergone cardiac revascularisation (Table 103), including coronary artery bypass graft (CABG) and percutaneous transluminal coronary angioplasty (PTCA).

See the [Myocardial Infarction and Cardiac Regional Detail](#) sections for information on people with type 1 diabetes

Table 103 Percentage of people with diabetes (type 1 and type 2 combined) who are recorded as having had a previous myocardial infarction (MI) or cardiac revascularisation by year, Scotland 2011-2020.

Year	Myocardial infarction (%)	Cardiac Revascularisation (%)
2020	9.0	7.1
2019	9.0	7.1
2018	9.0	7.1
2017	9.0	7.0
2016	9.0	6.9
2015	9.1	6.9
2014	9.2	6.9
2013	9.3	6.8
2012	9.4	6.7
2011	9.5	6.6

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

Myocardial Infarction Regional Detail

Table 104 Number and percentage of people with type 1 or type 2 diabetes recorded as having had a previous myocardial infarction (MI), by diabetes type and NHS board, ranked from low to high by percentage among people with type 2 diabetes, Scotland 2020.

NHS board	Recorded as having had an MI			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Orkney	*	*	90	8.1
Grampian	132	3.6	2,438	9.0
Fife	80	3.4	1,865	9.1
Tayside	84	3.6	1,972	9.2
Lothian	150	2.9	3,579	9.3
Dumfries and Galloway	47	4.5	833	9.4
Forth Valley	57	2.8	1,563	9.6
Shetland	*	*	99	9.7
Lanarkshire	195	4.2	3,703	9.9
Ayrshire and Arran	99	4.1	2,268	9.9
Borders	38	5.0	605	10.0
Highland	96	4.3	1,672	10.0
Western Isles	7	3.1	143	10.2
Greater Glasgow and Clyde	241	3.5	6,007	10.2
Scotland	1,235	3.6	26,837	9.6

Cardiac Revascularisation Regional Detail

Table 105 Number and percentage of people with type 1 or type 2 diabetes who have a record of cardiac revascularisation by NHS board and diabetes type, ranked from low to high by percentage among people with type 2 diabetes, Scotland 2020.

NHS board	Recorded as having undergone cardiac revascularisation			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Orkney	*	*	68	6.1
Fife	63	2.7	1,275	6.2
Forth Valley	40	2.0	1,118	6.8
Tayside	72	3.1	1,576	7.3
Dumfries and Galloway	34	3.3	656	7.4
Shetland	*	*	77	7.5
Lothian	127	2.4	2,908	7.5
Western Isles	7	3.1	107	7.6
Lanarkshire	135	2.9	2,848	7.6
Borders	24	3.1	468	7.7
Greater Glasgow and Clyde	179	2.6	4,569	7.8
Ayrshire and Arran	72	3.0	1,770	7.8
Highland	72	3.2	1,384	8.3
Grampian	126	3.4	2,354	8.7
Scotland	958	2.8	21,178	7.6

Stroke

15,735 (5.0%) people with diabetes were recorded as having ever had a cerebrovascular accident (stroke), an increase in numbers, but a similar percentage to that in previous surveys (5.1% in 2017 to 2019).

Table 106 Number and percentage of people with type 1 or type 2 diabetes who were recorded as ever having had a stroke, by NHS board and diabetes type, ranked from low to high by percentage among people with type 2 diabetes, Scotland 2020.

NHS board	Recorded as having had a stroke			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Orkney	*	*	35	3.2
Shetland	*	*	46	4.5
Tayside	46	2.0	989	4.6
Grampian	80	2.2	1,271	4.7
Lanarkshire	98	2.1	1,849	4.9
Dumfries and Galloway	23	2.2	442	5.0
Forth Valley	43	2.1	839	5.1
Western Isles	*	*	73	5.2
Fife	56	2.4	1,160	5.6
Greater Glasgow and Clyde	138	2.0	3,333	5.7
Highland	52	2.3	953	5.7
Lothian	106	2.0	2,216	5.8
Ayrshire and Arran	61	2.5	1,397	6.1
Borders	18	2.3	401	6.6
Scotland	731	2.1	15,004	5.4

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

Kidney Function and Disease Regional Detail

Serum Creatinine National and Regional Detail

Serum creatinine was recorded in the previous 15 months for 84% (311,029) of people aged over 12 years of age or older (Table 108).

Table 107 Percentage of people with diabetes (type 1 and type 2 combined) who had a record of serum creatinine within the previous 15 months by year, Scotland 2011-2020.

Year	Record of serum creatinine within previous 15 months %	Total eligible population (n)
2020	84.0	311,029
2019	91.7	306,566
2018	91.6	299,121
2017	92.1	293,411
2016	93.1	287,336
2015	94.1	280,003
2014	94.4	272,651
2013	93.3	264,695
2012	92.6	255,640
2011	91.2	244,800

Note: Excludes children under 12 years of age or people who have no date of birth recorded (n = 1,297).

See the [Type 1 Diabetes Serum Creatinine](#) section for information on people with type 1 diabetes.

Serum Creatinine Regional Detail**Table 108** Number and percentage of people with type 1 or type 2 diabetes who have a record of serum creatinine within the previous 15 months, by NHS board and diabetes type, ranked from high to low by percentage among people with type 2 diabetes, Scotland 2020.

NHS board	Serum creatinine recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	People (n)	%	People (n)	%	
Orkney	117	90.7	1,044	94.3	1,161
Western Isles	179	84.4	1,295	92.2	1,474
Dumfries and Galloway	870	86.6	8,075	91.2	8,945
Shetland	130	85.5	931	90.9	1,061
Grampian	2,780	77.6	24,013	88.9	26,793
Borders	617	82.7	5,371	88.4	5,988
Tayside	1,779	77.8	18,567	86.5	20,346
Lothian	3,637	72.2	33,113	85.9	36,750
Fife	1,606	71.6	17,647	85.9	19,253
Lanarkshire	3,486	79.0	31,815	85.3	35,301
Greater Glasgow and Clyde	5,208	78.4	49,591	84.2	54,799
Forth Valley	1,419	73.7	13,729	83.9	15,148
Ayrshire and Arran	1,486	63.2	18,157	79.6	19,643
Highland	1,490	68.8	13,009	77.6	14,499
Scotland	24,804	75.4	236,357	85.0	261,161

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101).

Urinary Albuminuria

Table 109 Number and percentage of people with type 1 or type 2 diabetes and a record of estimated urinary albumin value within the previous 15 months, by diabetes type by year, Scotland 2012-2020.

Year	Urinary albumin recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	Number	%	Number	%	
2020	15,576	47.4	138,597	49.8	154,173
2019	20,450	63.5	180,620	65.8	201,070
2018	19,844	62.8	177,039	66.2	196,883
2017	18,928	62.6	177,868	67.6	196,796
2016	18,815	63.3	180,497	70.1	199,312
2015	18,180	62.2	178,151	71.0	196,331
2014	18,516	64.5	177,646	72.8	196,162
2013	17,256	61.2	166,551	70.4	183,807
2012	16,851	60.7	157,564	69.1	174,415

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101). In some cases, urinary albumin was estimated from albumin/creatinine ratio (ACR). This table is limited to the years since 2012 due to the absence of data prior to that.

See the [Type 1 Diabetes Urinary Albuminuria](#) section for information on people with type 1 diabetes

Table 110 Number and percentage of people with type 1 or type 2 diabetes with a record of estimated urinary albumin value within the previous 15 months, by NHS board and diabetes type, ranked from high to low by percentage among people with type 2 diabetes, Scotland 2020.

NHS board	Urinary albumin recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	People (n)	%	People (n)	%	
Tayside	1,114	48.7	13,073	60.9	14,187
Orkney	90	69.8	674	60.9	764
Shetland	116	76.3	610	59.6	726
Dumfries and Galloway	603	60.0	5,170	58.4	5,773
Western Isles	103	48.6	816	58.1	919
Grampian	1,830	51.1	14,836	54.9	16,666
Lothian	2,564	50.9	20,293	52.7	22,857
Fife	975	43.4	10,763	52.4	11,738
Highland	1,040	48.0	8,772	52.3	9,812
Forth Valley	799	41.5	8,354	51.1	9,153
Ayrshire and Arran	1,014	43.1	10,905	47.8	11,919
Greater Glasgow and Clyde	3,311	49.9	27,657	46.9	30,968
Lanarkshire	1,815	41.1	16,018	42.9	17,833
Borders	202	27.1	656	10.8	858
Scotland	15,576	47.4	138,597	49.8	154,173

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101). In some cases, urinary albumin was estimated from albumin/creatinine ratio (ACR).

Table 111 Number and percentage of people with type 1 or type 2 diabetes with a record of estimated glomerular filtration rate (eGFR) within the previous 15 months, by NHS board and diabetes type, ranked from high to low by percentage of people with type 2 diabetes, Scotland 2020.

NHS board	Estimated glomerular filtration rate (eGFR) recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	People (n)	%	People (n)	%	
Orkney	112	91.1	1,044	94.3	1,156
Western Isles	165	84.6	1,297	92.4	1,462
Dumfries and Galloway	837	88.8	8,076	91.2	8,913
Shetland	125	89.9	931	90.9	1,056
Grampian	2,639	78.8	24,008	88.9	26,647
Tayside	1,650	76.7	18,561	86.5	20,211
Lothian	3,484	73.0	33,086	85.9	36,570
Fife	1,481	70.3	17,633	85.9	19,114
Lanarkshire	3,281	79.5	31,813	85.3	35,094
Greater Glasgow and Clyde	4,962	79.1	49,577	84.2	54,539
Ayrshire and Arran	1,828	83.4	19,146	84.0	20,974
Forth Valley	1,301	72.2	13,736	84.0	15,037
Highland	1,562	77.4	14,040	83.7	15,602
Borders	506	71.7	4,848	79.8	5,354
Scotland	23,933	77.5	237,796	85.5	261,729

End Stage Renal Failure

End stage renal failure implies a need for renal dialysis or transplantation and may occur because of diabetic nephropathy or from other causes of kidney disease.

Table 112 Number and percentage of people with type 1 or type 2 diabetes recorded as having end stage renal failure, by NHS board and diabetes type, ranked by percentage of people with type 2 diabetes, Scotland 2020.

NHS board	Recorded as having end stage renal failure			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Ayrshire and Arran	38	1.6	84	0.4
Shetland	0	0.0	*	*
Borders	*	*	24	0.4
Fife	24	1.0	101	0.5
Tayside	41	1.7	114	0.5
Forth Valley	31	1.5	92	0.6
Lanarkshire	81	1.8	216	0.6
Grampian	64	1.7	161	0.6
Lothian	46	0.9	233	0.6
Highland	30	1.3	105	0.6
Orkney	*	*	*	*
Dumfries and Galloway	18	1.7	59	0.7
Greater Glasgow and Clyde	101	1.5	442	0.8
Western Isles	*	*	15	1.1
Scotland	493	1.4	1,657	0.6

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

Diabetic Eye Screening and Disease Regional Detail

Diabetic Retinal Screening

47.6% of people eligible for screening had a record of eye screening through the retinal screening service in the previous 15 months, including those attending ophthalmology services (Table 113).

