



# Scottish Diabetes Survey 2017

**Scottish Diabetes Data Group**

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# Foreword

This survey once again provides a comprehensive view on diabetes care across the whole population of Scotland. The systems in place to record these data are such that we are able to present information about over 99% of the population diagnosed with diabetes. SCI-Diabetes, our clinical management and information system, is world leading, and continues to enable us to track the effects of health policy on the delivery of care and outcomes for the 298 thousand people with diabetes in Scotland.

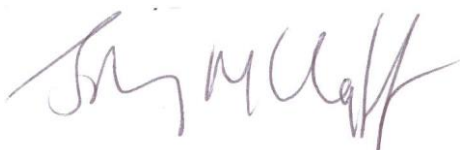
We have chosen to focus on type 1 diabetes in this 2017 Scottish Diabetes Survey. Therefore we describe in the main text selected information relating to type 1 diabetes. The information on type 2 diabetes is also described later in the document.

Overall control in those with type 1 diabetes in Scotland is improving, with a higher percentage of patients having good diabetes control. More patients are also on insulin pump therapy. The recent introduction of flash glucose monitoring in some NHS Boards is likely to have a significant effect, also improving diabetes control. It will be interesting to review this once again in next year's survey.

Cardiovascular disease is a major concern for those with diabetes. We have used the measure of systolic blood pressure under 140 mmHg and total cholesterol under 5 mmol/l in those with diabetes aged 50 to 69 as a mark of how well cardiovascular risk factors are being modified. Only 43% of those with type 1 diabetes and 51% of those with type 2 diabetes have measures within these target ranges.

There is a gradual decline in the delivery of all processes of care for those with diabetes in Scotland. Some of this relates to the change in the Quality and Outcomes Framework (QOF) funding for General Practice, but the specialist diabetes services in Scotland, not influenced by any change of primary care funding are also not delivering the 9 processes of care. Type 1 diabetes care is provided mainly in specialist diabetes centres and analysis of the care of these units also indicates a need for improvement. Of the 28,420 over 18s with type 1 diabetes, 25,317 have had HbA<sub>1c</sub> measured in the last 15 months, but only 9,029 have received all of the 9 processes of care.

While there is a need to continue to challenge the diabetes services in NHS Scotland to improve care and outcomes, the information in this and previous surveys has been pivotal in supporting linking of information to other sources in Scotland and have enabled us to demonstrate the improving outcome for many patients with diabetes during the last two decades.



John A McKnight  
Chairman  
Scottish Diabetes Data Group

# Executive Summary

This report presents the results of the 2017 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 was extracted for SCI-Diabetes at the end of 2017 and is comprised of people who were alive (aside from mortality figures), 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 2017, we report that:

- There were 298,504 people diagnosed with diabetes in Scotland recorded on local diabetes registers at the end of 2017. This represents 5.5% of the population of all ages (Table 1);
- Crude prevalence of diabetes ranged from 4.7% to 6.5% across NHS boards (Table 62);
- 88.2% (263,271) of all people registered with diabetes were recorded as having type 2 diabetes (Table 2);
- 10.5% of all registered people were recorded as having type 1 diabetes. The number of people registered with type 1 diabetes increased from 26,294 in 2006 to 31,447 in 2017 and the number of people registered with type 2 diabetes increased from 166,926 in 2006 to 263,271 in 2017 (Scottish Diabetes Survey 2006 and Table 2);
- 1.3% (3,786) 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), 37.0% with type 1 diabetes and 31.7% with type 2 diabetes were overweight (BMI 25-29.9kg/m<sup>2</sup>), and a further 26.1% of those with type 1 diabetes and 55.6% of those with type 2 diabetes were obese (BMI 30kg/m<sup>2</sup> or above), meaning a total of 63.2% of those with type 1 diabetes and 87.3% of those with type 2 diabetes were overweight or obese (Table 80 and Table 81);
- 89.9% of those with type 1 and 91.8% of those with type 2 diabetes had an HbA<sub>1c</sub> recorded in the previous 15 months (Table 84). Of these, 25.3% and 58.7% respectively had a result < 58mmol/mol, the target reported in previous surveys (Table 85 and Table 86);
- 84.3% of those with type 1 and 89.8% of those with type 2 diabetes had their blood pressure recorded in the previous 15 months (Table 90). Of these, 43.3% and 31.8% respectively had a systolic blood pressure <130 mmHg and a diastolic blood pressure ≤80 mmHg (Table 93 and Table 95);
- Cholesterol was recorded in 83.8% of people within the previous 15 months, and the target of ≤ 5 mmol/l was achieved in 67.5% of those with type 1 and 77.4% of those with type 2 diabetes (Table 11 and Table 100);



- 20.1% of those with type 1 and 16.6% of those with type 2 diabetes were recorded as being current smokers (Table 103 and Table 104);
- 1,104 (3.5%) of those with type 1 and 25,503 (9.7%) of those with type 2 diabetes had a record of myocardial infarction, and 2.7% and 7.5% respectively had a record of cardiac revascularisation (Table 106 and Table 107);
- 455 (1.4%) of those with type 1 and 1,529 (0.6%) of those with type 2 diabetes have a record of having end stage renal failure (Table 114);
- 82.4% of people with type 1 or type 2 diabetes had a record of eye screening in the previous 15 months (Table 115);
- 56.9% of people with type 1 diabetes and 68.1% of those with type 2 had their foot scores recorded in the previous 15 months (Table 120 and Table 121);
- 345 (1.1%) of those with type 1 and 1,655 (0.6%) of those with type 2 diabetes had a record of having had a major lower limb amputation (Table 125).

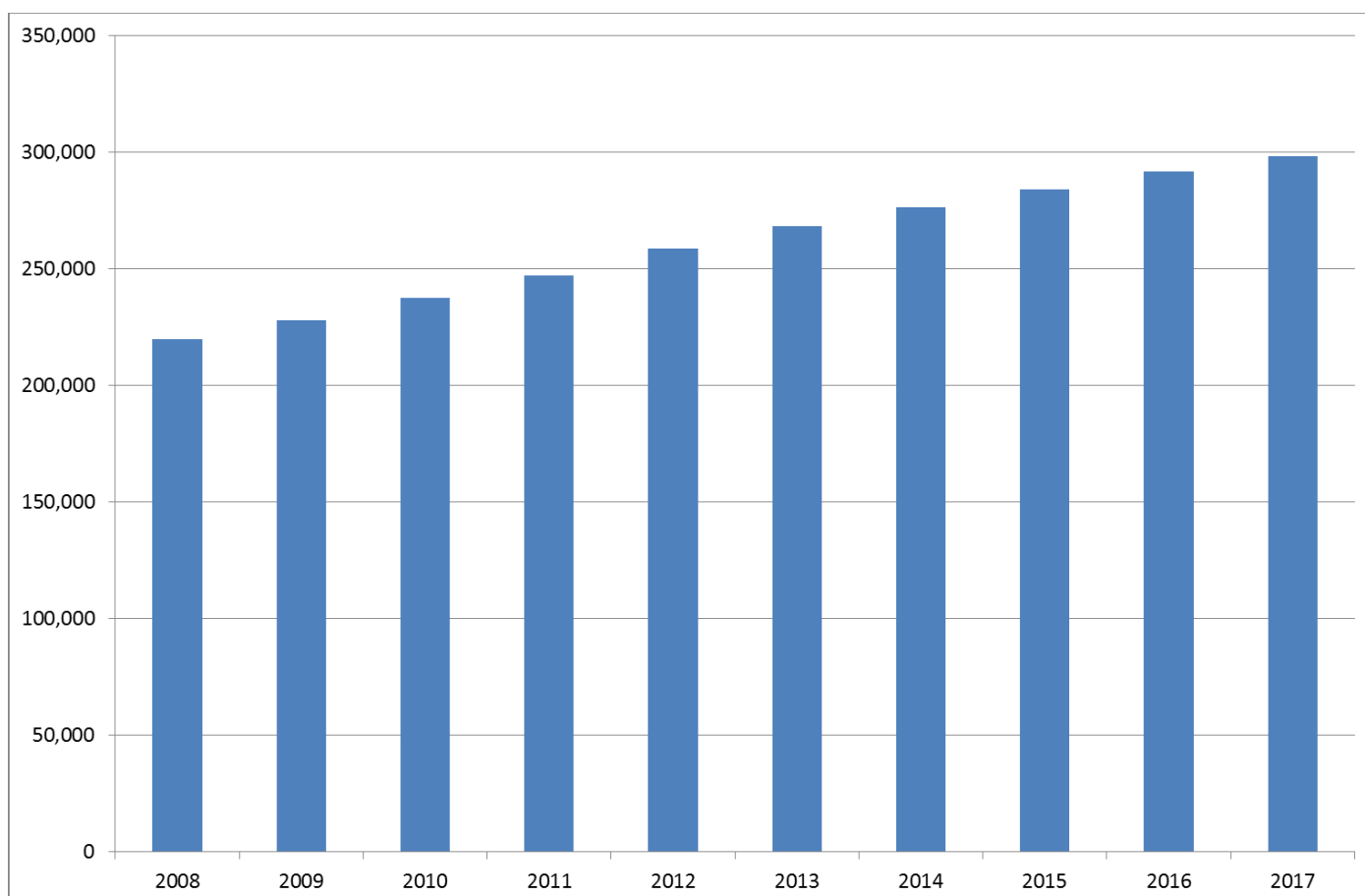
# Prevalence

At the end of 2017 there were 298,504 people with known diabetes in Scotland recorded on local diabetes registers, which represents a crude prevalence of 5.5% of the population of all ages (5,404,700).

In the 2016 Scottish Diabetes Survey, 291,981 people (5.4%) were known to have diabetes. The increase in reported prevalence depends on a number of 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 survival, possibly related to the widespread use of statins or changes to other risk factors;
- possibly better detection of diabetes in people with type 2 diabetes, many of whom have no symptoms

**Figure 1** Number of people recorded with diabetes (all types) by year in Scotland for 2008-2017.



**Table 1** Number of people with diabetes, crude prevalence of diabetes and annual changes in numbers/proportions by year for Scotland, 2008-2017.

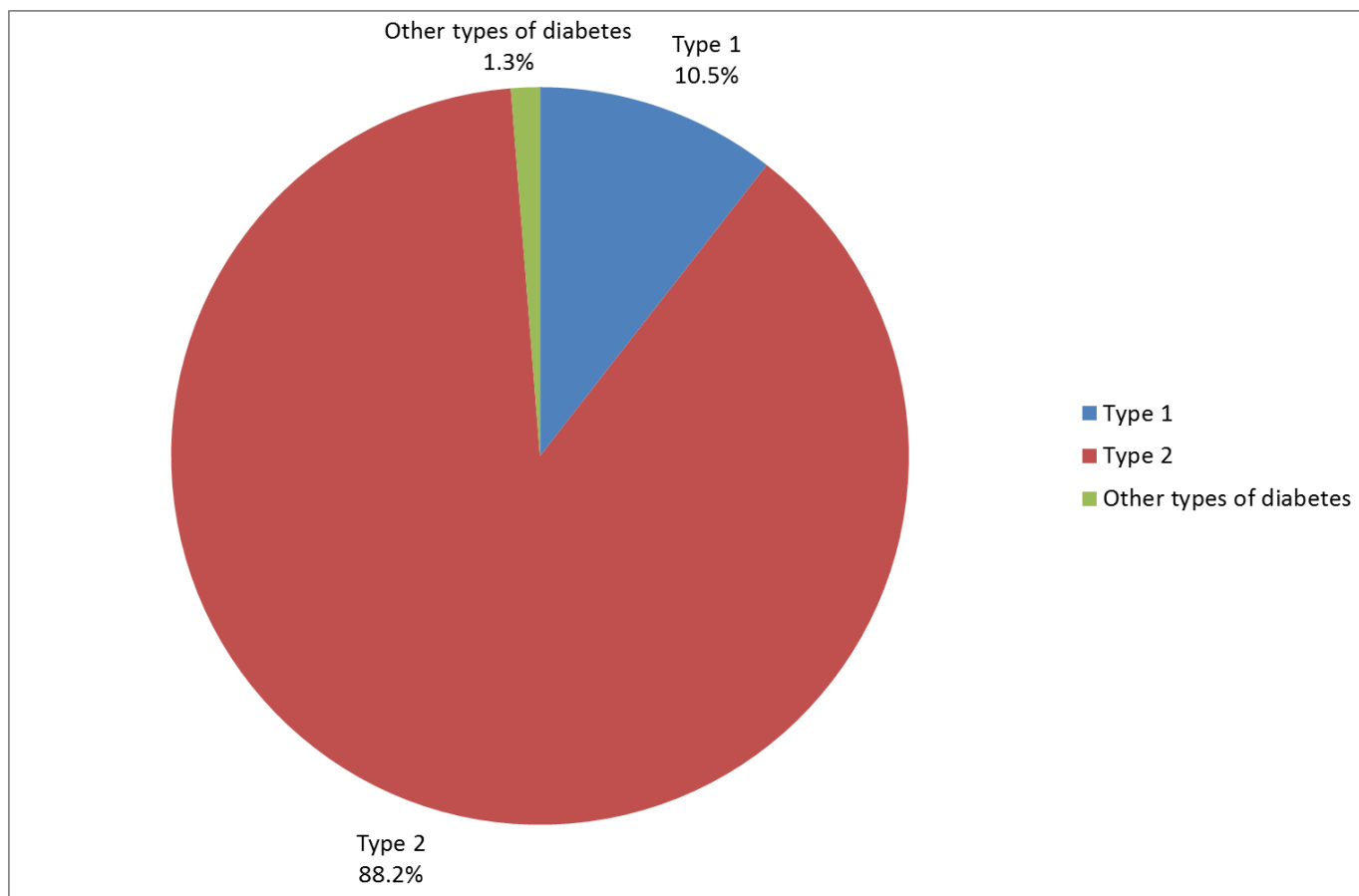
Survey	Number of people with diabetes (n)	Crude prevalence (%)	Increase (n)	Annual increase in numbers (%)	Absolute increase in prevalence (%)
2017	298,504	5.52	6,523	2.23	0.09
2016	291,981	5.43	7,859	2.77	0.12
2015	284,122	5.31	7,692	2.78	0.12
2014	276,430	5.19	8,276	3.09	0.14
2013	268,154	5.05	9,584	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
2010	237,468	4.57	9,464	4.15	0.16
2009	228,004	4.41	8,041	3.66	0.14
2008	219,963	4.28	10,257	4.89	0.18

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, 2017 data uses numbers of people with diabetes at the end of 2017 but mid-year population data from 2016. 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 0.4% from 2016 to 2017, meaning the correct estimate of crude prevalence is 5.50% (rather than 5.52%).

# Types of Diabetes

The majority of registered people have a record of type 2 diabetes (263,271 or 88.2%). The proportion of people with diabetes who have a record of type 1 diabetes has fallen from 18.2% in 2002 to 10.5% in 2017, 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 31,447 in 2017). 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 2017.**



**Table 2 Number of people with diabetes by diabetes type, Scotland 2017.**

Type 1		Type 2		Other types of diabetes		Total
n	%	n	%	n	%	
31,447	10.5	263,271	88.2	3,786	1.3	298,504

# Type 1 Diabetes Data

## Incidence

Crude incidence figures have been calculated retrospectively using SCI-Diabetes data and therefore may be affected by factors such as post-survey patient migration and subsequent validation of diabetes classification.

For this year's survey (2017), the way in which incidence is calculated has changed and the findings are therefore not directly comparable with those of previous years. All rates published this year, including for previous years, have been calculated using populations of people without diagnosed frank diabetes as the denominator. In previous surveys, the total population, both the diabetic and non-diabetic and not the non-diabetic population, was used as the denominator, resulting in incidence being under-estimated. As type 2 diabetes is more common, the effect on the incidence of type 2 diabetes is more marked (see the type 2 Incidence section).

**Table 3 Type 1 diabetes: Number of new cases and incidence rate (per 100,000 population per year) by age, Scotland 2010-2017.**

Age	2010 (a)		2011 (a)		2012 (a)		2013		2014		2015		2016		2017		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
0-4					66	22	51	17	56	19	73	25	64	22	287,082	52	18
5-9	145	26	166	29	137	50	88	32	105	37	114	40	117	40	298,255	135	45
10-14					152	54	125	45	140	51	120	44	179	66	273,143	141	52
15-19	26	43	244	40	110	35	104	33	116	37	98	32	102	34	296,673	109	37
20-29	177	25	205	29	172	24	159	22	159	22	160	22	165	23	732,068	178	24
30-39	127	20	129	20	118	19	111	17	110	17	125	19	107	16	669,146	159	24
40-49	93	12	114	15	96	13	82	11	86	11	95	13	84	12	704,036	79	11
50-59	69	11	63	10	66	10	74	11	58	8	75	11	63	9	721,229	70	10
60-69	50	10	37	7	43	8	36	7	26	5	22	4	44	8	561,608	36	6
>=70	29	5	15	3	18	3	18	3	27	5	16	3	18	3	569,613	19	3
<b>Total</b>	<b>958</b>	<b>19</b>	<b>973</b>	<b>20</b>	<b>978</b>	<b>20</b>	<b>848</b>	<b>17</b>	<b>883</b>	<b>17</b>	<b>898</b>	<b>18</b>	<b>943</b>	<b>19</b>	<b>5,112,719</b>	<b>978</b>	<b>19</b>

Note: a) In the years prior to 2013, the at-risk population includes those with diagnosed frank diabetes, under-estimating the incidence rate. The Scottish at-risk population figures excludes people with frank diabetes at the end of the previous year whose age is unknown (n = 134).

**Table 4 Type 1 diabetes: Incidence rate (per 100,000 population per year) by age and year, Scotland 2010-2017.**

Age range	2010 (a)	2011 (a)	2012 (a)	2013	2014	2015	2016	2017
0-9	26	29	36	24	28	32	31	32
10-19	43	40	44	39	44	38	49	44
20-29	25	29	24	22	22	22	23	24
30-39	20	20	19	17	17	19	16	24
40-49	12	15	13	11	11	13	12	11
50-59	11	10	10	11	8	11	9	10
60-69	10	7	8	7	5	4	8	6
>=70	5	3	3	3	5	3	3	3
<b>Total</b>	<b>19</b>	<b>20</b>	<b>20</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>19</b>

Note: a) In the years prior to 2013, the at-risk population includes those with diagnosed frank diabetes, under-estimating the incidence rate. The Scottish at-risk population figures excludes people with frank diabetes at the end of the previous year whose age is unknown (n = 134).

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 98.5% of people with type 1 diabetes, of whom 3.1% have had diabetes for less than one year and 44.2% have had diabetes for 20 years or more (Table 5). It should be noted that not all dates of diagnosis are accurate, especially for those with long-standing diabetes.

**Table 5 Duration of diabetes (years since diagnosis) for people with type 1 diabetes in Scotland 2017.**

Duration (Years)	Type 1 diabetes	
	Number	%
<1	970	3.1
1-4	3,581	11.6
5-9	4,480	14.5
10-14	4,169	13.5
15-19	4,078	13.2
20-24	3,341	10.8
25-29	2,874	9.3
30-34	2,300	7.4
34-39	2,001	6.5
40-44	1,362	4.4
45-49	885	2.9
>=50	939	3.0
<b>Total</b>	<b>30,980</b>	<b>100.0</b>

Note: Excludes people where date of diagnosis not known (for type 1, n = 457). The 2017 Scottish Diabetes Survey has taken a more robust approach to validating date of diagnosis of diabetes than previous surveys, for example by excluding dates of diagnosis incorrectly recorded as prior to the person's date of birth. As a consequence higher numbers and proportions of people have missing data than for previous surveys.

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.



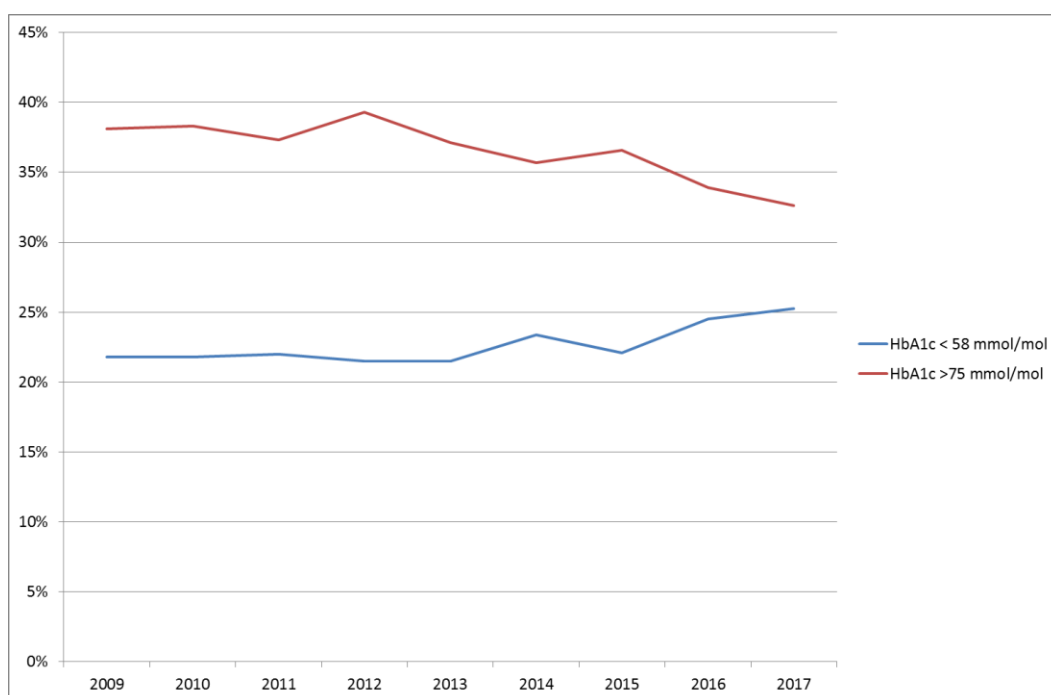
# Glycaemic Control

**Table 6** Type 1 diabetes: Number and percentage of people with a record of HbA<sub>1c</sub> in each HbA<sub>1c</sub> category, Scotland 2009-2017.

Year	HbA <sub>1c</sub> (mmol/mol)						Total recorded	Not recorded
	< 58		58-75		>75			
	n	%	n	%	n	%		
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
2010	5,337	21.8	9,754	39.9	9,375	38.3	24,466	3,444
2009	5,194	21.8	9,556	40.1	9,096	38.1	23,846	3,521

Note: This table is limited to years since 2009 due to the absence of data prior to that.

**Figure 3** Type 1 diabetes: Percentage of people with a record of HbA<sub>1c</sub> in each HbA<sub>1c</sub> category, Scotland 2010-2017.



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

**Table 7 Numbers and percentages of people with type 1 diabetes using insulin pumps by age group and year, Scotland 2013-2017.**

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	%
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 years since 2013 due to the absence of data prior to that.

**Table 8 Numbers and percentages of people with type 1 diabetes using insulin pumps by age group and NHS board, ranked by descending percentage of people aged under 18 using an insulin pump, Scotland 2017.**

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	10	6	60.0	104	15	14.4	114	21	18.4
Borders	62	28	45.2	625	74	11.8	687	102	14.8
Lothian	394	176	44.7	4,377	483	11.0	4,771	659	13.8
Fife	203	85	41.9	1,958	249	12.7	2,161	334	15.5
Ayrshire and Arran	248	103	41.5	2,092	143	6.8	2,340	246	10.5
Tayside	191	77	40.3	1,957	221	11.3	2,148	298	13.9
Highland	213	78	36.6	1,827	155	8.5	2,040	233	11.4
Dumfries and Galloway	91	33	36.3	860	131	15.2	951	164	17.2
Forth Valley	189	65	34.4	1,650	163	9.9	1,839	228	12.4
Western Isles	19	*	*	181	*	*	200	17	8.5
Lanarkshire	456	143	31.4	3,746	330	8.8	4,202	473	11.3
Greater Glasgow and Clyde	564	172	30.5	5,823	480	8.2	6,387	652	10.2
Shetland	14	*	*	119	*	*	133	8	6.0
Grampian	347	94	27.1	3,102	209	6.7	3,449	303	8.8
<b>Scotland</b>	<b>3,001</b>	<b>1,070</b>	<b>35.7</b>	<b>28,421</b>	<b>2,668</b>	<b>9.4</b>	<b>31,422</b>	<b>3,738</b>	<b>11.9</b>

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

## 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

84.3% of people with type 1 diabetes had their BP recorded within the previous 15 months (Table 9). 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 9** Number and percentage of people with type 1 diabetes with a recorded BP within the previous 15 months in Scotland 2009-2017.

Year	BP Recorded		Population
	n	%	
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
2010	23,977	85.9	27,910
2009	23,568	86.1	27,367

Note: This table is limited to years since 2009 due to the absence of data prior to that.

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

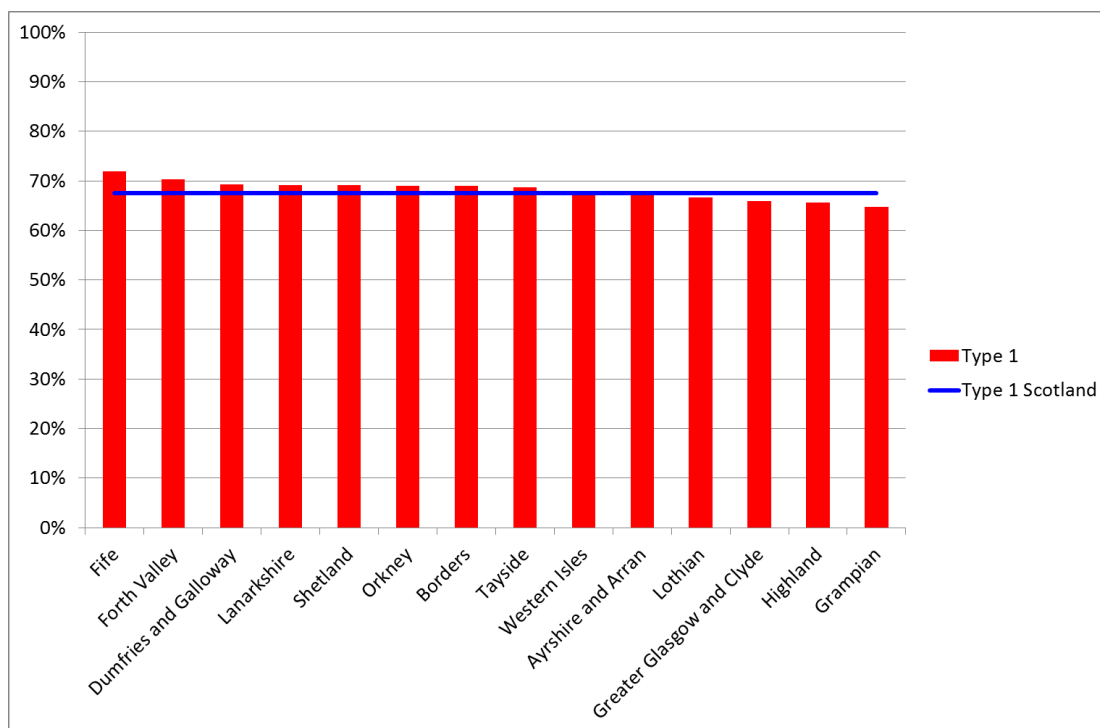
Cholesterol level was recorded in 77.7% of people with type 1 diabetes within the previous 15 months (Table 10).

**Table 10** Number and percentage of people with type 1 diabetes with cholesterol < 5mmol/l, by year (denominator those with recording of cholesterol within the previous 15 months), Scotland 2012-2017.

Year	Cholesterol ≤ 5		Cholesterol > 5		Recorded (%)	Not recorded		Total
	Number	%	Number	%		Number	%	
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 = 3026). This table is limited to years since 2012 due to the absence of data prior to that.

**Figure 4** Type 1 diabetes: Percentage of people with cholesterol ≤5mmol/l, by NHS board (denominator those with recording of cholesterol within the previous 15 months), Scotland 2017.