Table 113 shows the proportion of people aged 12 years or older who were either screened, were receiving 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.

See the [Type 1 Diabetes Diabetic Retinal Screening](#) section for information on people with type 1 diabetes.

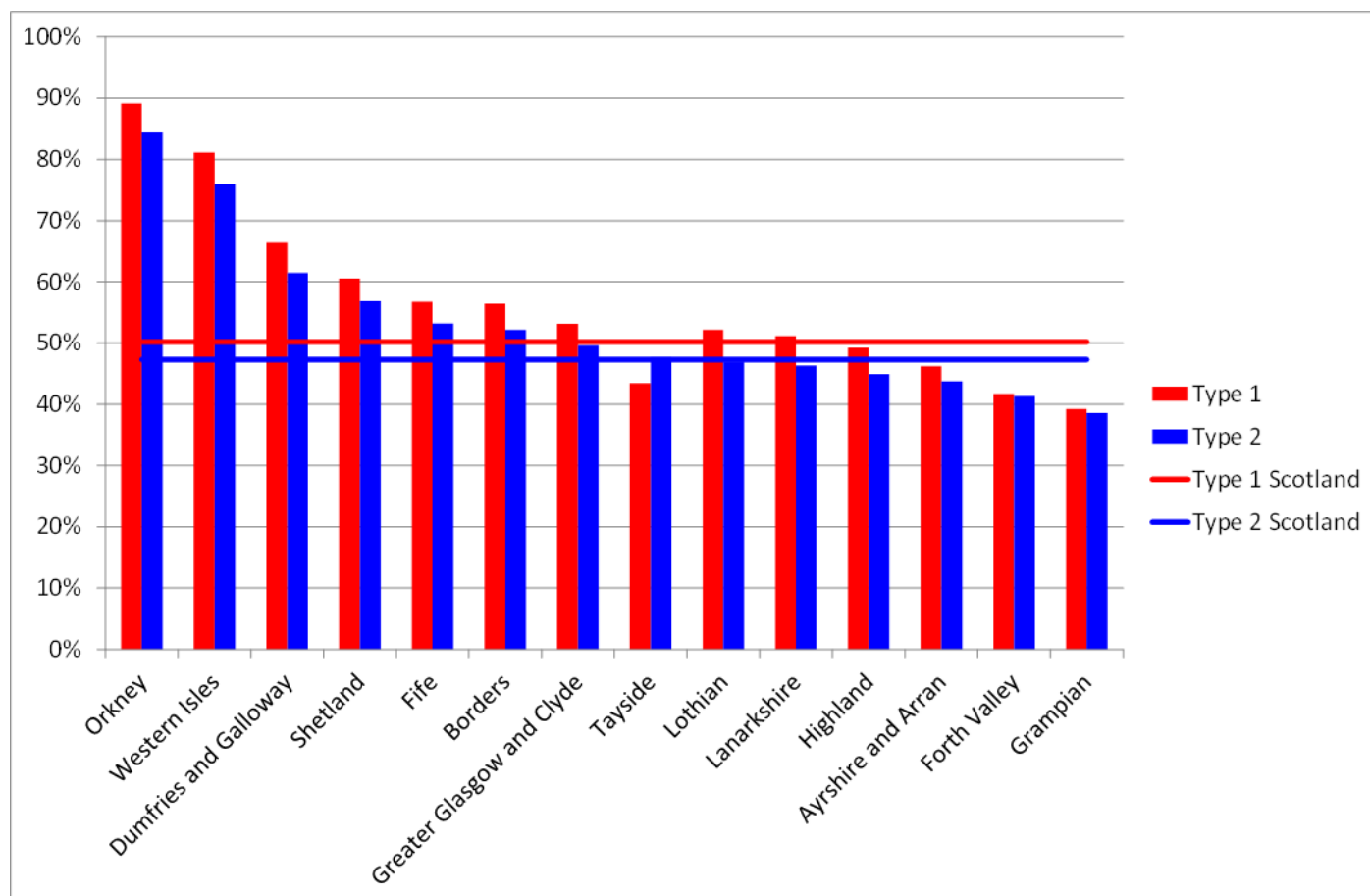
Table 113 Percentage of people with diabetes (type 1 and type 2 combined) who were recorded as having had eye-screening, ophthalmology care or an appropriate suspension from screening (depending on methodology at the time of the report) by year, Scotland 2011-2020

Year	Recorded within previous 15 months (%)
2020	47.6
2019	84.4
2018	84.2
2017	82.4
2016	85.4
2015	85.7
2014	86.4
2013	86.7
2012	86.1
2011	85.6

Note: Excludes children under 12 years or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101). In 2017, data in this table were revised, with years 2013-2015 0.1% lower than previously reported.

Diabetic Retinal Screening Regional Detail

Figure 73 Percentage of people with type 1 or type 2 diabetes with a record of diabetic retinopathy screening within the previous 15 months through retinal screening service, including those attending ophthalmology clinics and those suspended, by NHS board and diabetes type, ranked from high to low by percentage among people with type 2 diabetes, Scotland 2020.



Note: Excludes people under 12 years of age or people whose date of birth has not been recorded (type 1 n = 1,196, type 2 n = 101).

Table 114 and Table 115 show the number and proportion of people of appropriate age (≥ 12 years) who were either screened, were receiving 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.

Table 114 Number and percentage of people with type 1 and type 2 diabetes of appropriate age (>12 years) who were either recorded as having had diabetic retinopathy screening within the previous 15 months, were attending specialist ophthalmology clinics or were appropriately 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; by NHS board and diabetes type, ranked by decreasing percentage of people with type 2 diabetes, Scotland 2020.

NHS board	Type 1 diabetes		Type 2 diabetes		All (Type 1 and Type 2)		Not recorded (n)
	People (n)	%	People (n)	%	People (n)	%	
Orkney	115	89.1	935	84.5	1,050	85.0	186
Western Isles	172	81.1	1,066	75.9	1,238	76.6	378
Dumfries and Galloway	667	66.4	5,438	61.4	6,105	61.9	3,752
Shetland	92	60.5	582	56.8	674	57.3	502
Fife	1,273	56.7	10,927	53.2	12,200	53.6	10,579
Borders	421	56.4	3,172	52.2	3,593	52.7	3,229
Greater Glasgow and Clyde	3,528	53.1	29,209	49.6	32,737	49.9	32,812
Tayside	994	43.5	10,231	47.7	11,225	47.3	12,531
Lothian	2,628	52.2	18,074	46.9	20,702	47.5	22,858
Lanarkshire	2,259	51.2	17,278	46.3	19,537	46.8	22,172
Highland	1,067	49.3	7,538	45.0	8,605	45.4	10,330
Ayrshire and Arran	1,087	46.2	9,971	43.7	11,058	44.0	14,094
Forth Valley	803	41.7	6,767	41.4	7,570	41.4	10,713
Grampian	1,406	39.2	10,412	38.5	11,818	38.6	18,781
Scotland	16,512	50.2	131,600	47.3	148,112	47.6	162,917

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101)

Table 115 Numbers of people eligible for retinopathy screening, numbers screened and percentages of those who had a record of screening (type 1 and type 2 combined), ranked from high to low by percentage of screened people, Scotland 2020.

NHS board	Eligible for screening (n)	Screened	
		People (n)	%
Orkney	1,197	1,011	84.5
Western Isles	1,585	1,207	76.2
Dumfries and Galloway	9,611	5,859	61.0
Shetland	1,128	626	55.5
Fife	22,238	11,659	52.4
Borders	6,571	3,342	50.9
Greater Glasgow and Clyde	63,474	30,662	48.3
Lothian	42,367	19,509	46.0
Tayside	22,871	10,340	45.2
Lanarkshire	40,096	17,924	44.7
Highland	18,483	8,153	44.1
Ayrshire and Arran	24,578	10,484	42.7
Forth Valley	18,067	7,354	40.7
Grampian	29,818	11,037	37.0
Scotland	302,084	139,167	46.1

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101).

Table 116 Number and prevalence (per 10,000 people with type 1 diabetes who are recorded as blind) of causes of blindness, ranked from low to high by prevalence of blindness caused by diabetes, Scotland 2020.

NHS board	Diabetic cause		Total Recorded		Total on register (n)
	n	Prevalence	n	Prevalence	
Borders	0	0.0	*	*	766
Dumfries and Galloway	0	0.0	*	*	1,045
Highland	0	0.0	12	53.8	2,231
Orkney	0	0.0	*	*	131
Shetland	0	0.0	0	0.0	155
Western Isles	0	0.0	0	0.0	223
Lothian	*	*	12	23.1	5,192
Lanarkshire	*	*	36	78.1	4,612
Grampian	*	*	25	67.5	3,706
Ayrshire and Arran	*	*	15	61.6	2,434
Greater Glasgow and Clyde	*	*	39	56.6	6,892
Forth Valley	*	*	10	49.7	2,012
Tayside	*	*	13	55.2	2,354
Fife	*	*	12	51.4	2,334
Scotland	16	4.7	183	53.7	34,087

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

Table 117 Number and prevalence (per 10,000 people with type 2 diabetes who are recorded as blind) of causes of blindness, ranked by diabetic cause prevalence, Scotland 2020.

NHS board	Diabetic cause		Total Recorded		Total on register (n)
	n	Prevalence	n	Prevalence	
Borders	0	0.0	36	59.2	6,079
Dumfries and Galloway	0	0.0	63	71.1	8,856
Grampian	0	0.0	185	68.5	27,015
Greater Glasgow and Clyde	0	0.0	454	77.1	58,919
Lothian	0	0.0	187	48.5	38,532
Orkney	0	0.0	7	63.2	1,107
Shetland	0	0.0	6	58.6	1,024
Western Isles	0	0.0	8	57.0	1,404
Lanarkshire	*	*	246	65.8	37,361
Ayrshire and Arran	*	*	92	40.4	22,800
Fife	*	*	113	55.0	20,544
Forth Valley	*	*	72	44.0	16,357
Tayside	*	*	129	60.1	21,469
Highland	*	*	94	56.0	16,772
Scotland	8	0.3	1,682	60.5	278,239

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

Foot Complications National and Regional Detail

Table 118 Type 1 diabetes: Number and percentage of people with active foot disease, high, moderate or low foot risk score recorded in the previous 15 months, by NHS board, ranked by decreasing percentage foot risk score recorded, Scotland 2020.

NHS board	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	
	n	%	n	%	n	%	n	%	n	%
Shetland	0	0.0	5	4.7	6	5.7	95	89.6	106	69.7
Orkney	*	*	*	*	8	10.1	64	81.0	79	61.2
Highland	26	2.2	127	10.7	113	9.5	918	77.5	1,184	54.7
Dumfries and Galloway	21	4.6	28	6.1	46	10.1	361	79.2	456	45.4
Borders	*	*	*	*	25	8.7	229	79.5	288	38.6
Greater Glasgow and Clyde	110	4.4	255	10.2	189	7.6	1,947	77.8	2,501	37.7
Grampian	61	4.8	96	7.5	93	7.3	1,030	80.5	1,280	35.7
Tayside	23	3.0	105	13.9	62	8.2	566	74.9	756	33.1
Western Isles	*	*	*	*	12	17.1	43	61.4	70	33.0
Ayrshire and Arran	32	4.2	55	7.3	38	5.0	632	83.5	757	32.2
Lothian	53	3.5	116	7.6	115	7.5	1,245	81.4	1,529	30.4
Forth Valley	17	3.0	57	10.2	59	10.5	428	76.3	561	29.1
Lanarkshire	49	4.0	146	11.8	111	9.0	933	75.3	1,239	28.1
Fife	30	6.1	55	11.2	29	5.9	375	76.7	489	21.8
Scotland	434	3.8	1,089	9.6	906	8.0	8,866	78.5	11,295	34.3

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101).

Table 119 Type 2 diabetes: Number and percentage of people with active foot disease, high, moderate, or low foot risk score recorded in the previous 15 months, by NHS board, ranked by decreasing percentage foot risk score recorded, Scotland 2020.

NHS board	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	
	n	%	n	%	n	%	n	%	n	%
Orkney	19	2.9	98	14.7	147	22.1	401	60.3	665	60.1
Highland	145	1.5	813	8.6	1,408	14.9	7,064	74.9	9,430	56.2
Shetland	10	1.8	25	4.5	60	10.9	457	82.8	552	53.9
Tayside	192	1.8	804	7.4	1,658	15.3	8,162	75.5	10,816	50.4
Dumfries and Galloway	66	1.5	205	4.8	529	12.3	3,495	81.4	4,295	48.5
Grampian	236	2.1	520	4.6	1,325	11.7	9,290	81.7	11,371	42.1
Borders	29	1.1	132	5.2	287	11.3	2,088	82.3	2,536	41.7
Forth Valley	56	0.9	245	3.8	985	15.2	5,215	80.2	6,501	39.7
Western Isles	19	3.5	140	25.6	110	20.1	278	50.8	547	39.0
Lothian	347	2.4	899	6.3	1,978	13.8	11,156	77.6	14,380	37.3
Ayrshire and Arran	163	1.9	290	3.4	682	8.0	7,339	86.6	8,474	37.2
Greater Glasgow and Clyde	634	3.1	1,455	7.2	2,475	12.2	15,710	77.5	20,274	34.4
Lanarkshire	267	2.3	679	5.7	1,281	10.8	9,589	81.2	11,816	31.7
Fife	216	4.0	441	8.2	792	14.8	3,900	72.9	5,349	26.0
Scotland	2,399	2.2	6,746	6.3	13,717	12.8	84,144	78.6	107,006	38.5

Note: * Indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1,196, type 2 n = 101).

Comment

Foot screening rates are ~38% in last 15 months. Rates were declining before COVID probably due to changes in the Quality and Outcomes Framework (QOF), but the impact of COVID with the huge swing to virtual consultations has accelerated this decline. Various solutions are being explored. Lack of risk stratification makes it more difficult to direct appropriate podiatry care to patients who need it most.

Foot screening for Low risk has changed to 2 yearly, in a similar way to retinal screening. Screening for high risk will officially cease and be replaced by annual foot assessment and a surveillance tool resulting in a Treatment/Management plan agreed between the individual with diabetes and podiatrist. This is a proactive initiative to help reduce primary and recurrent ulceration.

The proportion of patients who have ever had a foot ulcer varies 3-fold across Health Boards, whilst the variation for amputations is less than two-fold. These are crude rates and will be influenced by age and deprivation in addition to diabetes control, smoking and other recognised clinical risk factors. The data indicates that we are probably not capturing all foot ulcers, although there is much less variation than before reflecting a significant improvement. The Scottish Diabetes Foot Advisory Group (SDFAG) is aware of these variations, which it feels is in part due to the way ulcer data is recorded and has implemented measures to ensure this data collection is consistent across all Health Boards.

Foot Ulceration National and Regional Detail

Foot Ulceration

Table 120 Percentage of people with diabetes (type 1 and type 2 combined) who had a record of ever having had a foot ulcer by year, Scotland 2011-2020.

Year	Recorded as ever having had a foot ulcer (%)
2020	4.6
2019	4.7
2018	4.7
2017	4.7
2016	4.7
2015	4.8
2014	4.9
2013	5.2
2012 (a)	5.1
2011	4.3

Note: (a) The increase in recorded foot ulcers between 2011 and 2012 is likely to be due to better recording rather than a real increase in the number of foot ulcers.

14,308 (4.6%) people with type 1 or type 2 diabetes were reported to have had a foot ulcer (Table 121).

Table 121 Number and percentage of people with diabetes with a record of ever having had a foot ulcer, by NHS board and diabetes type, ranked by ascending percentage of people with type 2 diabetes, Scotland 2020.

NHS board	Recorded as ever having had a foot ulcer			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Forth Valley	159	7.9	386	2.4
Grampian	193	5.2	660	2.4
Ayrshire and Arran	145	6.0	580	2.5
Borders	47	6.1	156	2.6
Dumfries and Galloway	73	7.0	252	2.8
Shetland	*	*	30	2.9
Tayside	160	6.8	815	3.8
Highland	145	6.5	678	4.0
Fife	170	7.3	861	4.2
Lothian	346	6.7	1,731	4.5
Greater Glasgow and Clyde	645	9.4	2,861	4.9
Orkney	*	*	60	5.4
Lanarkshire	708	15.4	2,307	6.2
Western Isles	18	8.1	114	8.1
Scotland	2,817	8.3	11,491	4.1

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

See the [Type 1 Diabetes Foot Ulceration](#) section for information on people with type 1 diabetes.

Lower Limb Amputation National and Regional Detail

There were 1,465 (0.5%) people recorded as having a major lower limb amputation (Table 122).

Table 122 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 2011-2020.

Year	Lower limb amputation	
	People (n)	%
2020	1,465	0.5
2019 (a)	1,555	0.5
2018 (a)	1,401	0.5
2017 (b)	2,000	0.7
2016 (b)	2,055	0.7
2015 (b)	2,092	0.7
2014 (b)	2,111	0.8
2013 (b)	2,064	0.8
2012 (b)	1,854	0.7
2011	1,359	0.6

Note: (a) During the validation of the 2019 survey, an error in the processing of this data was spotted. This error 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. (b) Between 2012 and 2017 minor and major amputations were included.

Table 123 Number and percentage of people with type 1 or type 2 diabetes with a record of ever having had a major lower limb amputation, by NHS board and diabetes type, ranked by ascending percentage of people with type 2 diabetes, Scotland 2020.

NHS board	Recorded as ever having had a lower limb amputation			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Lanarkshire	33	0.7	111	0.3
Borders	*	*	20	0.3
Highland	24	1.1	64	0.4
Forth Valley	13	0.6	63	0.4
Lothian	25	0.5	151	0.4
Ayrshire and Arran	22	0.9	97	0.4
Grampian	33	0.9	116	0.4
Fife	17	0.7	99	0.5
Tayside	21	0.9	104	0.5
Shetland	*	*	5	0.5
Greater Glasgow and Clyde	56	0.8	291	0.5
Dumfries and Galloway	20	1.9	53	0.6
Orkney	*	*	7	0.6
Western Isles	*	*	9	0.6
Scotland	275	0.8	1,190	0.4

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

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 124 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 2013-2020.

Year	Registered Users*				Active users	
	Type 1 diabetes	Type 2 diabetes	Total people	Yearly change (%)	Number	Yearly change (%)
2020	14,345	37,866	52,211	10.3	29,752	12.9
2019	13,327	34,016	47,343	17.9	26,361	21.1
2018	12,120	28,021	40,141	28.2	21,768	31.6
2017	9,972	21,337	31,309	29.1	16,536	39.7
2016	8,570	15,685	24,255	43.2	11,840	58.6
2015	6,456	10,478	16,934	67.6	7,463	101.8
2014	2,722	7,383	10,105	55.0	3,699	92.4
2013	2,195	4,325	6,520	**	1,923	**

Note: *) Registered users includes all users that have ever registered with the system and is an overestimate of the number of potential active users, as it includes users that have died or moved out of Scotland. It is anticipated that this criterion will be updated for the next survey. **) the Yearly Change (%) for 2013 cannot be calculated as no data are available for the previous year.

At the end of 2020, 29,752 people had accessed their results using “My Diabetes My Way” (Table 124). During the final 3 months of 2020, a total of 7,756 (26.1% 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 mydiabetesmyway@nhs.net.

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 125 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 ordered by decreasing total percentage of registered users, Scotland 2020.

NHS board	Type 1 diabetes			Type 2 diabetes			Total		
	n	Pop.	%	n	Pop.	%	n	Pop.	%
Orkney	81	131	61.8	180	1,107	16.3	261	1,238	21.1
Greater Glasgow and Clyde	3,140	6,892	45.6	10,086	58,919	17.1	13,226	65,811	20.1
Grampian	1,735	3,706	46.8	4,393	27,015	16.3	6,128	30,721	19.9
Shetland	61	155	39.4	166	1,024	16.2	227	1,179	19.3
Borders	359	766	46.9	948	6,079	15.6	1,307	6,845	19.1
Tayside	863	2,354	36.7	3,530	21,469	16.4	4,393	23,823	18.4
Lothian	2,536	5,192	48.8	4,966	38,532	12.9	7,502	43,724	17.2
Western Isles	53	223	23.8	222	1,404	15.8	275	1,627	16.9
Forth Valley	1,157	2,012	57.5	1,774	16,357	10.8	2,931	18,369	16.0
Lanarkshire	1,981	4,612	43.0	4,404	37,361	11.8	6,385	41,973	15.2
Fife	716	2,334	30.7	2,707	20,544	13.2	3,423	22,878	15.0
Ayrshire and Arran	767	2,434	31.5	2,323	22,800	10.2	3,090	25,234	12.2
Dumfries and Galloway	293	1,045	28.0	905	8,856	10.2	1,198	9,901	12.1
Highland	603	2,231	27.0	1,262	16,772	7.5	1,865	19,003	9.8
Scotland	14,345	34,087	42.1	37,866	278,239	13.6	52,211	312,326	16.7

Note: The above figures show the number of people who had registered to access their diabetes data at the end of 2020. 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. The table below shows the number of patients who had joined the register by the end of 2020.

Table 126 Numbers of people with type 1 and type 2 diabetes who had joined the NRS Diabetes Register by the end of 2020, by NHS board, Scotland 2020.

NHS board	People on the NRS Diabetes Register			People with type 1 or type 2 diabetes (n)	Percentage of people with type 1 or type 2 diabetes on the NRS Diabetes Register (%)
	Type 1 diabetes	Type 2 diabetes	Total		
Ayrshire and Arran	30	80	110	25,399	0.4
Borders	19	33	52	6,992	0.7
Dumfries and Galloway	129	491	620	10,031	6.2
Fife	210	353	563	23,119	2.4
Forth Valley	84	178	262	18,573	1.4
Grampian	174	577	751	30,994	2.4
Greater Glasgow and Clyde	848	2,897	3,745	66,824	5.6
Highland	479	722	1,201	19,431	6.2
Lanarkshire	252	627	879	42,739	2.1
Lothian	973	1,640	2,613	44,780	5.8
Orkney	*	*	*	1,249	0.2
Shetland	*	*	*	1,197	0.6
Tayside	473	2,789	3,262	24,161	13.5
Western Isles	*	*	*	1,639	0.9
Scotland	3,686	10,395	14,081	317,128	4.4

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.