Note: Excludes children under 18 years (n=3026); Horizontal line indicates mean level for Scotland as a whole.

**Table 11 Type 1 diabetes: Number and percentage of people with cholesterol  $\leq 5$ mmol/l, by NHS board (denominator those with recording of cholesterol within the previous 15 months), ranked by percentage of people with cholesterol  $\leq 5$ mmol/l, Scotland 2017.**

NHS board	Total cholesterol $\leq 5$ (%)	Total recorded	Not recorded (%)
Fife	72.0	1,635	16.5
Forth Valley	70.3	1,337	19.0
Dumfries and Galloway	69.3	765	11.0
Lanarkshire	69.1	2,654	29.2
Shetland	69.1	107	10.1
Orkney	69.0	97	6.7
Borders	68.9	522	16.5
Tayside	68.7	1,536	21.5
Western Isles	67.6	121	33.1
Ayrshire and Arran	67.4	1,642	21.5
Lothian	66.6	3,352	23.4
Greater Glasgow and Clyde	65.9	4,452	23.5
Highland	65.6	1,327	27.4
Grampian	64.8	2,526	18.6
<b>Scotland</b>	<b>67.5</b>	<b>22,073</b>	<b>22.3</b>

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3026).

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 64.6% of those with type 1 diabetes (Table 12). Of those with a record of smoking status, 20.1% had a record of being a current smoker. Note: Data from people of all ages are included in these smoking figures.

**Table 12 Percentage of people with type 1 diabetes who were recorded as current, ex- or never-smokers (denominator those with record of smoking status) , Scotland 2012-2017.**

Year	Current smoker (%)	Ex-smoker (%)	Never smoked (%)	Not recorded (%)
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 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, but 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

3.5% of registered people with type 1 diabetes have a record, derived from primary care records, of a previous MI (Table 13). Others will have had an MI but not survived. 2.7% of registered people with type 1 diabetes have a record of having undergone cardiac revascularisation (Table 13); including coronary artery bypass graft (CABG) and percutaneous transluminal coronary angioplasty (PTCA).

**Table 13 Percentage of people with type 1 diabetes who are recorded as having had a previous myocardial infarction (MI) or cardiac revascularisation, Scotland 2012-2017.**

Year	Myocardial infarction (%)	Cardiac Revascularisation (%)
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 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 86% (30,243) of people with type 1 diabetes aged over 11 years of age (Table 14).

**Table 14 Percentage of people with type 1 diabetes who had a record of serum creatinine within the previous 15 months, Scotland 2012-2017.**

Year	Recorded within previous 15 months (%)	Total eligible population
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 who have no date of birth recorded (n=1204). This table is limited to 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 Microalbuminuria

Table 15 shows information on the recording of microalbuminuria.

**Table 15** Number and percentage of people with type 1 diabetes who have a record of estimated urinary microalbumin value available on SCI-Diabetes within the previous 15 months, Scotland 2012-2017.

Year	Recorded within previous 15 months	
	Number	%
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 (type1 n = 1204). In some cases, urinary microalbumin was estimated from albumin/creatinine ratio (ACR). This table is limited to years since 2012 due to the absence of data prior to that.

See the [Urinary Microalbuminuria 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

78.8% of people eligible for screening had a record of eye screening through the retinal screening service recorded on SCI-Diabetes in the previous 15 months, including those attending ophthalmology services (Table 16).

Table 16 shows the number and proportion of people of appropriate age ( $\geq 12$  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 16** Percentage of people with type 1 diabetes 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), Scotland 2012-2017.

Year	Recorded within previous 15 months (%)
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 = 1204, type 2 n = 103). This table is limited to 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 17** Percentage of people with type 1 diabetes who had a record of ever having had a foot ulcer, Scotland 2012-2017.

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

Note: This table is limited to 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 more closely review statistics, processes and outcomes of care 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.

## Differences Between Children and Adults with Diabetes

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. While lifestyle issues are relevant to all ages, they do not play the same aetiological role in the paediatric type 1 patient, who requires mandatory insulin therapy, delivered by injection or pump.

Autoimmunity, rather than lifestyle factors, plays the dominant role in 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. Undertaking and interpreting the results of such screening may be challenging, due to the young person's inability to cooperate with the test (e.g. retinal screening) or because of unknown applicability of results from this age group (e.g. blood lipids).

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, and in later years poor appreciation of the need for optimal care, combined with increased autonomy, may risk ketoacidosis or earlier and increasingly severe complications. Retinopathy, nephropathy, neuropathy and vasculopathy may take many years of sub-optimal glycaemic control to present, but the early years of diagnosis are as important as any in preventing or delaying their manifestation.

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.

Manifestly, those diagnosed with diabetes earlier can expect to live with the condition for a greater time. 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 just as important as in later life.

## Commentary on Scottish Paediatric Diabetes Data

This first 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<sub>1c</sub> collection

The relatively small numbers of people with diabetes in the paediatric population has resulted in some issues, exacerbated when considering individual centre differences. For example, in some instances where very few people with diabetes may be seen, care has been taken to limit possible subject identification by not reporting numbers at the extremes of range. Other problems may arise from non-standardised or incomplete data entry.

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 conceal issues where numbers are masked by the proportion of patients from larger centres. Ignoring data from smaller centres is clearly unacceptable, and so as a clinical community we must consider models that provide support to all clinical teams across Scotland, no matter their patient population. There may be considerable benefit in linking

smaller and larger centres, providing all teams with additional experience, such as in the use of emergent technologies.

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. Thyroid function and coeliac disease antibodies are also recommended, though the latter may not be routinely collected in all centres, potentially affecting completion of care figures.

Adherence to agreed clinical standards is one of the principal measures of the Scottish Diabetes Survey. While the great majority of adults are eligible for all screening processes, children may be excluded because of age. When examining paediatric data, it is therefore essential to establish and adhere to these age exclusions before data entry, and then to apply these exclusions on data extraction and analysis. This first survey has revealed some issues in each of these areas and addressing these will improve future data quality.

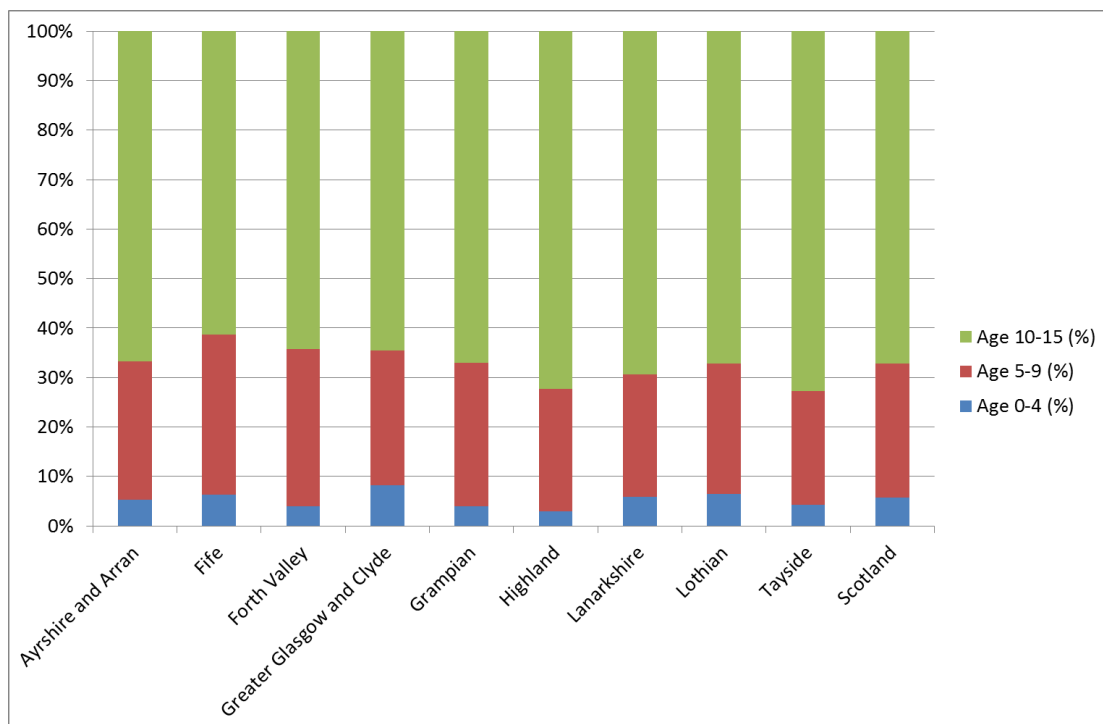
The discrepancies outlined do not generally reflect quality of care, but rather rely on the paediatric clinical community applying agreed definitions and standardising processes of care. Small numbers, variable definitions and non-standard processes of care have made interpretation of some data difficult, but this must be weighed against the increased distress of invasive tests on children, along with already low prevalence of complications and associated conditions, and the fact that symptomatic patients would still be investigated. Consideration of these variables in the paediatric population will help improve data quality.

Age bands in the Survey use the convention that the upper age limit, although listed as a whole number, actually includes all patients up to the lower limit of the next age band. For example, the band "0-4 years" includes all patients from birth to age 4.99 years. There may be some debate as to the relevance of the age bands applied, or regarding what age limits constitute a paediatric group. Paediatric services usually see patients up to approximately 16 years old, with a transition process to adult care from then until 18 years of age.

One of the principal purposes of gathering and examining these data is to improve the processes and outcomes of diabetes care throughout Scotland. Following the publication of this first Paediatric Supplement the diabetes community is now better placed to understand and so resolve many of these issues. In future we can expect data to be increasingly reliable and meaningful, which are themselves very valuable outcomes of the audit process.



**Figure 5 Proportions of all people with diabetes under 16 years of age by age band and health board, Scotland 2017.**



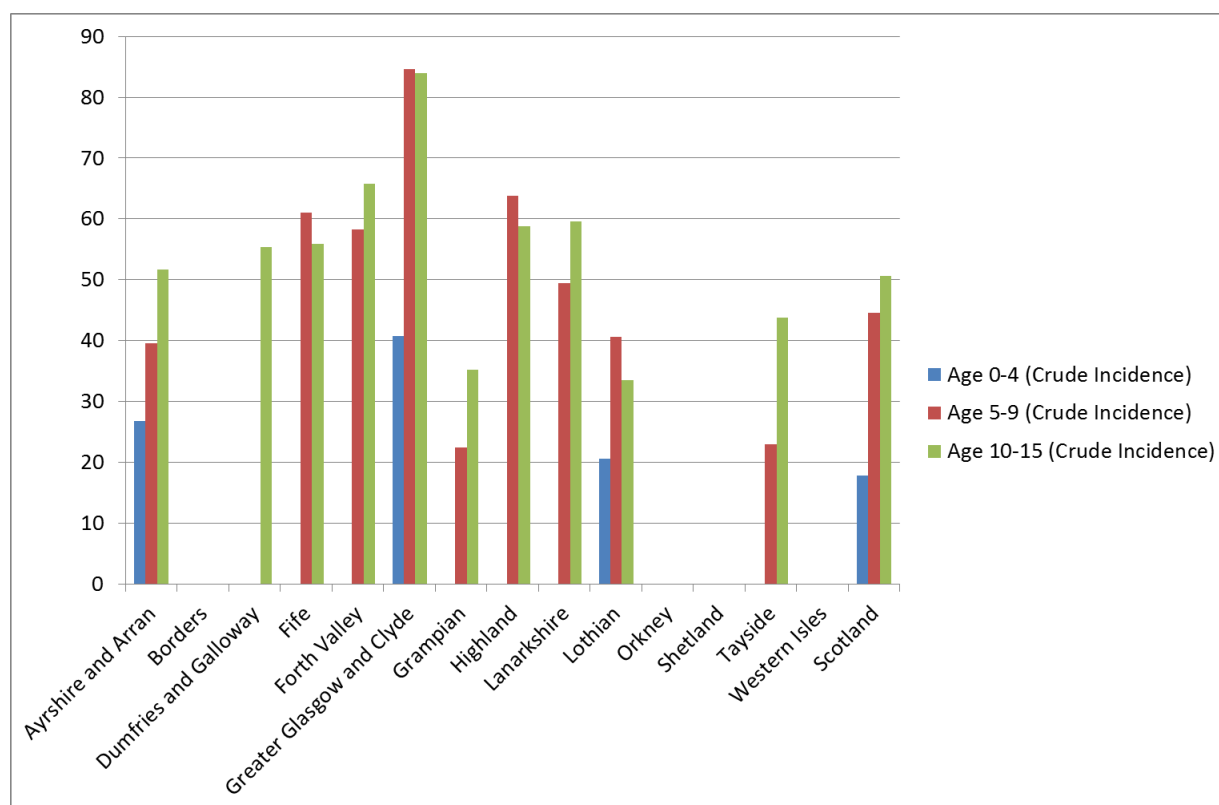
Note: Bars for boards with hidden data aren't shown. The collation of data in a 0-4 year age group was to allow comparison of local data with those of international studies suggesting an increased prevalence and incidence in those under 5 years of age.