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- Dr Louise Bath
- Mr Michael Bluett
- Mr Ritchie McAlpine
- Prof Helen Colhoun
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- Dr Fraser Gibb
- Prof Brian Kennon
- Prof Sam Philip
- Dr Stuart Ritchie
- Dr William Simpson
- Mrs Diane Smith
- Prof Sarah Wild
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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 e Health 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 July 2021 is as follows:

- Community Health Index (master patient index)
- All ~1,000 general practices across Scotland (EMIS, Vision)
- 62 Main Domains of Care (direct data entry on SCI-Diabetes)
- 13 of 14 NHS boards linking to local laboratory data (SCI Store – see below)
- National Diabetic Retinopathy Screening (DRS - Eva) System
- Inpatient Management: 9 NHS boards linking to local patient administration system for admission, discharge, and transfer data (TrakCare)
- Connected Ward Meters: 21 NHS board linking ward-based blood glucose measurements. Priority implementation area for national diabetes inpatient management programme
- Scottish Ambulance Service: 1 NHS board 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 DRS system or web patient administration forms. As part of the DRS 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 127 Progress towards links from SCI Store to SCI-Diabetes, Scotland, February 2020.

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	In Progress	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 128 Progress towards links from Patient Administration Systems to SCI-Diabetes, Scotland, February 2020.

NHS board	Implementation Requested	Status	Comments
Ayrshire and Arran	Yes	Live	TrakCare
Borders	Yes	Not Scheduled	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 is the only area providing full support for diabetes inpatient management.

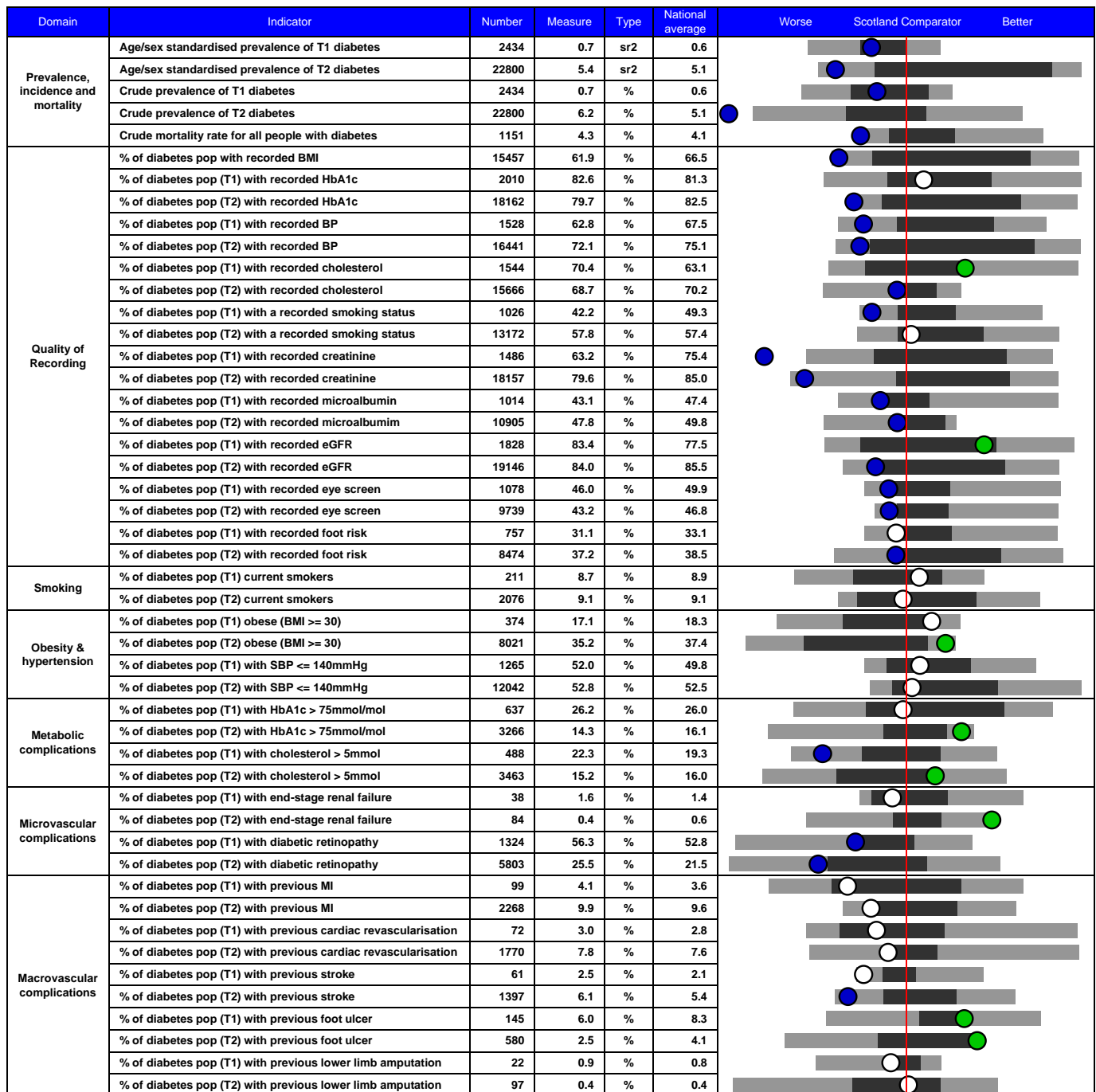
In addition to incoming feeds, SCI-Diabetes data are also transferred to external systems:

- National Diabetic Retinopathy 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: Health Board Performance

Diabetes Health Board Spine Chart (Ayrshire and Arran) 2020

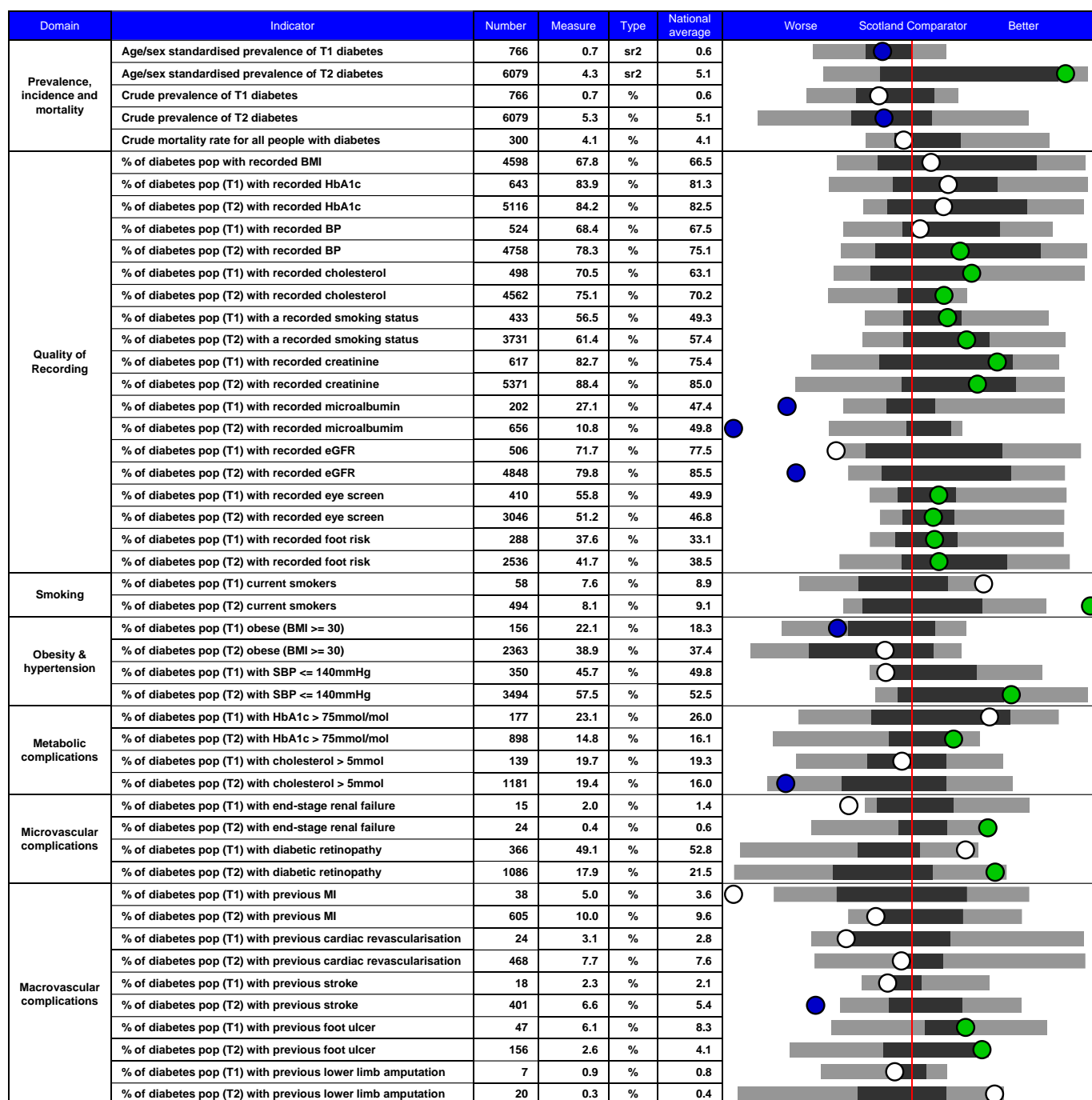


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

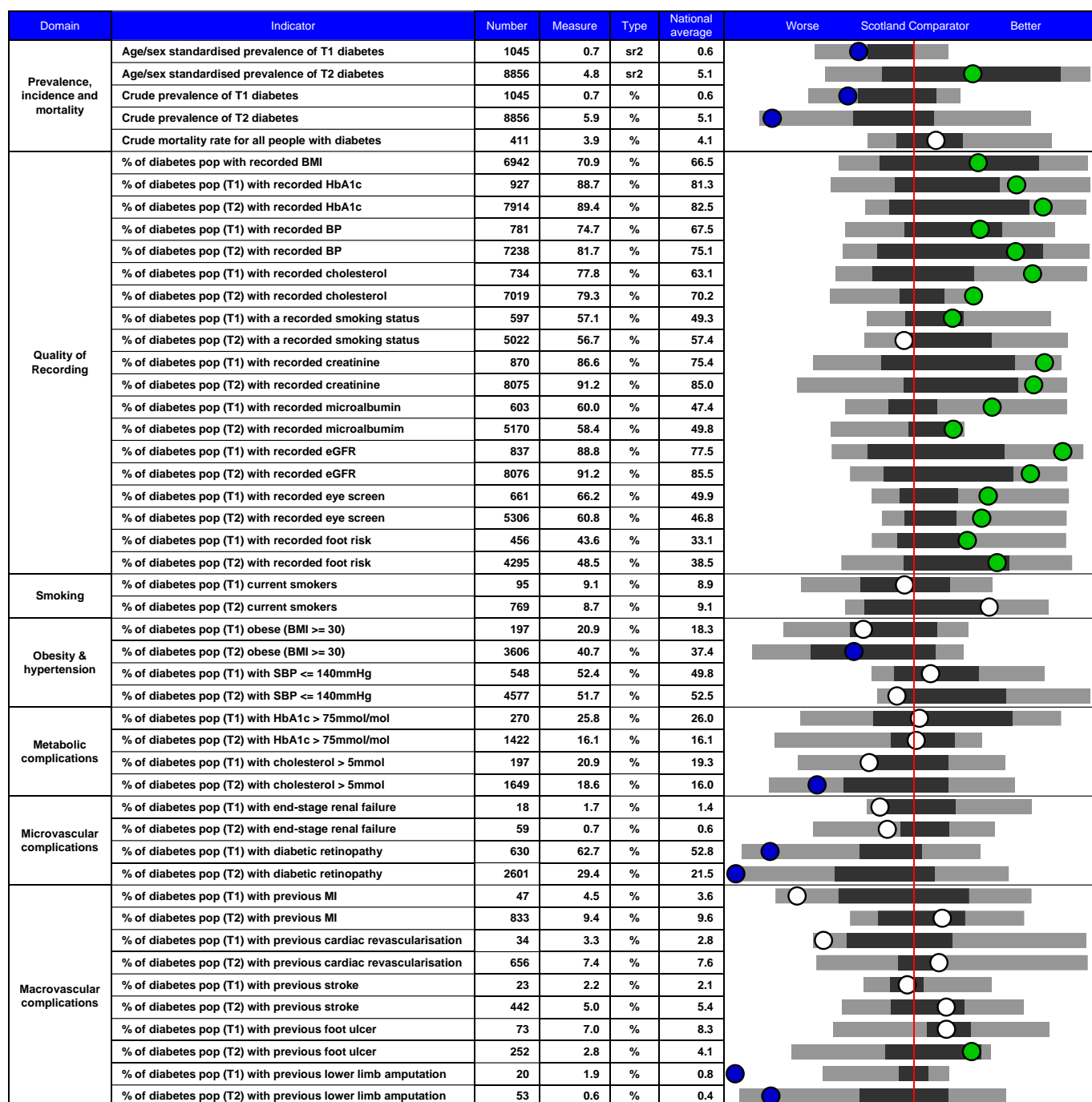


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

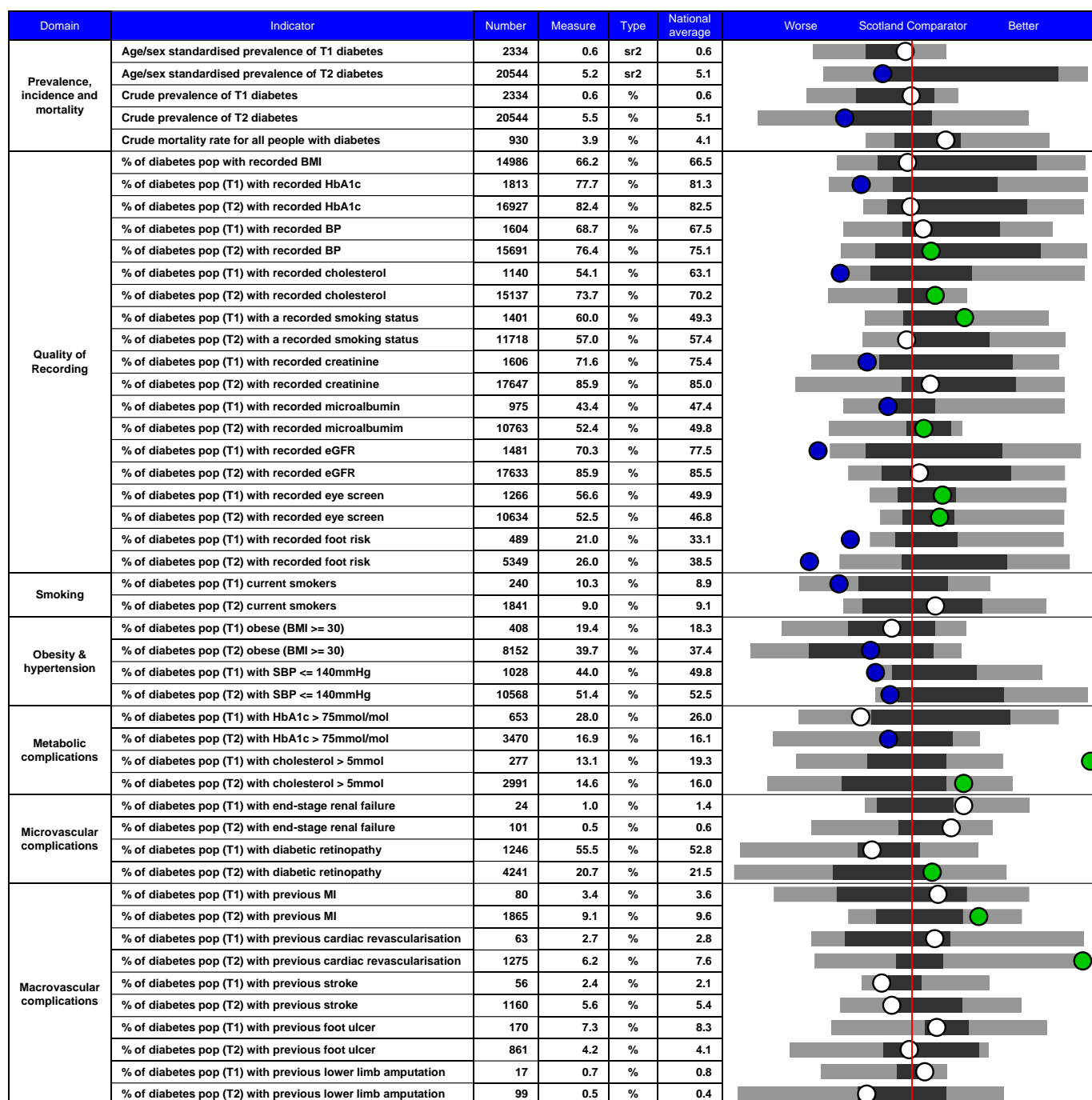


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

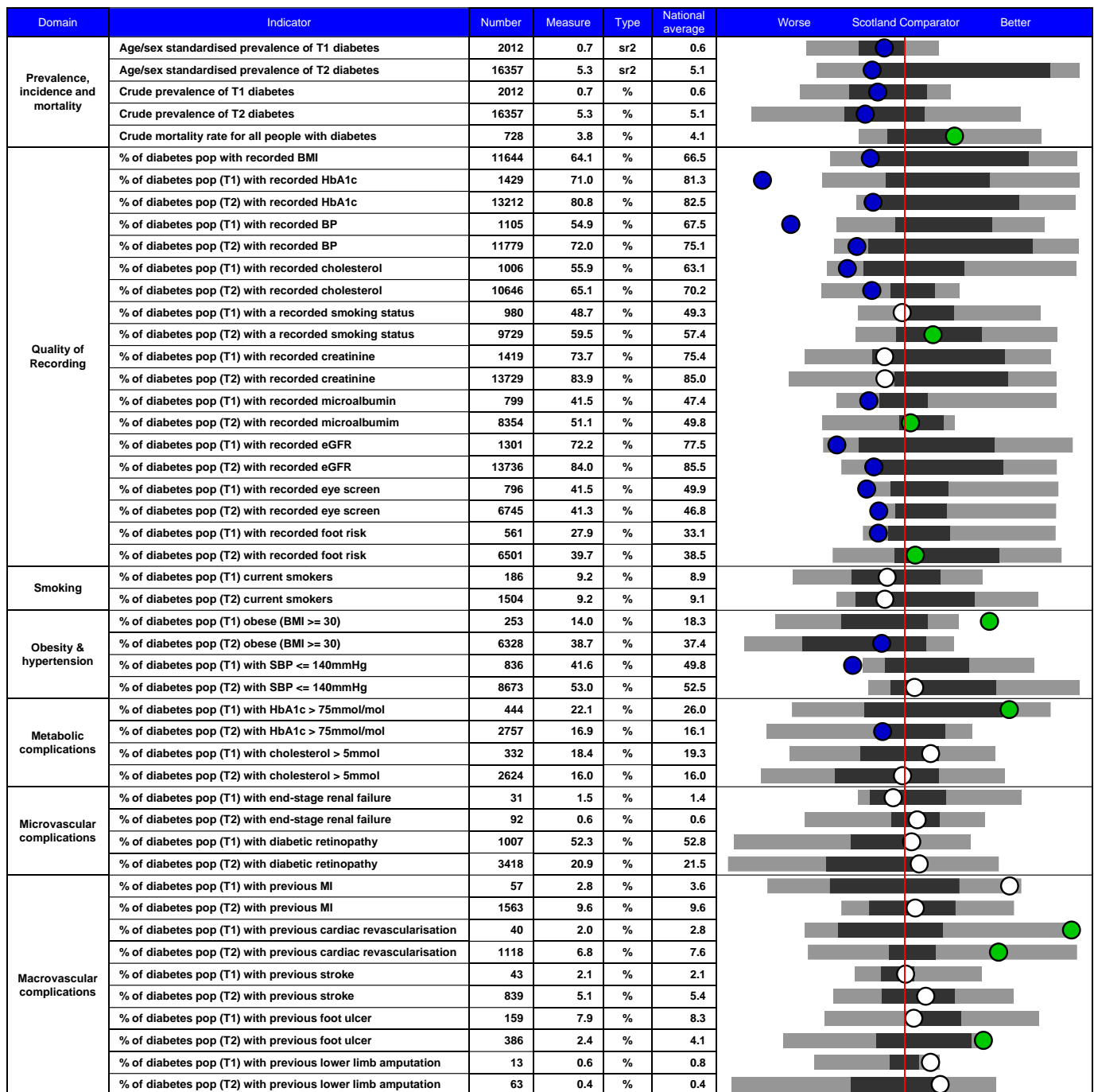


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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 (Forth Valley) 2020