**Table 18 Proportions of all people with diabetes under 16 years of age by age band and health board, Scotland 2017.**

NHS board	Age 0-4		Age 5-9		Age 10-15	
	n	%	n	%	n	%
Ayrshire and Arran	10	5.3	53	27.9	127	66.8
Borders	*	*	*	*	*	*
Dumfries and Galloway	*	*	*	*	*	*
Fife	10	6.3	51	32.3	97	61.4
Forth Valley	6	4.0	48	31.8	97	64.2
Greater Glasgow and Clyde	35	8.2	117	27.3	276	64.5
Grampian	10	3.9	75	29.1	173	67.1
Highland	5	3.0	41	24.7	120	72.3
Lanarkshire	20	5.9	84	24.7	236	69.4
Lothian	20	6.4	83	26.4	211	67.2
Orkney	*	*	*	*	*	*
Shetland	*	*	*	*	*	*
Tayside	6	4.2	33	23.1	104	72.7
Western Isles	*	*	*	*	*	*
<b>Scotland</b>	<b>130</b>	<b>5.7</b>	<b>625</b>	<b>27.2</b>	<b>1,544</b>	<b>67.2</b>

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](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 2017.**



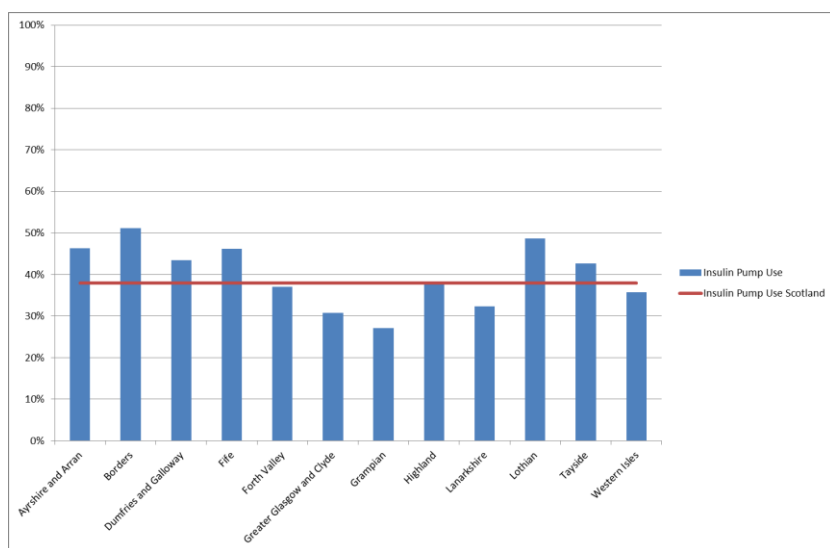
Note: Bars for boards with hidden data aren't shown.

**Table 19 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 2017.**

NHS board	Age 0-4			Age 5-9			Age 10-15		
	n	In.	Pop.	n	In.	Pop.	n	In.	Pop.
Ayrshire and Arran	5	27	18,703	8	40	20,204	12	52	23,240
Borders	0	0	5,770	*	*	6,042	*	*	7,190
Dumfries and Galloway	*	*	6,780	*	*	7,805	5	55	9,029
Fife	*	*	19,806	13	61	21,308	13	56	23,258
Forth Valley	*	*	15,956	10	58	17,175	13	66	19,745
Greater Glasgow and Clyde	13	41	31,953	28	85	33,090	29	84	34,542
Grampian	*	*	63,677	14	22	62,539	24	35	68,312
Highland	*	*	15,550	11	64	17,234	12	59	20,426
Lanarkshire	*	*	36,071	19	49	38,438	26	60	43,666
Lothian	10	21	48,503	20	41	49,329	17	34	50,712
Orkney	*	*	984	0	0	1,196	*	*	1,336
Shetland	0	0	1,290	0	0	1,363	*	*	1,580
Tayside	*	*	20,964	5	23	21,739	11	44	25,105
Western Isles	0	0	1,231	*	*	1,400	0	0	1,676
<b>Scotland</b>	<b>51</b>	<b>18</b>	<b>287,238</b>	<b>133</b>	<b>45</b>	<b>298,862</b>	<b>167</b>	<b>51</b>	<b>329,817</b>

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 with diabetes under 16 years of age recorded as using an insulin pump by NHS board, Scotland 2017.**



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

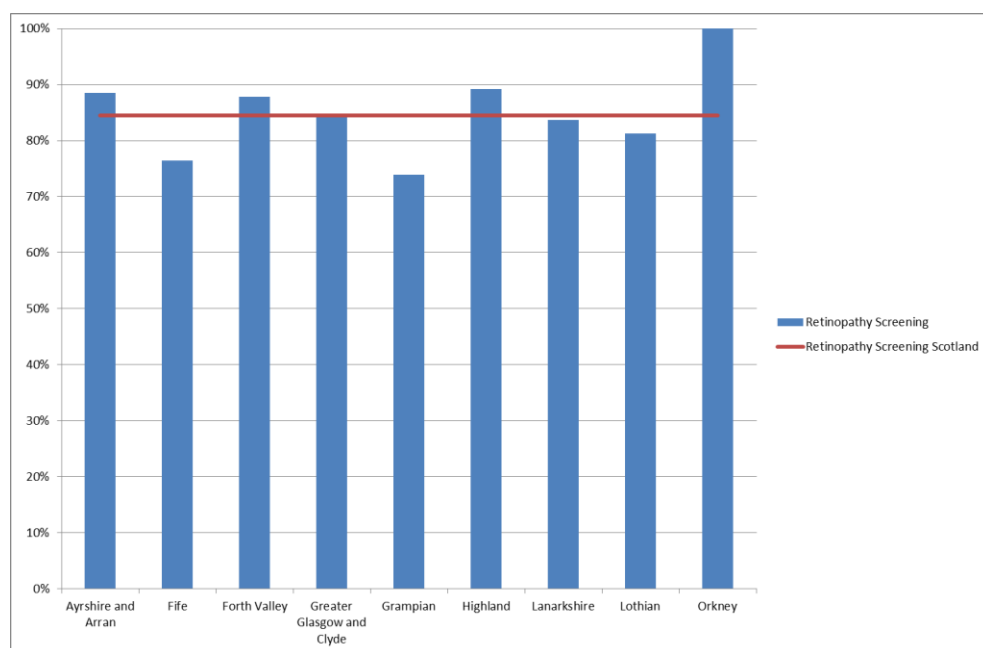
In 2011 a national target was set that, by March 2013, 25% of all those in Scotland under 18 years of age with diabetes should have access to an insulin pump. The figures show that this initial target has been met and, in most centres, exceeded by a reasonable margin. However, a clear majority remain 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 20 Number and percentage of people with diabetes under 16 years of age recorded as using an insulin pump by NHS board, Scotland 2017.**

NHS board	Pump		No pump	
	n	%	n	%
Ayrshire and Arran	88	46.3	102	53.7
Borders	24	51.1	23	48.9
Dumfries and Galloway	30	43.5	39	56.5
Fife	73	46.2	85	53.8
Forth Valley	56	37.1	95	62.9
Greater Glasgow and Clyde	132	30.8	296	69.2
Grampian	70	27.1	188	72.9
Highland	63	38.0	103	62.0
Lanarkshire	110	32.4	230	67.6
Lothian	153	48.7	161	51.3
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	61	42.7	82	57.3
Western Isles	5	35.7	9	64.3
<b>Scotland</b>	<b>873</b>	<b>38.0</b>	<b>1,426</b>	<b>62.0</b>

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

**Figure 8 Percentage of people with diabetes under 16 years of age eligible for diabetic retinopathy screening (DRS) who were screened within the last 15 months by NHS board, Scotland 2017.**



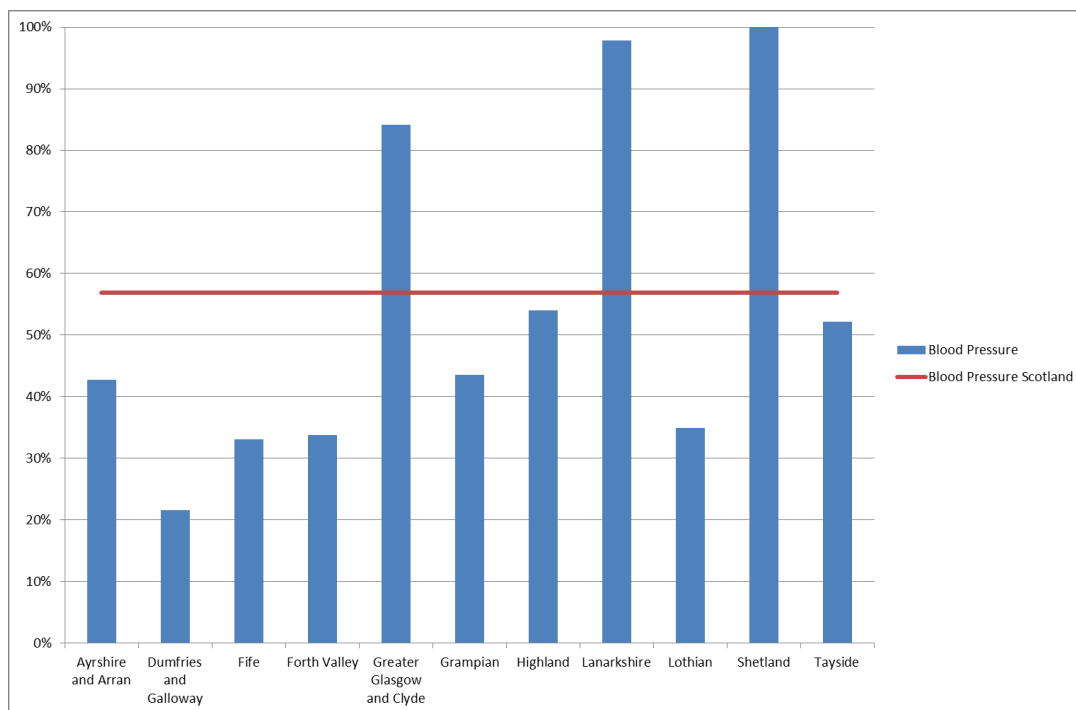
Note: Bars for boards with hidden data aren't shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence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

**Table 21 Number and percentage of people with diabetes under 16 years of age eligible for diabetic retinopathy screening (DRS) who were screened within the last 15 months by NHS board, Scotland 2017.**

NHS board	Screened		Not screened	
	n	%	n	%
Ayrshire and Arran	77	88.5	10	11.5
Borders	*	*	*	*
Dumfries and Galloway	*	*	*	*
Fife	52	76.5	16	23.5
Forth Valley	58	87.9	8	12.1
Greater Glasgow and Clyde	168	84.4	31	15.6
Grampian	88	73.9	31	26.1
Highland	83	89.2	10	10.8
Lanarkshire	138	83.6	27	16.4
Lothian	130	81.3	30	18.8
Orkney	5	100.0	0	0.0
Shetland	*	*	*	*
Tayside	*	*	*	*
Western Isles	*	*	*	*
<b>Scotland</b>	<b>940</b>	<b>84.5</b>	<b>172</b>	<b>15.5</b>

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

**Figure 9 Percentage of people with diabetes under 16 years of age with a recorded blood pressure within the previous 15 months by NHS board, Scotland 2017.**



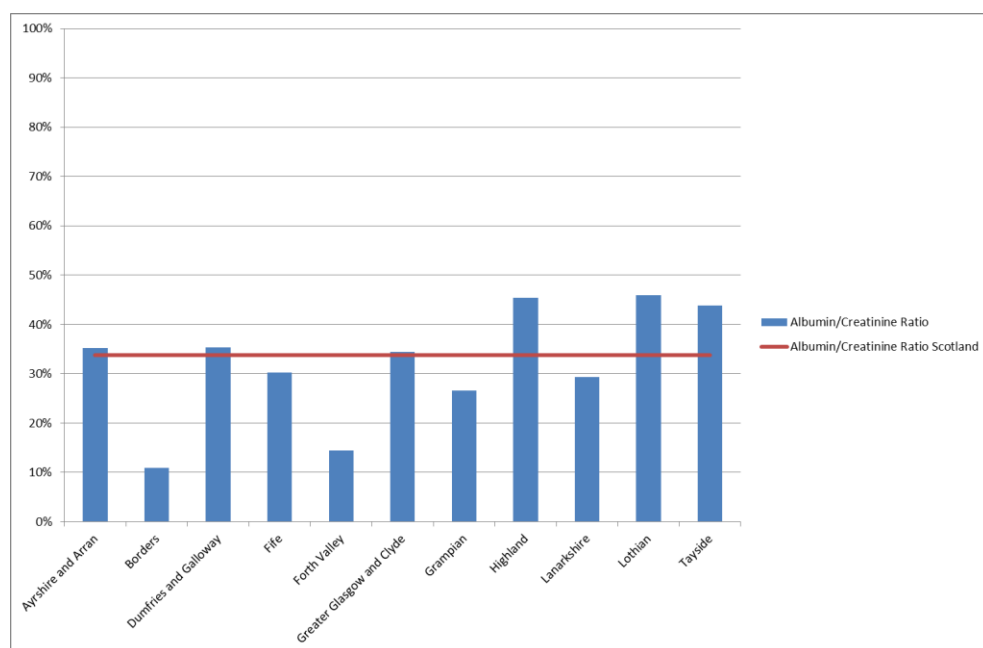
Note: Bars for boards with hidden data aren't shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence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

**Table 22 Number and Percentage of people with diabetes under 16 years of age with a recorded blood pressure within the previous 15 months by NHS board, Scotland 2017.**

NHS board	Measured		Not measured	
	n	%	n	%
Ayrshire and Arran	77	42.8	103	57.2
Borders	*	*	*	*
Dumfries and Galloway	14	21.5	51	78.5
Fife	49	33.1	99	66.9
Forth Valley	49	33.8	96	66.2
Greater Glasgow and Clyde	335	84.2	63	15.8
Grampian	108	43.5	140	56.5
Highland	87	54.0	74	46.0
Lanarkshire	317	97.8	7	2.2
Lothian	106	34.9	198	65.1
Orkney	*	*	*	*
Shetland	12	100.0	0	0.0
Tayside	72	52.2	66	47.8
Western Isles	*	*	*	*
<b>Scotland</b>	<b>1,246</b>	<b>56.9</b>	<b>943</b>	<b>43.1</b>

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

**Figure 10 Percentage of people with diabetes under 16 years of age with a recorded albumin / creatinine ratio within the previous 15 months by NHS board, Scotland 2017.**