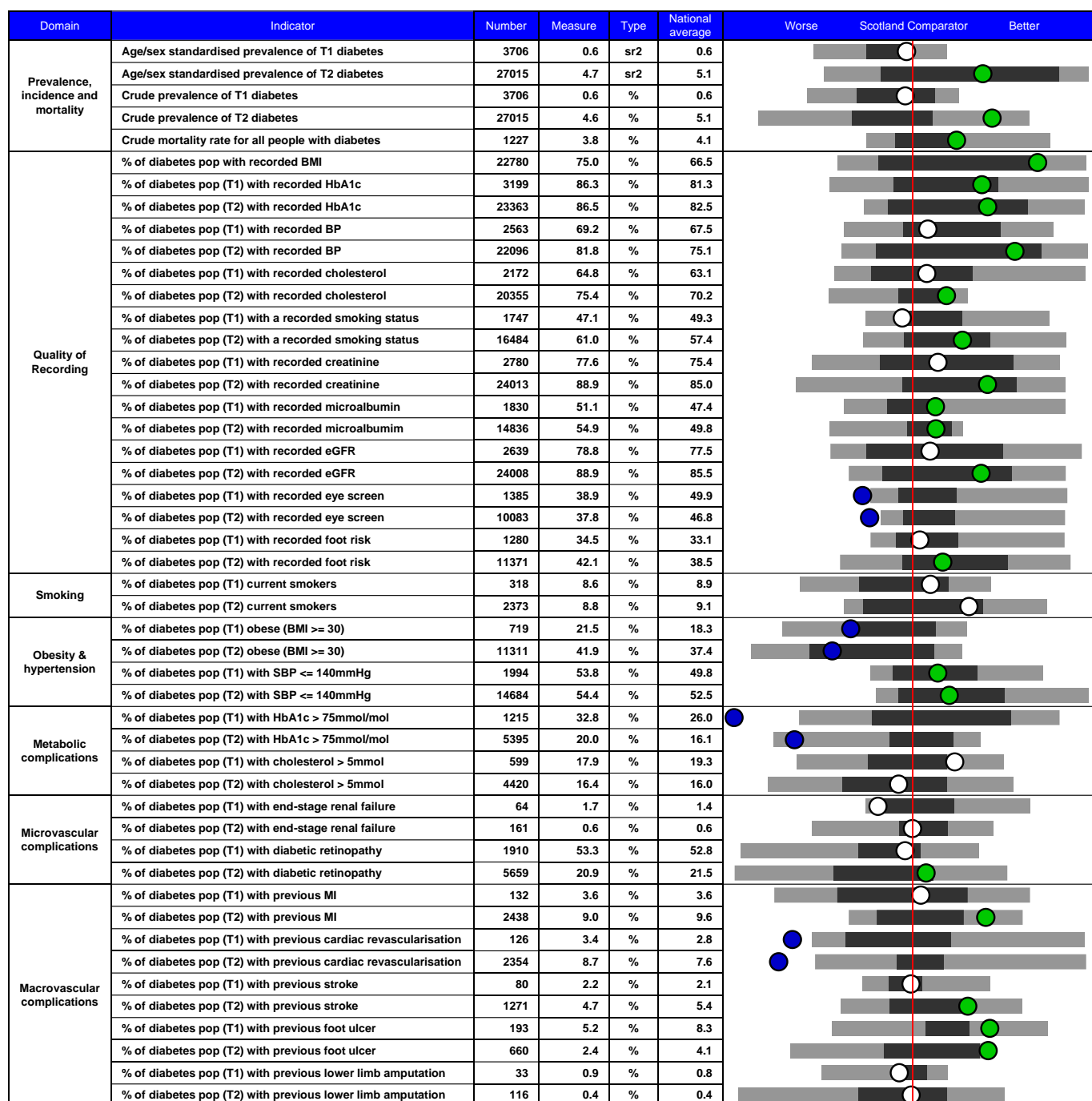


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

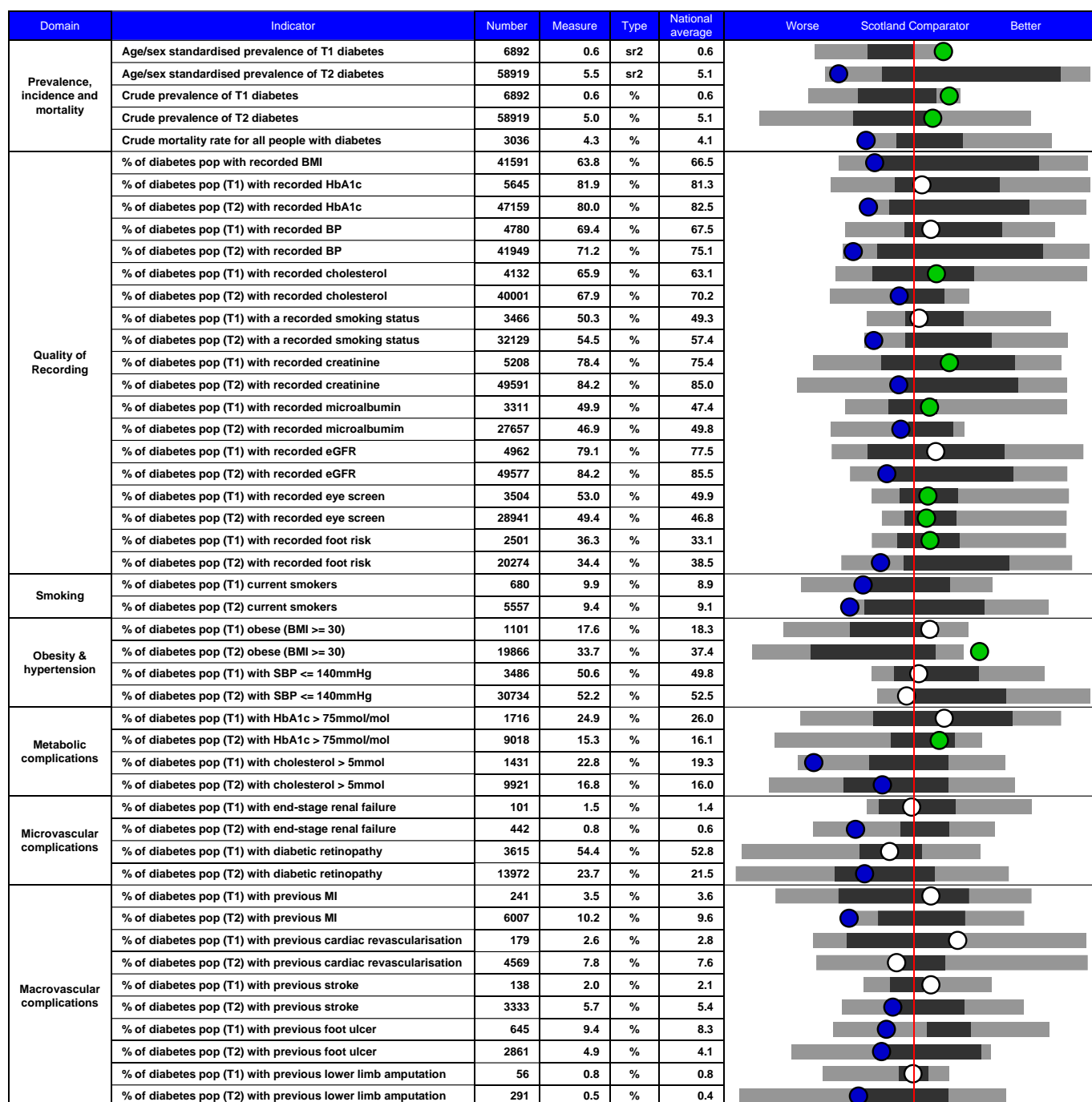


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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 (Greater Glasgow and Clyde) 2020