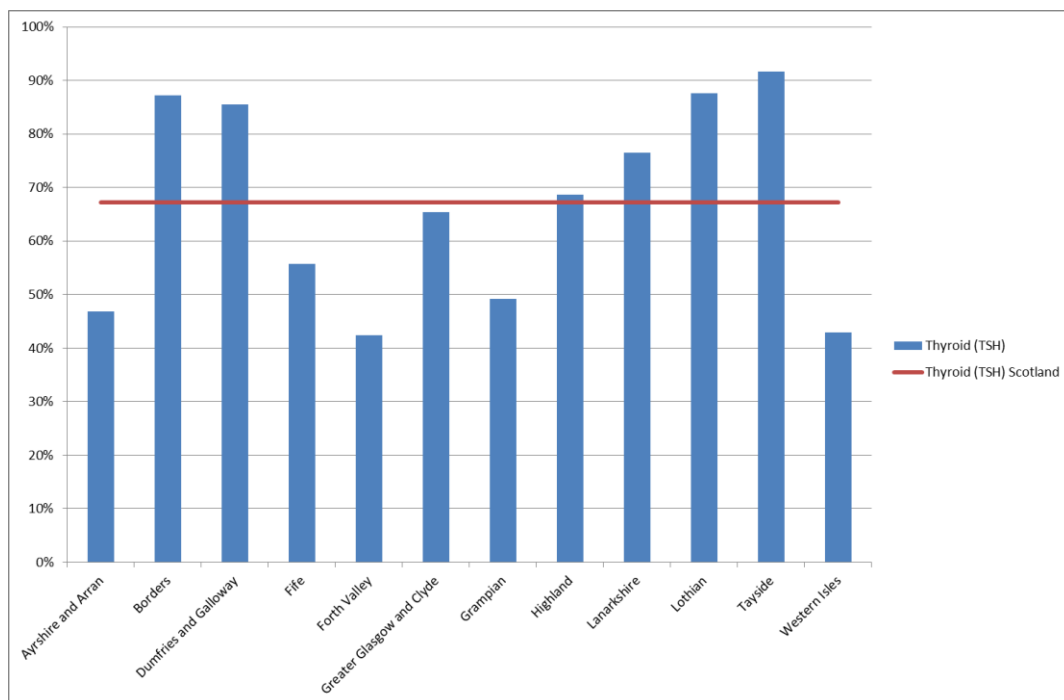
Note: Bars for boards with hidden data aren't shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence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

**Table 23 Number and percentage of people with diabetes under 16 years of age with a recorded albumin / creatinine ratio within the previous 15 months by NHS board, Scotland 2017.**

NHS board	Measured		Not measured	
	n	%	n	%
Ayrshire and Arran	67	35.3	123	64.7
Borders	5	10.9	41	89.1
Dumfries and Galloway	23	35.4	42	64.6
Fife	45	30.2	104	69.8
Forth Valley	21	14.5	124	85.5
Greater Glasgow and Clyde	139	34.5	264	65.5
Grampian	66	26.6	182	73.4
Highland	73	45.3	88	54.7
Lanarkshire	94	29.3	227	70.7
Lothian	135	45.9	159	54.1
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	60	43.8	77	56.2
Western Isles	*	*	*	*
<b>Scotland</b>	<b>739</b>	<b>33.7</b>	<b>1,452</b>	<b>66.3</b>

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

**Figure 11 Percentage of people with diabetes under 16 years of age recorded as having had thyroid screening (TSH) within the previous 15 months by NHS board, Scotland 2017.**



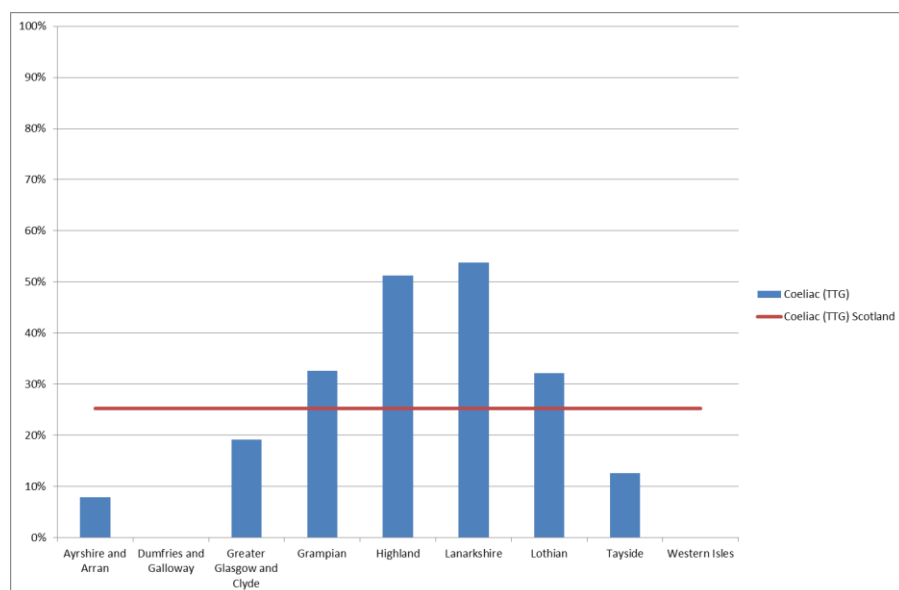
Note: Bars for boards with hidden data aren't shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. Annual data may therefore not reflect actual numbers appropriately screened. Agreement of, and adherence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

**Table 24 Number and percentage of people with diabetes under 16 years of age recorded as having had thyroid screening (TSH) within the previous 15 months by NHS board, Scotland 2017.**

NHS board	Measured		Not measured	
	n	%	n	%
Ayrshire and Arran	89	46.8	101	53.2
Borders	41	87.2	6	12.8
Dumfries and Galloway	59	85.5	10	14.5
Fife	88	55.7	70	44.3
Forth Valley	64	42.4	87	57.6
Greater Glasgow and Clyde	280	65.4	148	34.6
Grampian	127	49.2	131	50.8
Highland	114	68.7	52	31.3
Lanarkshire	260	76.5	80	23.5
Lothian	275	87.6	39	12.4
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	131	91.6	12	8.4
Western Isles	6	42.9	8	57.1
<b>Scotland</b>	<b>1,545</b>	<b>67.2</b>	<b>754</b>	<b>32.8</b>

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

**Figure 12 Percentage of people with diabetes under 16 years of age recorded as having had coeliac screening (TTG) within the previous 15 months by NHS board, Scotland 2017.**



Note: Bars for boards with hidden data aren't shown. Variations in local centre practice may result in different age-range exclusions, or screening tests being carried out at different intervals. 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.

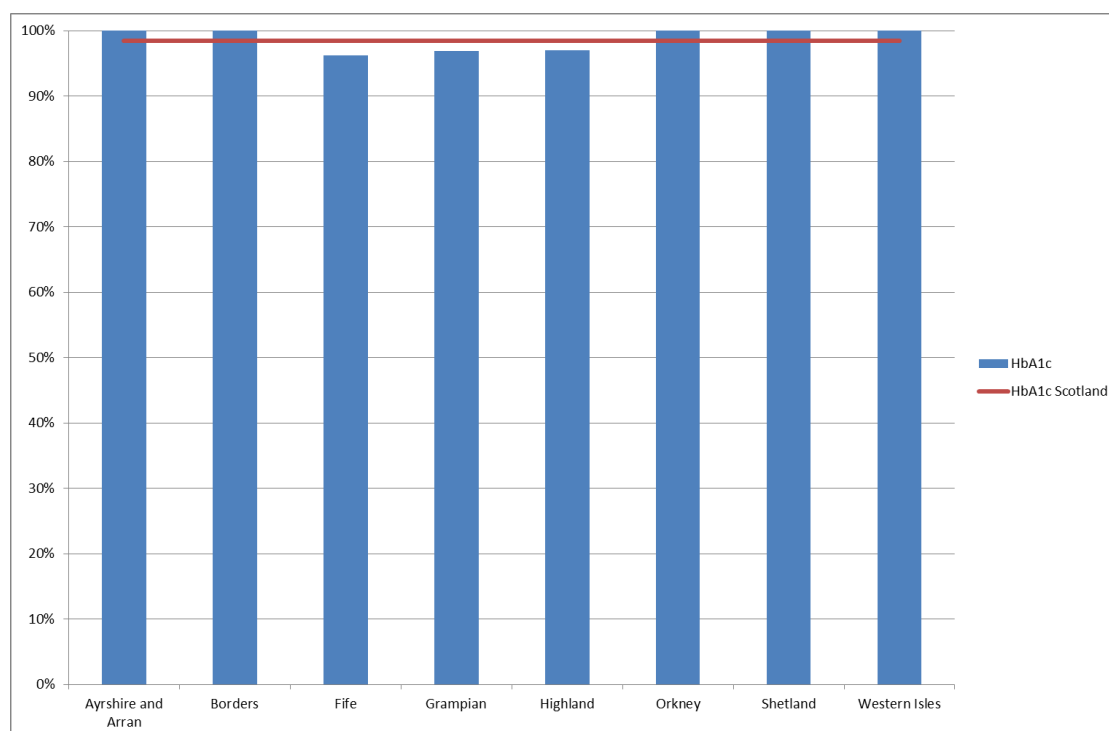
**Table 25 Number and percentage of people with diabetes under 16 years of age recorded as having had coeliac screening (TTG) within the previous 15 months by NHS board, Scotland 2017.**

NHS board	Measured		Not measured	
	n	%	n	%
Ayrshire and Arran	15	7.9	175	92.1
Borders	*	*	*	*
Dumfries and Galloway	0	0.0	69	100.0
Fife	*	*	*	*
Forth Valley	*	*	*	*
Greater Glasgow and Clyde	82	19.2	346	80.8
Grampian	84	32.6	174	67.4
Highland	85	51.2	81	48.8
Lanarkshire	183	53.8	157	46.2
Lothian	101	32.2	213	67.8
Orkney	*	*	*	*
Shetland	*	*	*	*
Tayside	18	12.6	125	87.4
Western Isles	0	0.0	14	100.0
<b>Scotland</b>	<b>580</b>	<b>25.2</b>	<b>1,719</b>	<b>74.8</b>

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



**Figure 13 Percentage of people with diabetes under 16 years of age with a recorded HbA<sub>1c</sub> within the previous 15 months by NHS board, Scotland 2017.**



Note: Bars for boards with hidden data aren't shown. These data include HbA<sub>1c</sub> taken at time of diagnosis, as well as those collected at clinic attendances, subsequent hospital admissions (for any reason), and in primary care. It may be of benefit to analyse separately those who have HbA<sub>1c</sub> reported at diagnosis from those in whom the test is performed at a later date.

**Table 26 Number and percentage of people with diabetes under 16 years of age with a recorded HbA<sub>1c</sub> within the previous 15 months by NHS board, Scotland 2017.**

NHS board	Measured		Not measured	
	n	%	n	%
Ayrshire and Arran	190	100.0	0	0.0
Borders	47	100.0	0	0.0
Dumfries and Galloway	*	*	*	*
Fife	152	96.2	6	3.8
Forth Valley	*	*	*	*
Greater Glasgow and Clyde	*	*	*	*
Grampian	250	96.9	8	3.1
Highland	161	97.0	5	3.0
Lanarkshire	*	*	*	*
Lothian	*	*	*	*
Orkney	9	100.0	0	0.0
Shetland	12	100.0	0	0.0
Tayside	*	*	*	*
Western Isles	14	100.0	0	0.0
<b>Scotland</b>	<b>2,264</b>	<b>98.5</b>	<b>35</b>	<b>1.5</b>

Note: \* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. For this measure, 5 of the 6 boards with hidden results have >=95% 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 at the end of 2017 is described below.

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

**Table 27** 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<sub>1c</sub>
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".

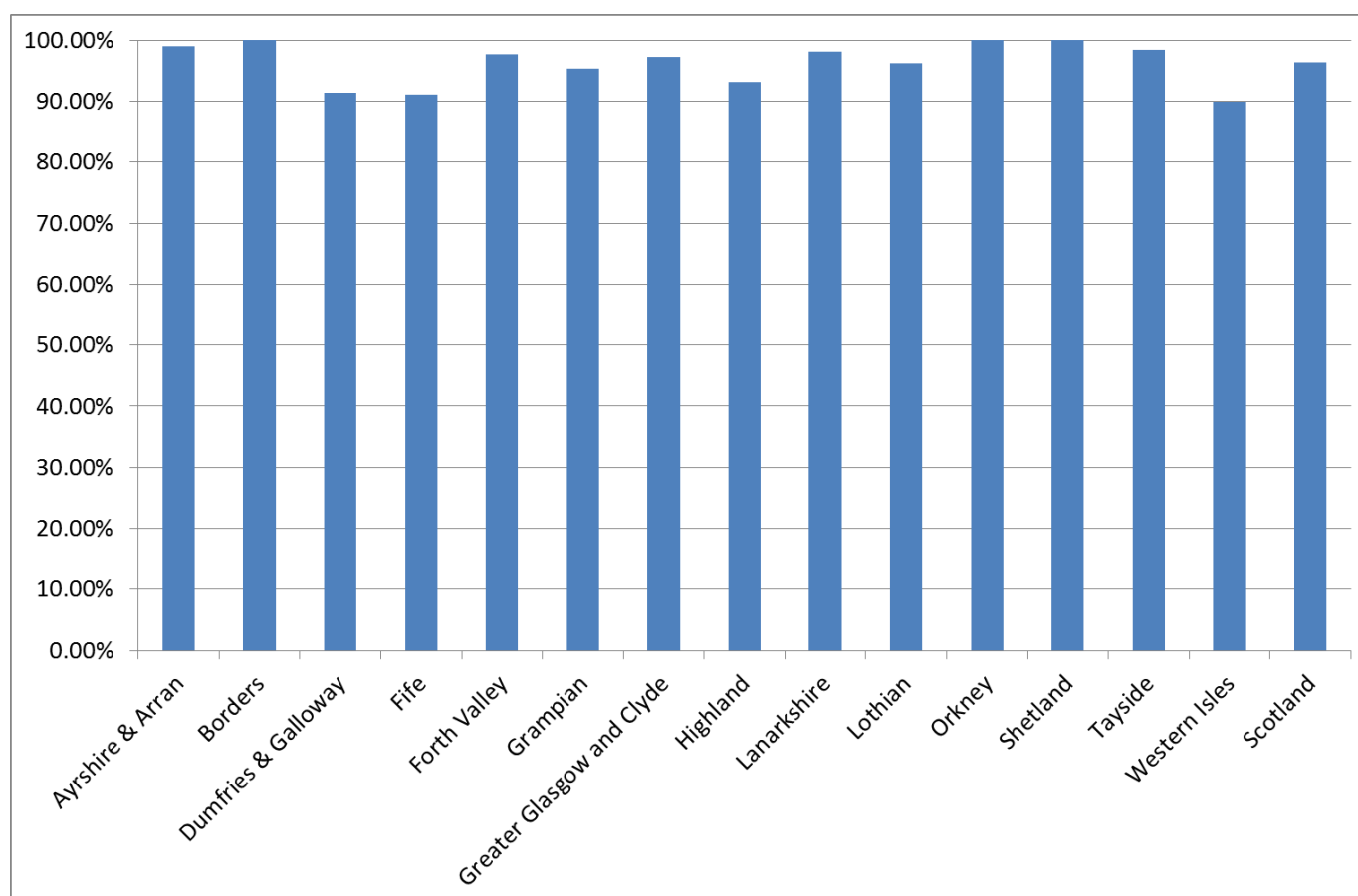
\*\*Urinary Albumin test = any of the following: albumin / creatinine ratio (ACR), microalbumin concentration, protein / creatinine ratio (PCR) or total urinary protein, Timed overnight albumin excretion rate, or 24hr albumin excretion rate.