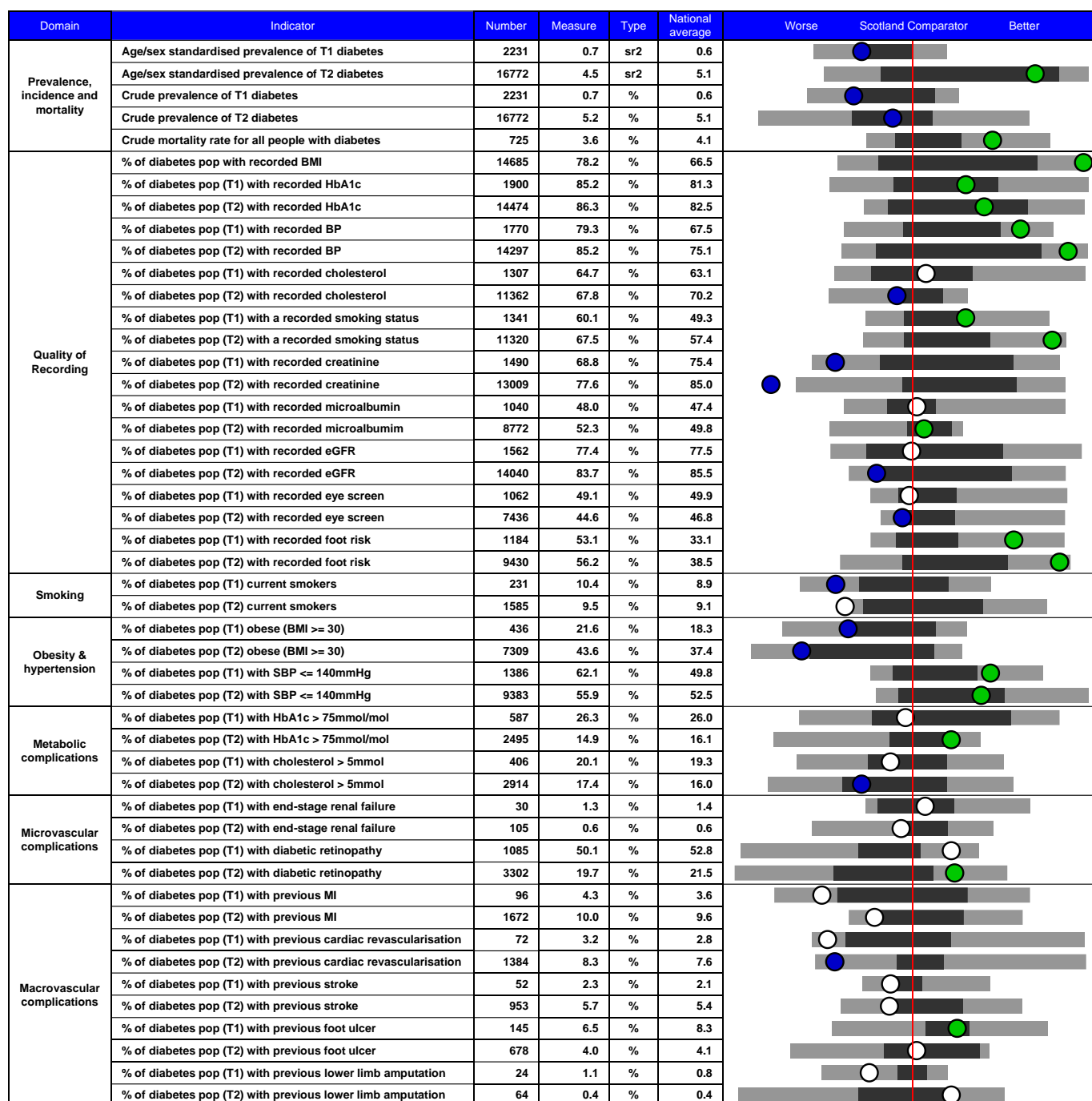


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

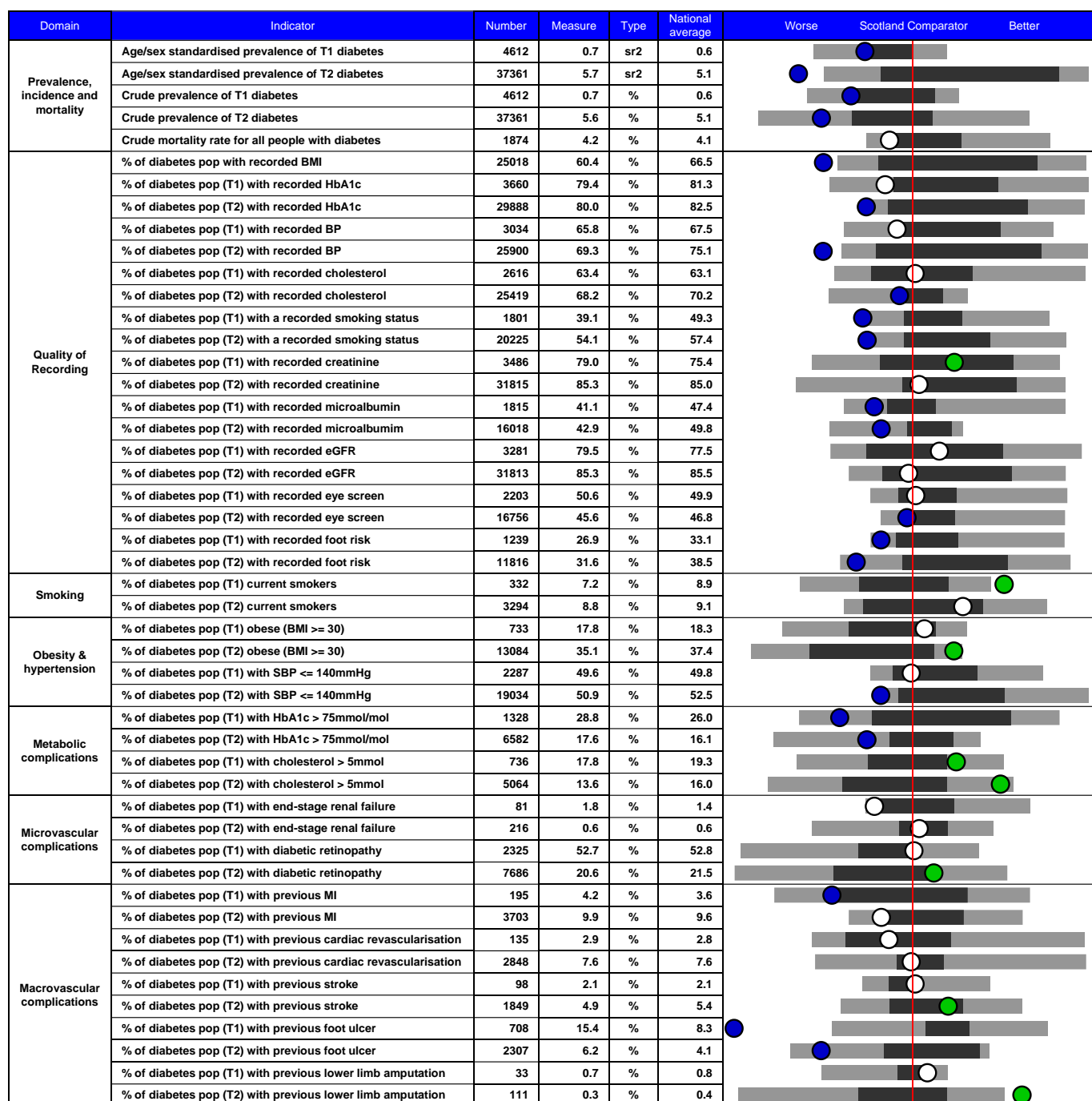


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

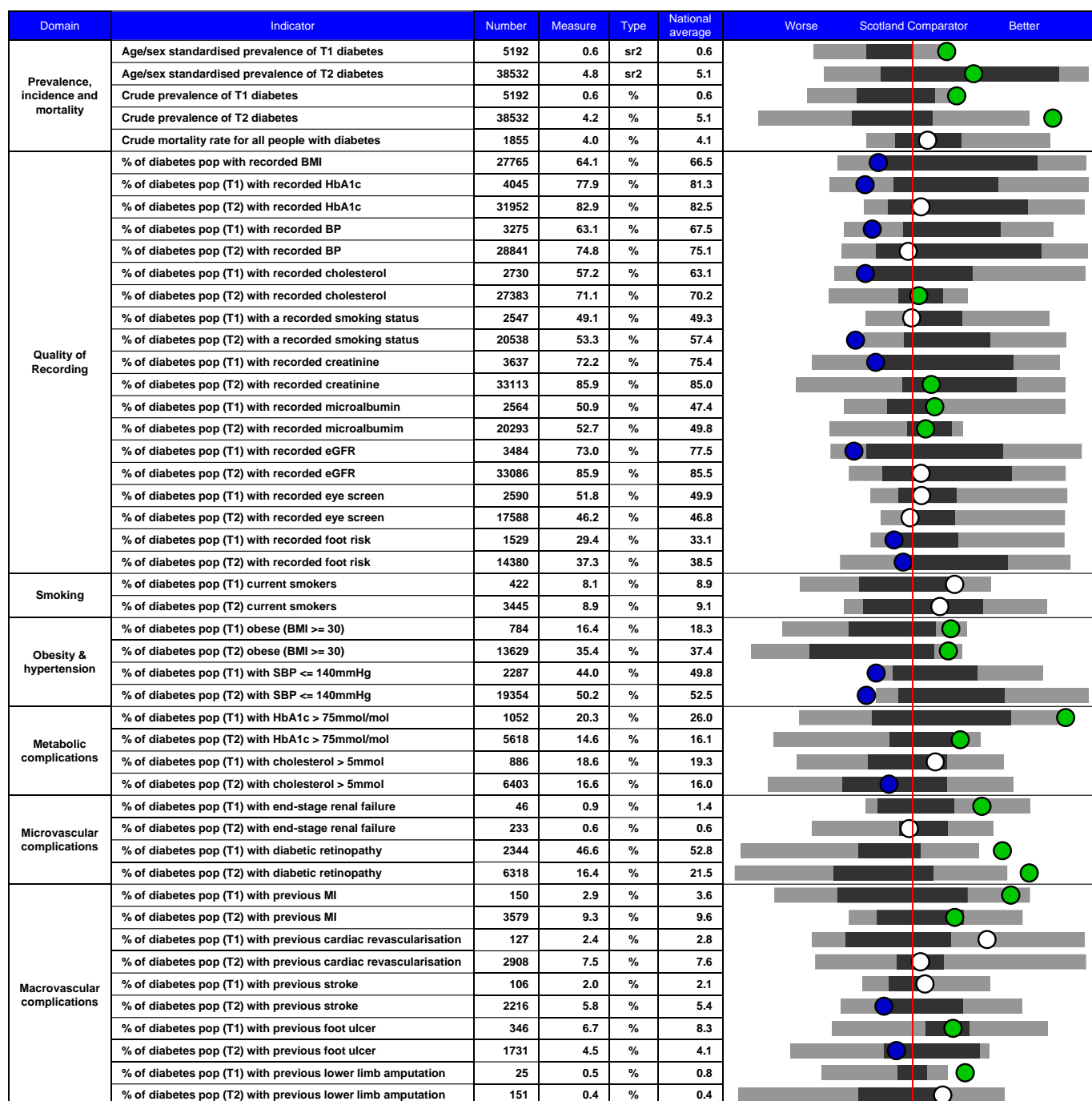


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

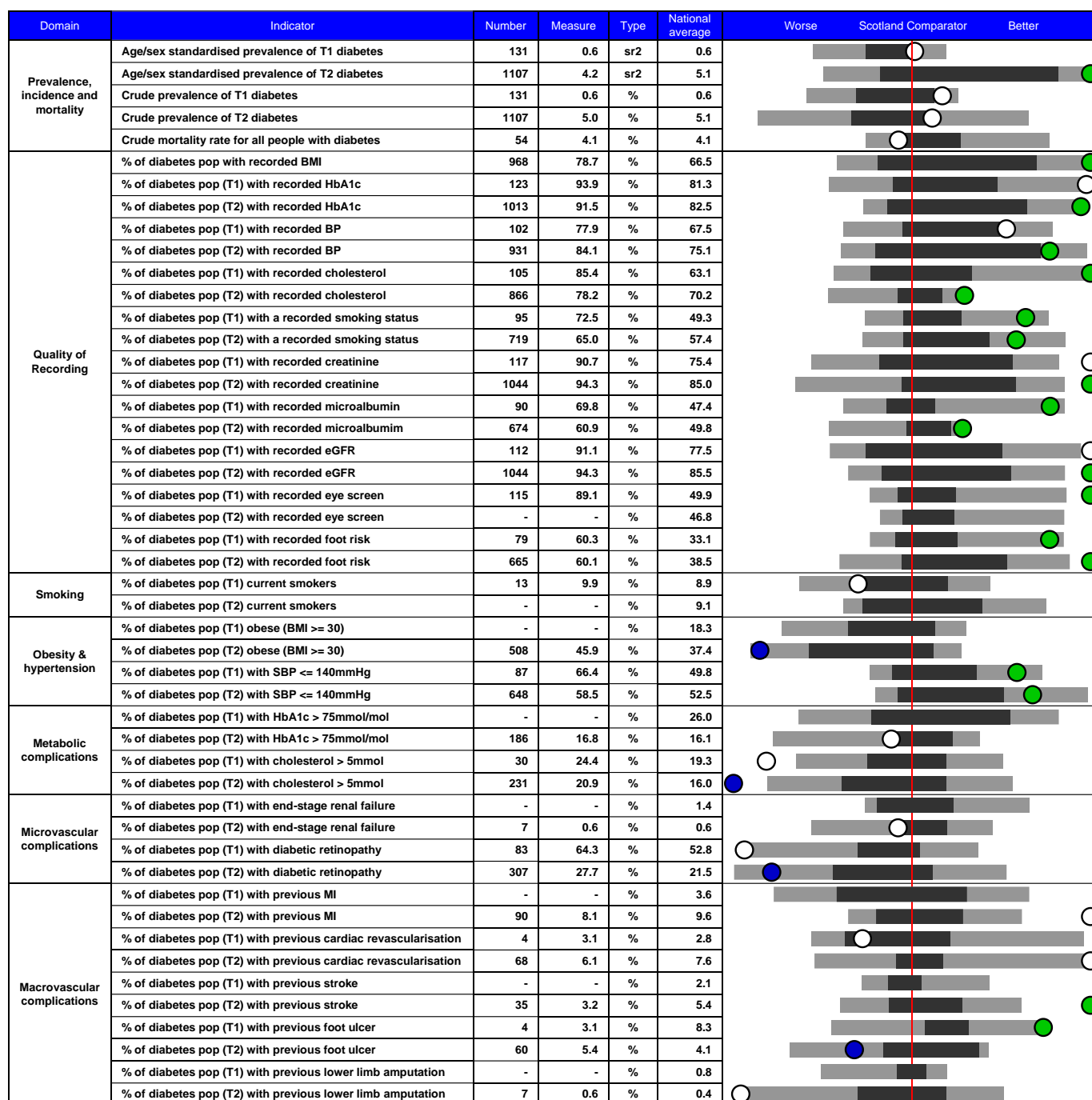


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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 (Orkney) 2020