### Notes

Where no data is 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<sub>1c</sub> 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 2017.**

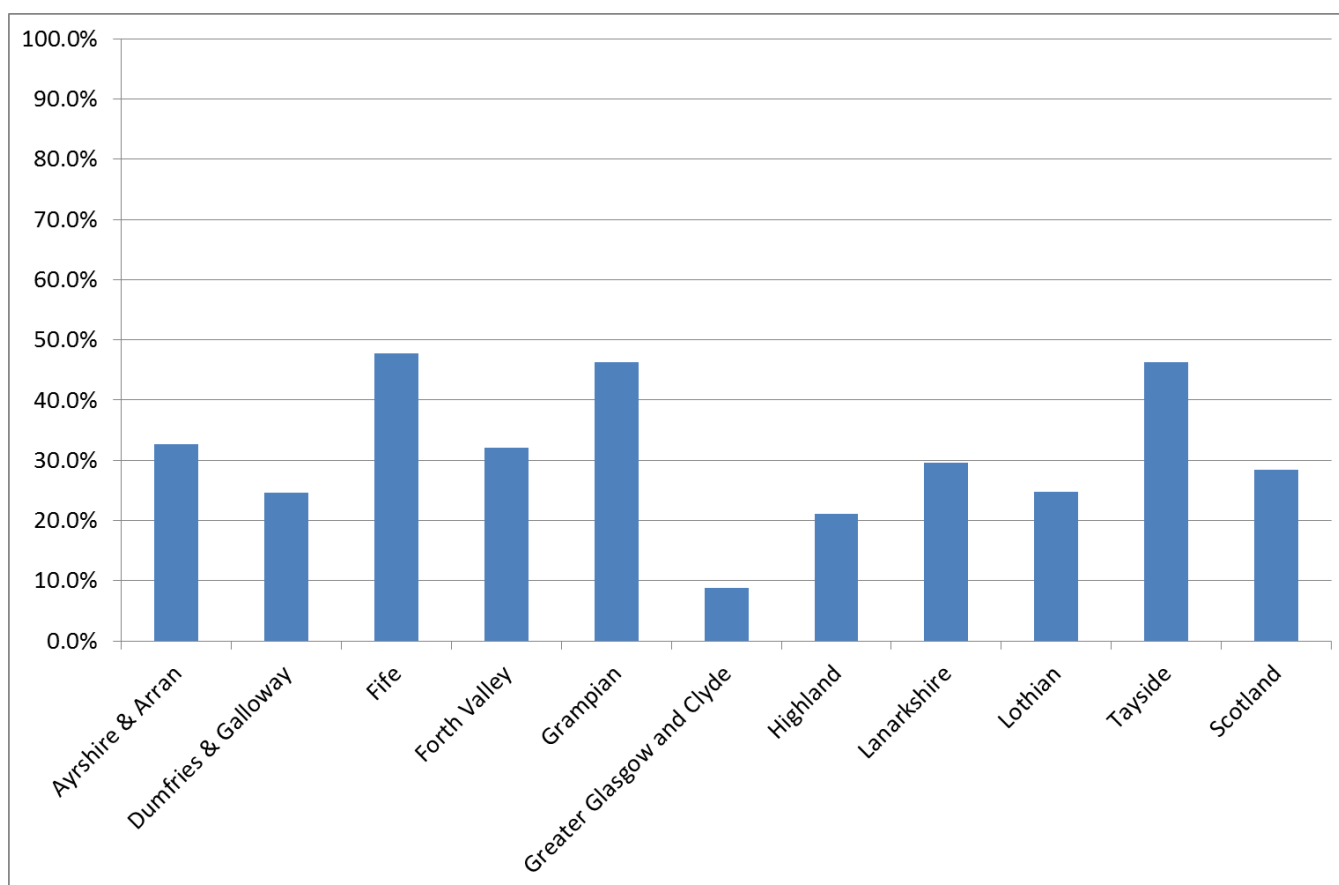


**Table 28 Measure 1: Receiving all applicable processes of care - Type 1 and other age 0-11 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 0-11 (n)
	n	%	
Ayrshire & Arran	103	99.0	104
Borders	21	100.0	21
Dumfries & Galloway	32	91.4	35
Fife	92	91.1	101
Forth Valley	85	97.7	87
Grampian	144	95.4	151
Greater Glasgow and Clyde	218	97.3	224
Highland	68	93.2	73
Lanarkshire	162	98.2	165
Lothian	155	96.3	161
Orkney	*	100.0	*
Shetland	*	100.0	*
Tayside	60	98.4	61
Western Isles	9	90.0	10
<b>Scotland</b>	<b>1,157</b>	<b>96.3</b>	<b>1,201</b>

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 2017.**



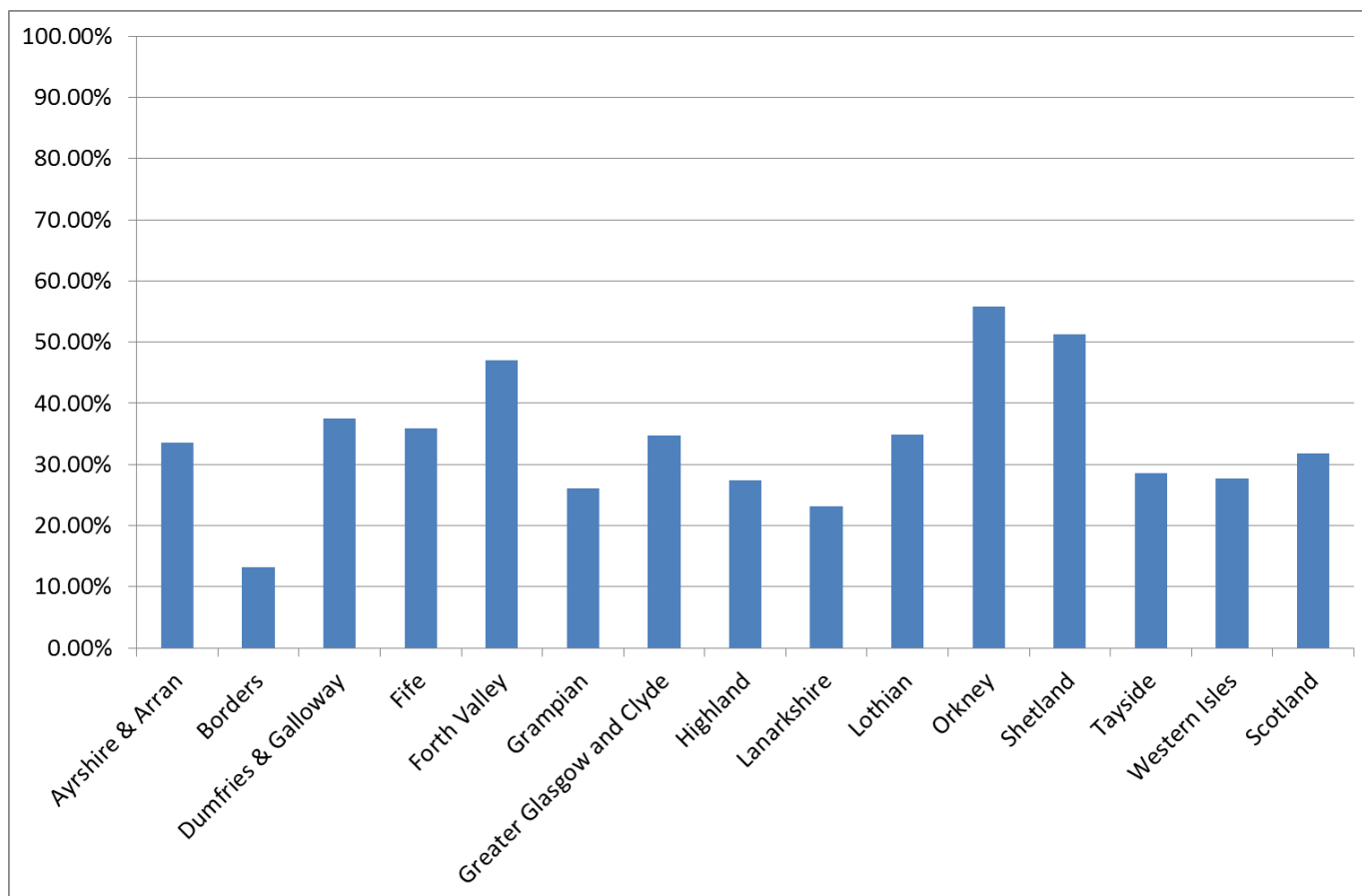
Note: Bars for boards with hidden data aren't shown.

**Table 29 Measure 1: Receiving all applicable processes of care - Type 1 and other age 12-17 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 12-17 (n)
	n	%	
Ayrshire & Arran	48	32.7	147
Borders	*	*	42
Dumfries & Galloway	14	24.6	57
Fife	54	47.8	113
Forth Valley	34	32.1	106
Grampian	95	46.3	205
Greater Glasgow and Clyde	32	8.8	362
Highland	30	21.1	142
Lanarkshire	91	29.6	307
Lothian	61	24.8	246
Orkney	*	*	7
Shetland	*	*	9
Tayside	62	46.3	134
Western Isles	*	*	9
<b>Scotland</b>	<b>535</b>	<b>28.4</b>	<b>1,886</b>

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

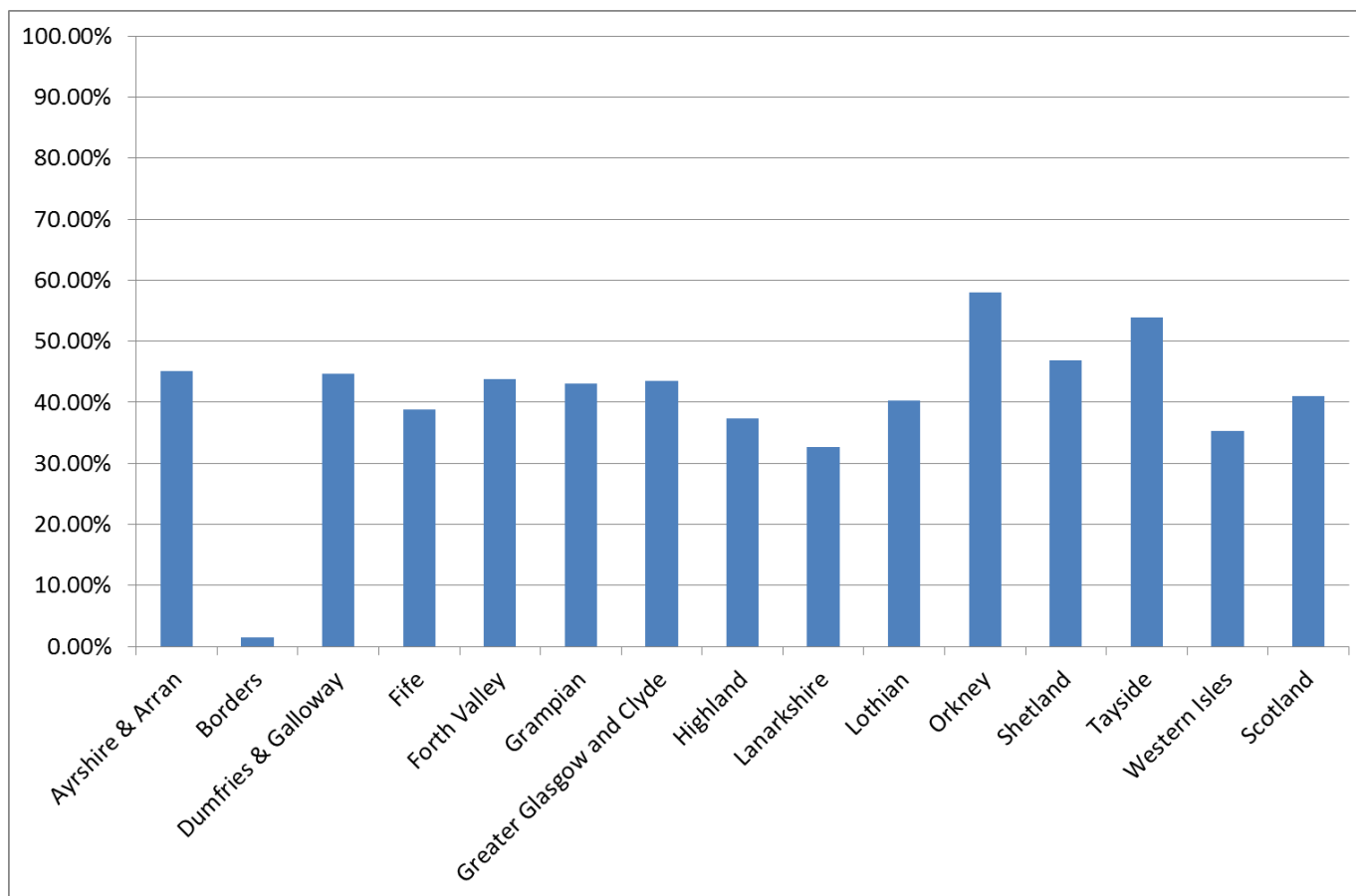
**Figure 16 Measure 1: Receiving all applicable processes of care - Type 1 Age 18+ by NHS board, Scotland 2017.**



**Table 30 Measure 1: Receiving all applicable processes of care - Type 1 Age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	n	%	
Ayrshire & Arran	703	33.6	2,092
Borders	82	13.1	625
Dumfries & Galloway	322	37.4	860
Fife	703	35.9	1,958
Forth Valley	775	47.0	1,650
Grampian	807	26.0	3,102
Greater Glasgow and Clyde	2,018	34.7	5,823
Highland	500	27.4	1,826
Lanarkshire	867	23.1	3,746
Lothian	1,524	34.8	4,377
Orkney	58	55.8	104
Shetland	61	51.3	119
Tayside	559	28.6	1,957
Western Isles	50	27.6	181
<b>Scotland</b>	<b>9,029</b>	<b>31.8</b>	<b>28,420</b>

**Figure 17 Measure 1: Receiving all applicable processes of care - Type 2 and other age 18+ by NHS board, Scotland 2017.**



**Table 31 Measure 1: Receiving all applicable processes of care - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	n	%	
Ayrshire & Arran	9,788	45.2	21,678
Borders	90	1.5	6,130
Dumfries & Galloway	3,846	44.7	8,605
Fife	7,589	38.8	19,567
Forth Valley	6,748	43.8	15,399
Grampian	10,980	43.0	25,534
Greater Glasgow and Clyde	25,107	43.5	57,660
Highland	5,800	37.4	15,517
Lanarkshire	11,441	32.7	35,036
Lothian	14,794	40.2	36,757
Orkney	632	58.0	1,089
Shetland	468	46.8	999
Tayside	11,639	54.0	21,572
Western Isles	453	35.3	1,283
<b>Scotland</b>	<b>109,375</b>	<b>41.0</b>	<b>266,826</b>

## Measure 2: HbA<sub>1c</sub> in Target Range After 1 Year

Percentage of people with diabetes with an HbA<sub>1c</sub> <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<sub>1c</sub> within (+/-) 90 days of their 1<sup>st</sup> anniversary of diagnosis.

Numerator = number of people in each age/type cohort whose latest HbA<sub>1c</sub> was <58 mmol/mol.

Denominator = the total number of people (who had an anniversary HbA<sub>1c</sub>) in each age/type cohort.

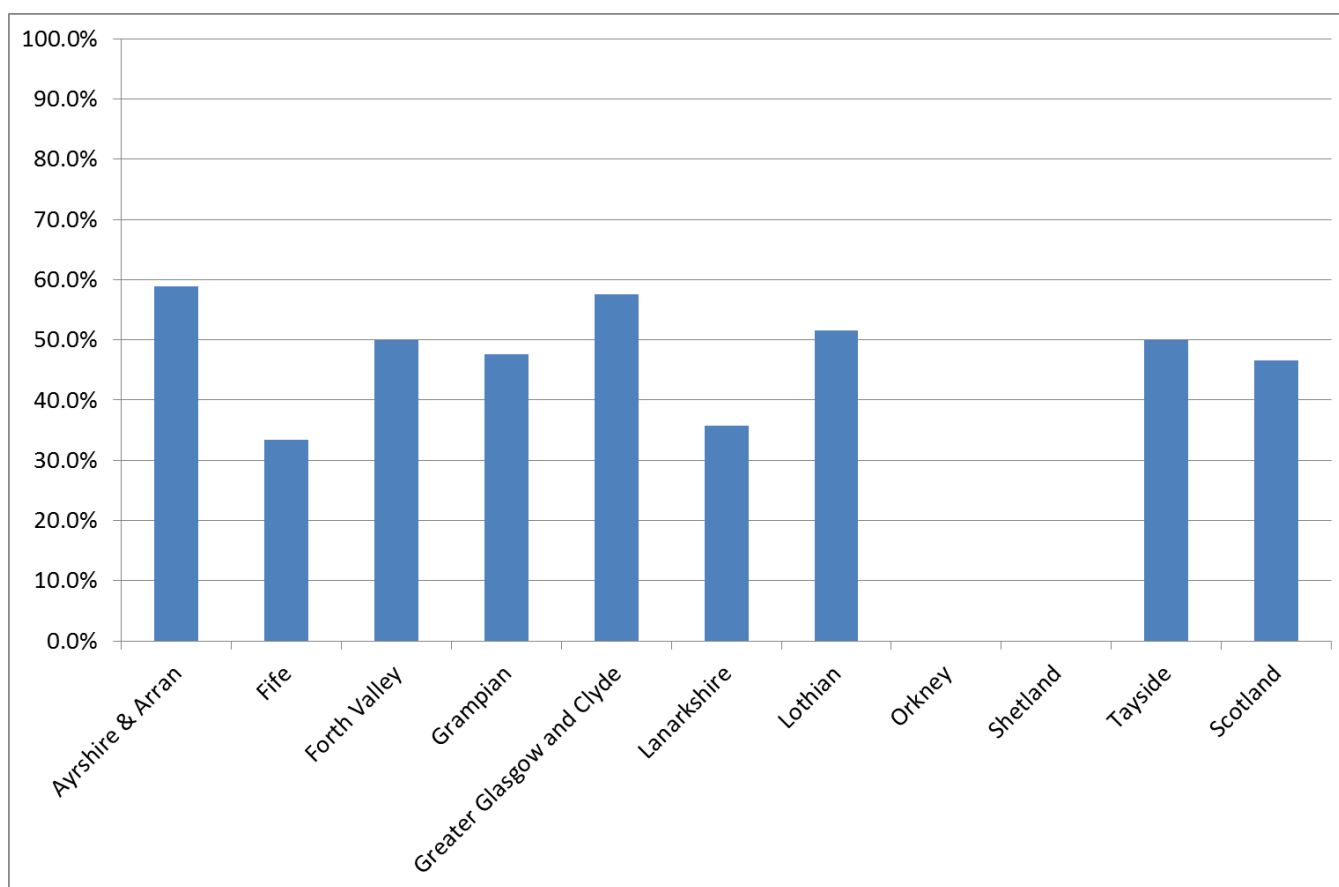
### Notes

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<sub>1c</sub> <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 been 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<sub>1c</sub> in target range after 1 year - Type 1 and other age 0-11 by NHS board, Scotland 2017.**



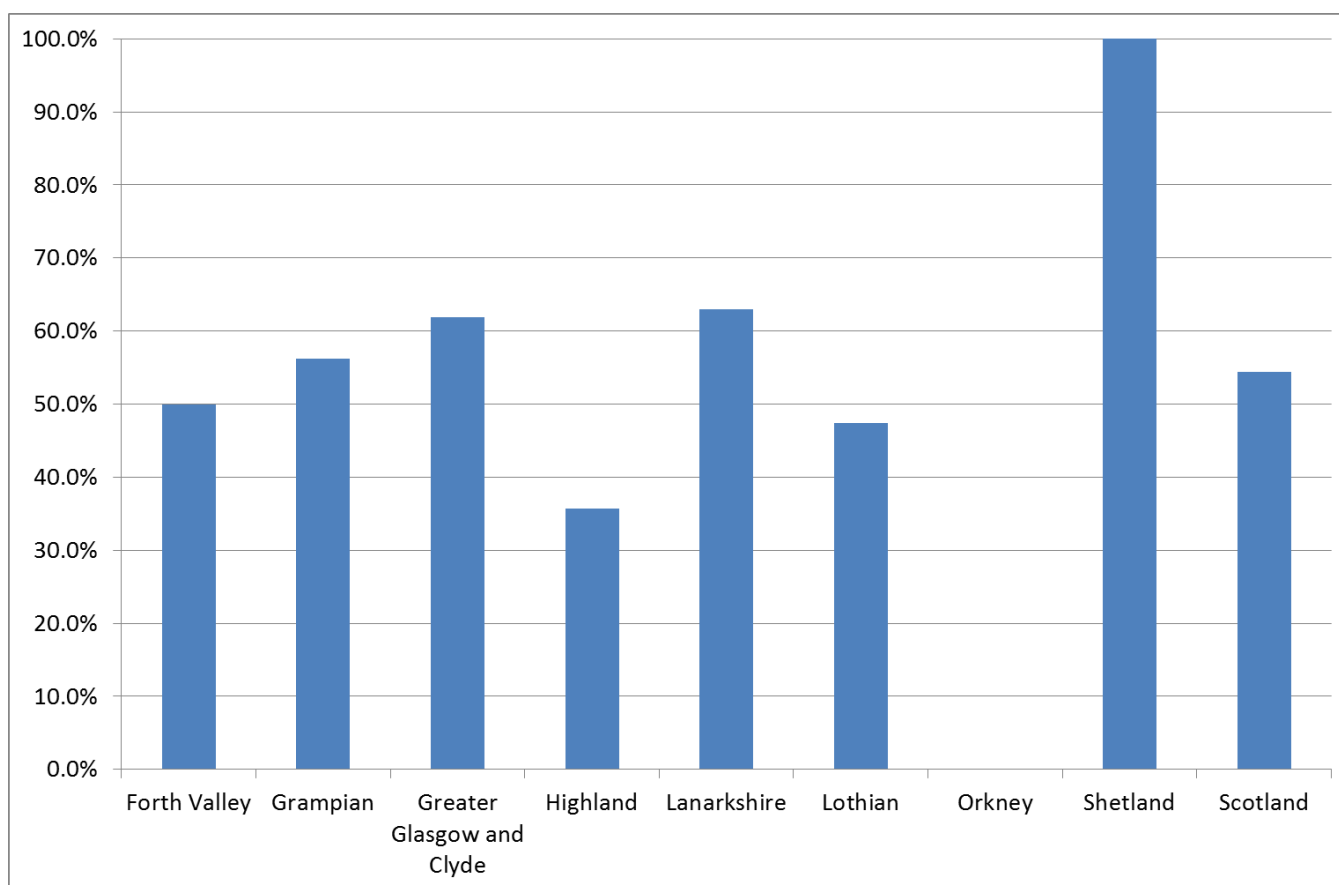
Note: Bars for boards with hidden data aren't shown.

**Table 32 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 1 and other age 0-11 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 0-11 (n)
	n	%	
Ayrshire & Arran	10	58.8	17
Borders	*	*	*
Dumfries & Galloway	*	*	*
Fife	8	33.3	24
Forth Valley	5	50.0	10
Grampian	10	47.6	21
Greater Glasgow and Clyde	23	57.5	40
Highland	*	*	7
Lanarkshire	10	35.7	28
Lothian	17	51.5	33
Orkney	0	0.0	0
Shetland	0	0.0	0
Tayside	6	50.0	12
Western Isles	*	*	*
<b>Scotland</b>	<b>96</b>	<b>46.6</b>	<b>206</b>

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

**Figure 19 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 1 and other age 12-17 by NHS board, Scotland 2017.**



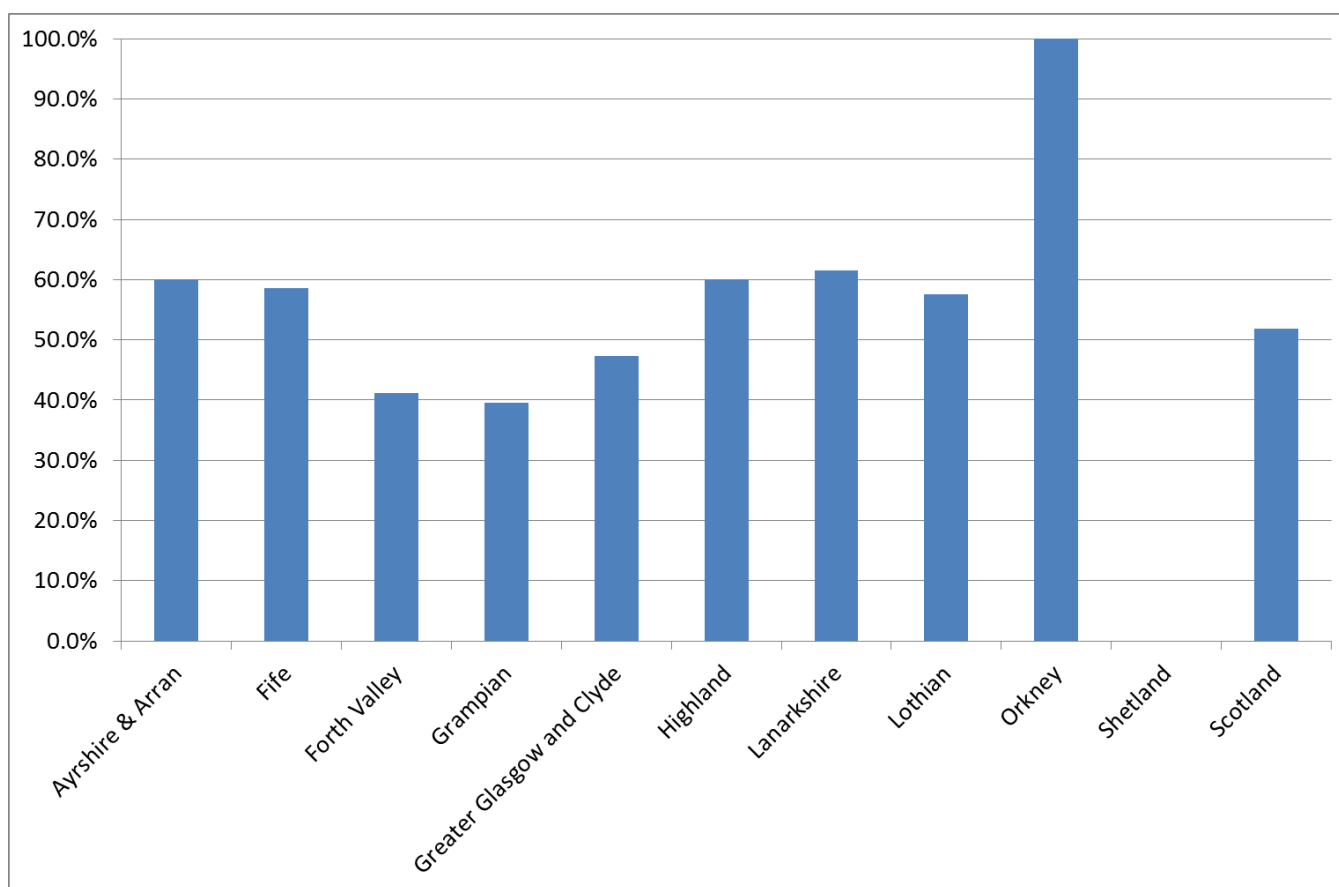
Note: Bars for boards with hidden data aren't shown.