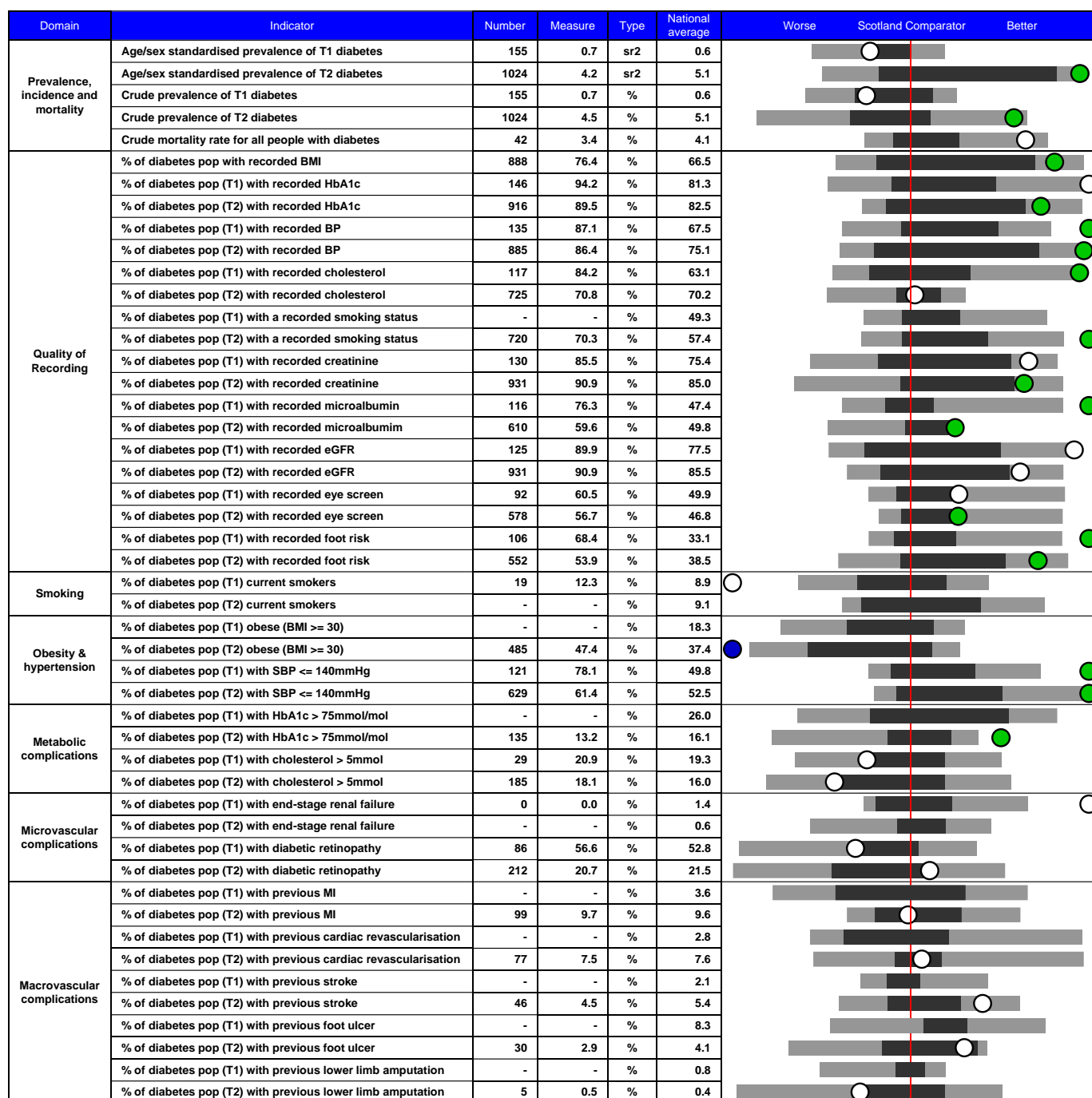


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

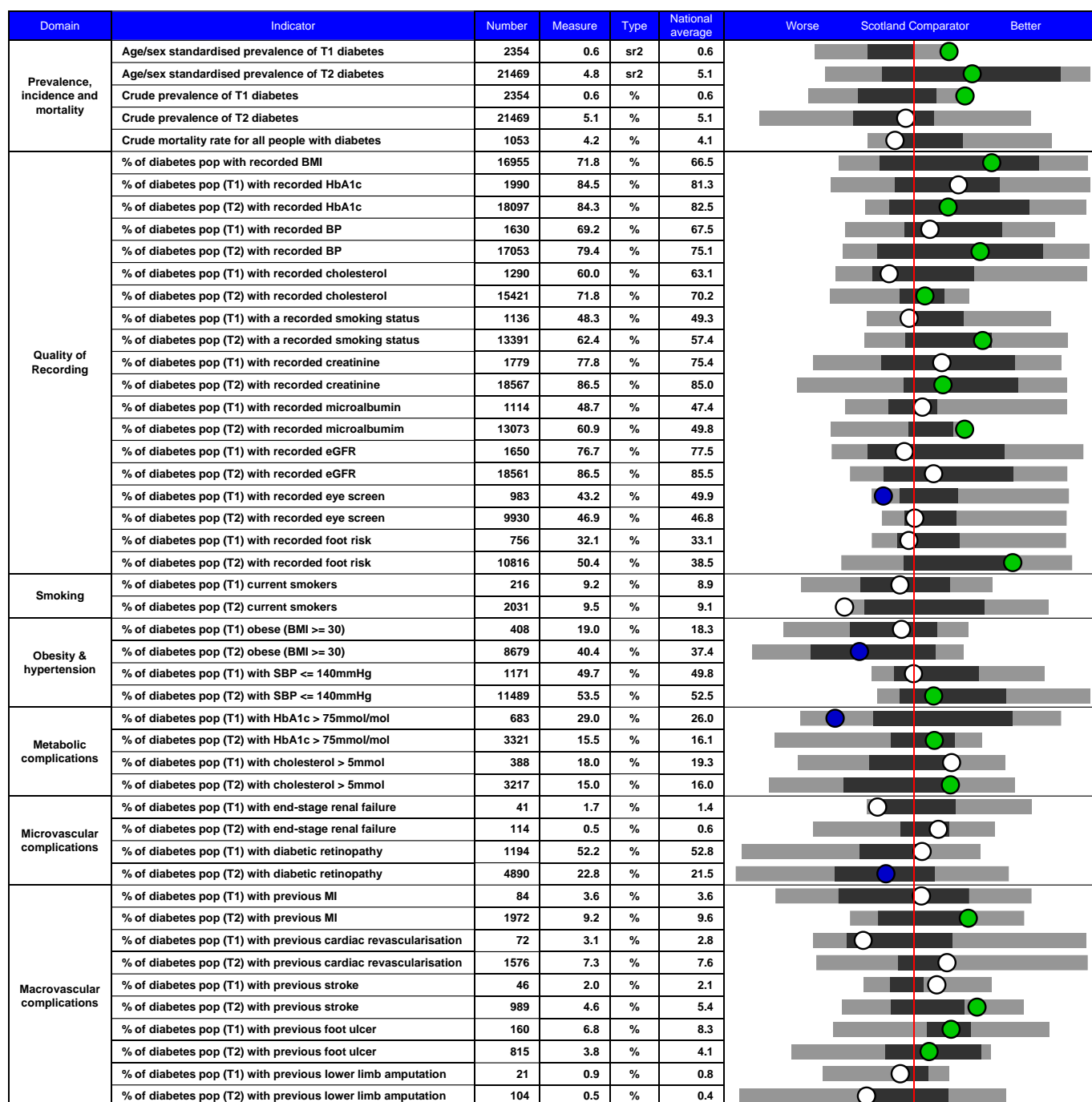


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020

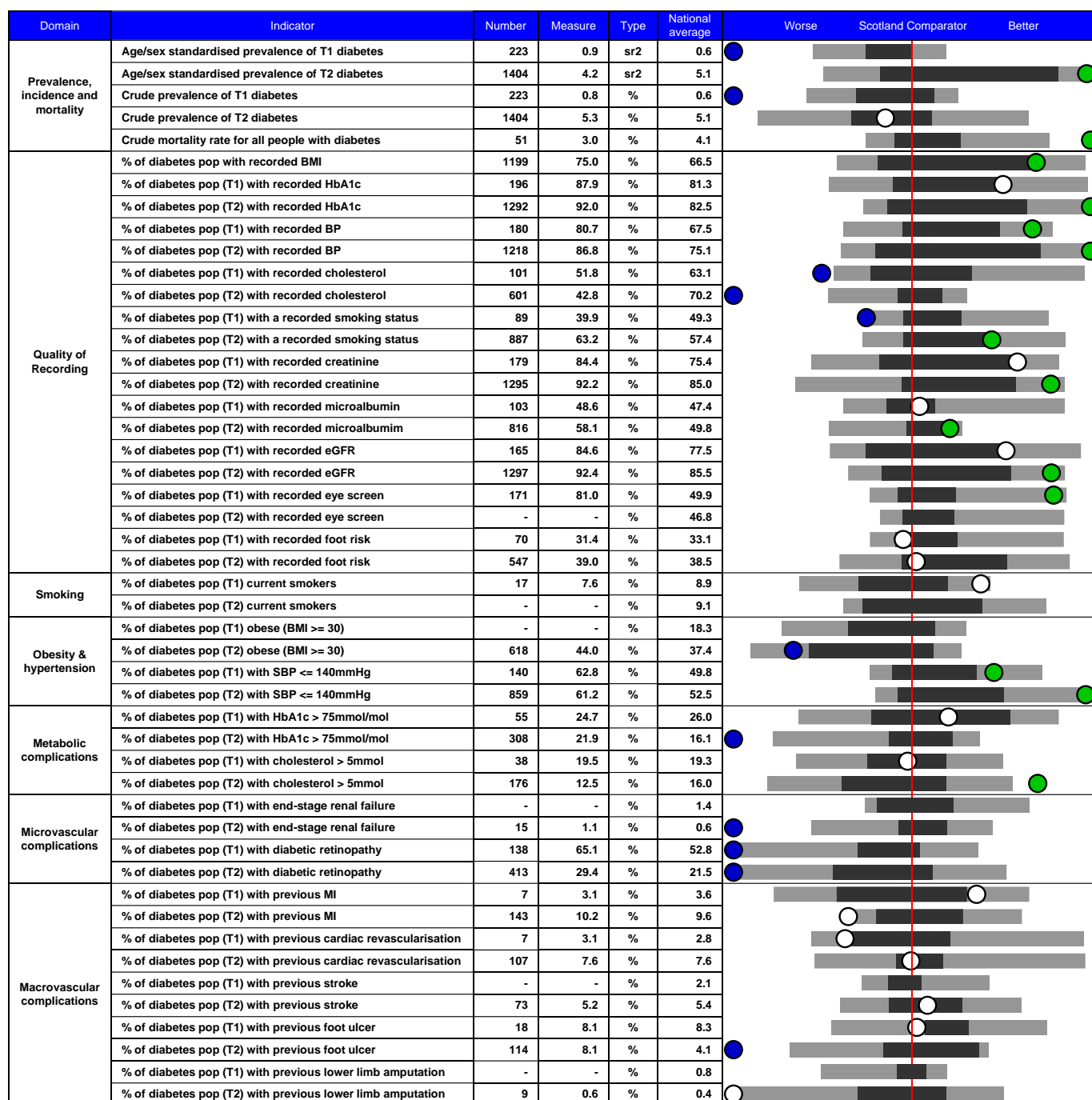


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2020



Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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