**Table 33 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 1 and other age 12-17 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 12-17 (n)
	n	%	
Ayrshire & Arran	*	*	8
Borders	*	*	*
Dumfries & Galloway	*	*	7
Fife	*	*	5
Forth Valley	5	50.0	10
Grampian	9	56.3	16
Greater Glasgow and Clyde	26	61.9	42
Highland	5	35.7	14
Lanarkshire	17	63.0	27
Lothian	18	47.4	38
Orkney	0	0.0	0
Shetland	*	100.0	*
Tayside	*	*	10
Western Isles	0	0.0	0
<b>Scotland</b>	<b>99</b>	<b>54.4</b>	<b>182</b>

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

**Figure 20 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 1 age 18+ by NHS board, Scotland 2017.**



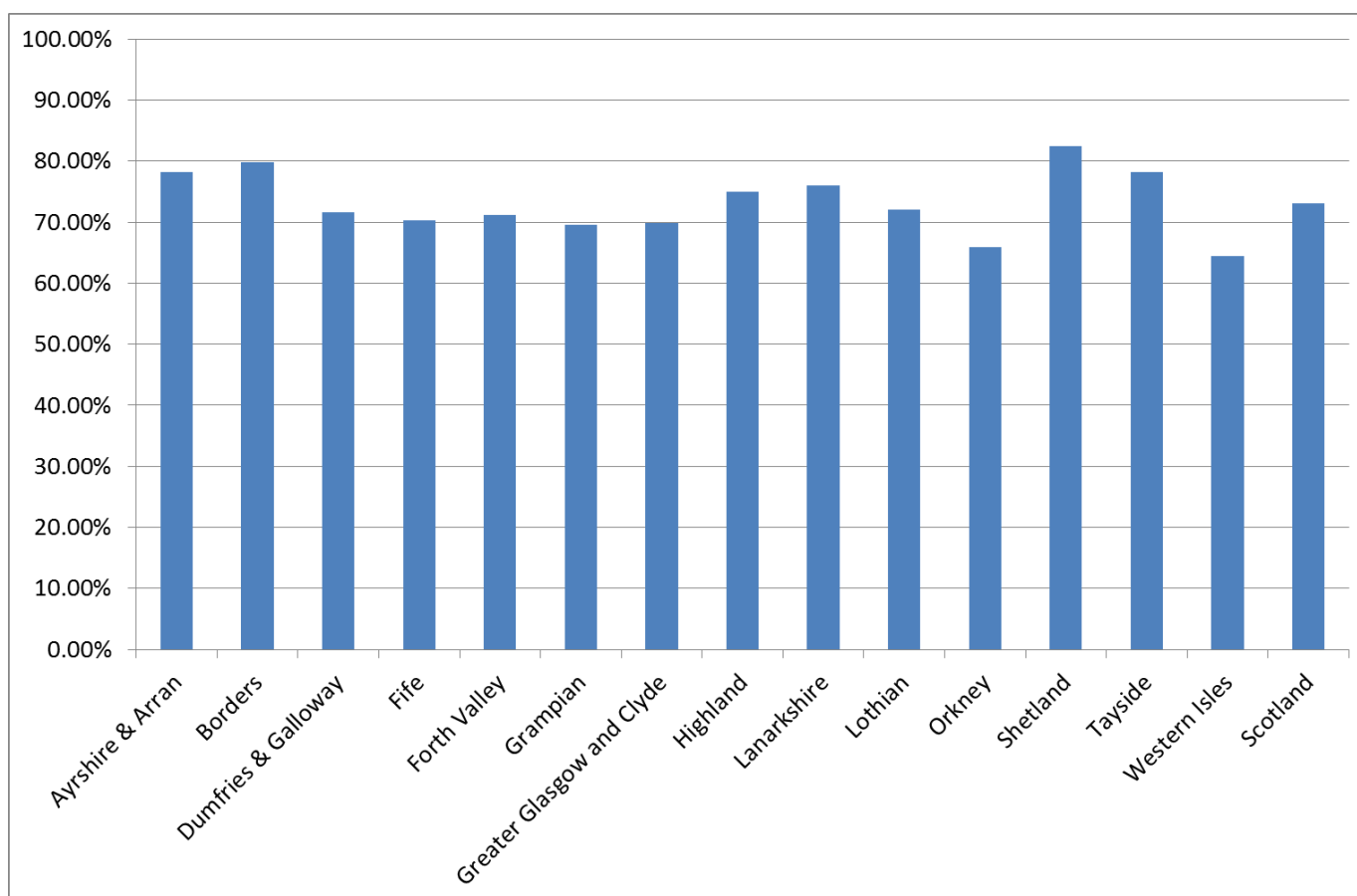
Note: Bars for boards with hidden data aren't shown.

**Table 34 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 1 age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	n	%	
Ayrshire & Arran	9	60.0	15
Borders	*	*	11
Dumfries & Galloway	*	*	10
Fife	17	58.6	29
Forth Valley	7	41.2	17
Grampian	21	39.6	53
Greater Glasgow and Clyde	43	47.3	91
Highland	9	60.0	15
Lanarkshire	24	61.5	39
Lothian	34	57.6	59
Orkney	*	100.0	*
Shetland	0	0.0	0
Tayside	12	38.7	31
Western Isles	*	*	*
<b>Scotland</b>	<b>195</b>	<b>51.9</b>	<b>376</b>

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

**Figure 21 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 2 and other age 18+ by NHS board, Scotland 2017**



**Table 35 Measure 2: HbA<sub>1c</sub> in target range after 1 year - Type 2 and other age 18+ by NHS board, Scotland 2017**

NHS board	Achieving measure		All aged 18+
	n	%	
Ayrshire & Arran	637	78.2	815
Borders	210	79.8	263
Dumfries & Galloway	275	71.6	384
Fife	516	70.3	734
Forth Valley	468	71.2	657
Grampian	788	69.5	1,133
Greater Glasgow and Clyde	1,648	69.9	2,359
Highland	548	75.0	731
Lanarkshire	1,115	76.0	1,468
Lothian	1,167	72.1	1,618
Orkney	29	65.9	44
Shetland	33	82.5	40
Tayside	835	78.2	1,068
Western Isles	47	64.4	73
<b>Scotland</b>	<b>8,316</b>	<b>73.0</b>	<b>11,387</b>

## Measure 3: HbA<sub>1c</sub> Control

Percentage of people with diabetes with good and poor control (HbA<sub>1c</sub> <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<sub>1c</sub> 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<sub>1c</sub> result in the prior 15 months.

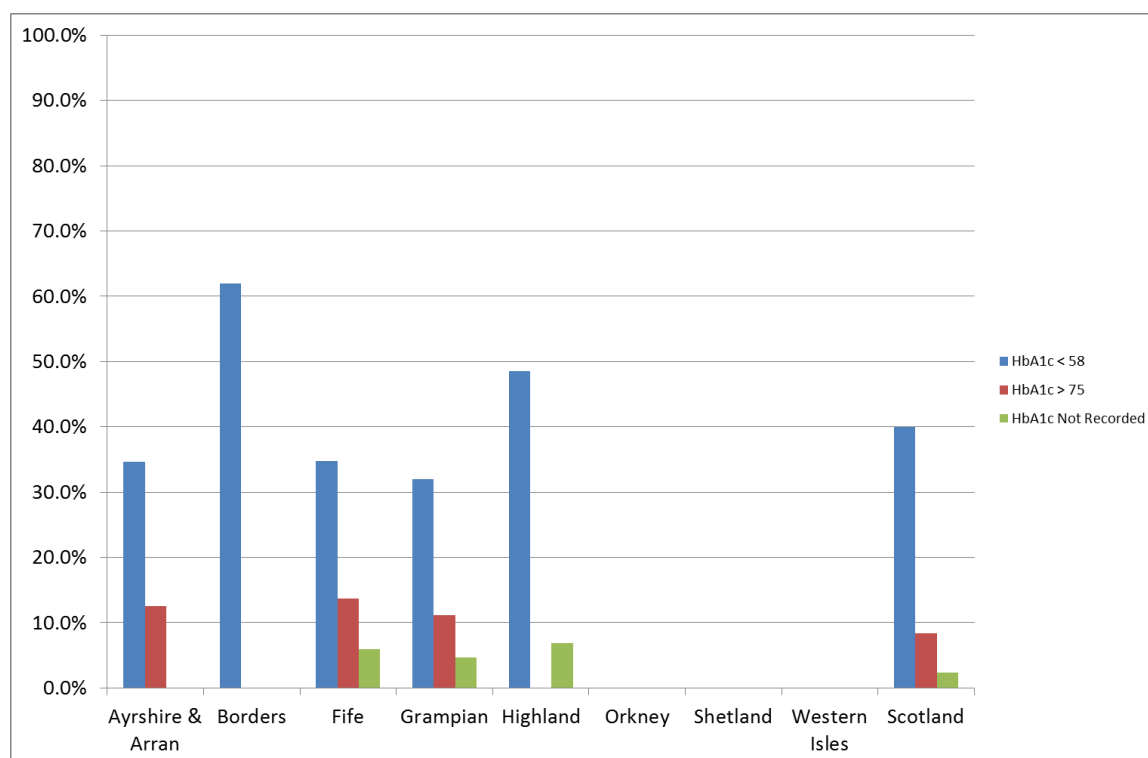
Numerator 2 = “Not Recorded” people – those who have no HbA<sub>1c</sub> recorded in the prior 15 months

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<sub>1c</sub> of those who were found was neither <58 nor >75 (i.e. was in the 58-75 range).

**Figure 22 Measure 3: HbA<sub>1c</sub> control - Type 1 and other age 0-11 by NHS board, Scotland 2017.**



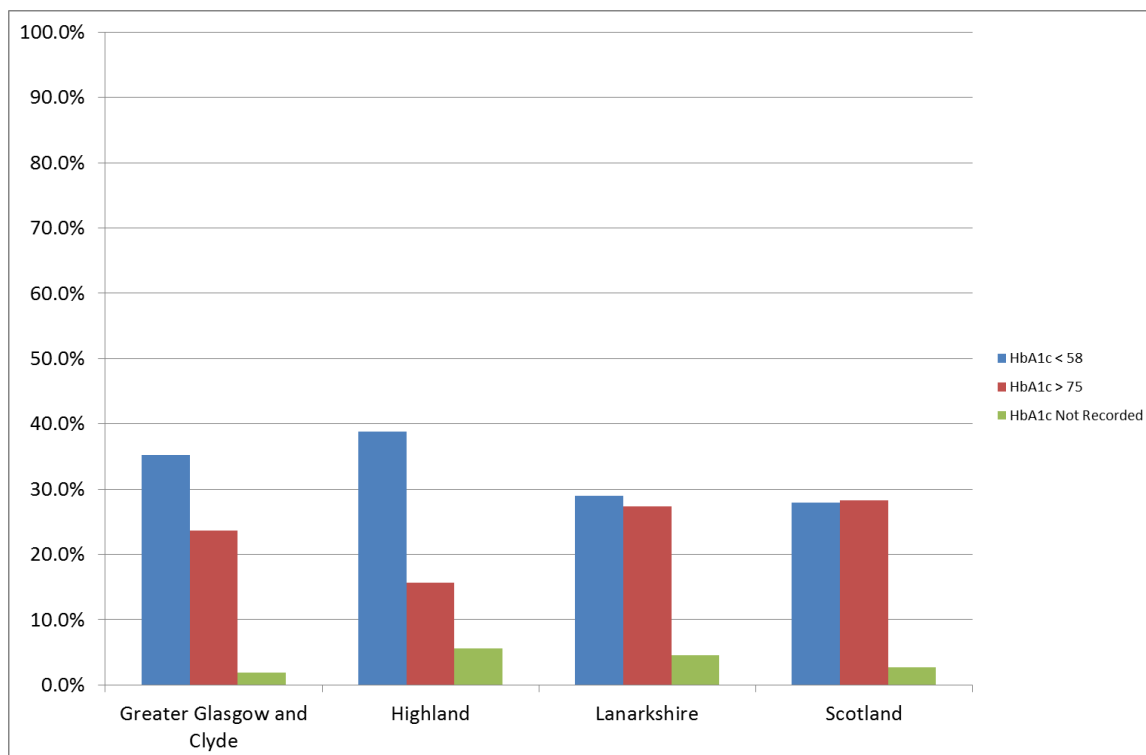
Note: Bars for boards with hidden data aren't shown, additionally, some bars are zero.

**Table 36 Measure 3: HbA<sub>1c</sub> control - Type 1 and other age 0-11 by NHS board, Scotland 2017.**

NHS board	HbA <sub>1c</sub> < 58 mmol/mol		HbA <sub>1c</sub> > 75 mmol/mol		Recorded people (n)	HbA <sub>1c</sub> Not Recorded		All aged 0-11 (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	36	34.6	13	12.5	104	0	0.0	104
Borders	13	61.9	0	0.0	21	0	0.0	21
Dumfries & Galloway	*	*	*	*	*	*	*	35
Fife	33	34.7	13	13.7	95	6	5.9	101
Forth Valley	*	*	*	*	*	*	*	87
Grampian	46	31.9	16	11.1	144	7	4.6	151
Greater Glasgow and Clyde	*	*	*	*	*	*	*	224
Highland	33	48.5	0	0.0	68	5	6.8	73
Lanarkshire	*	*	*	*	*	*	*	165
Lothian	*	*	*	*	*	*	*	161
Orkney	0	0.0	*	*	*	0	0.0	*
Shetland	0	0.0	0	0.0	*	0	0.0	*
Tayside	*	*	*	*	*	*	*	61
Western Isles	*	*	*	*	10	0	0.0	10
<b>Scotland</b>	<b>469</b>	<b>40.0</b>	<b>98</b>	<b>8.4</b>	<b>1,173</b>	<b>28</b>	<b>2.3</b>	<b>1,201</b>

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

**Figure 23 Measure 3: HbA<sub>1c</sub> control - Type 1 and other age 12-17 by NHS board, Scotland 2017.**



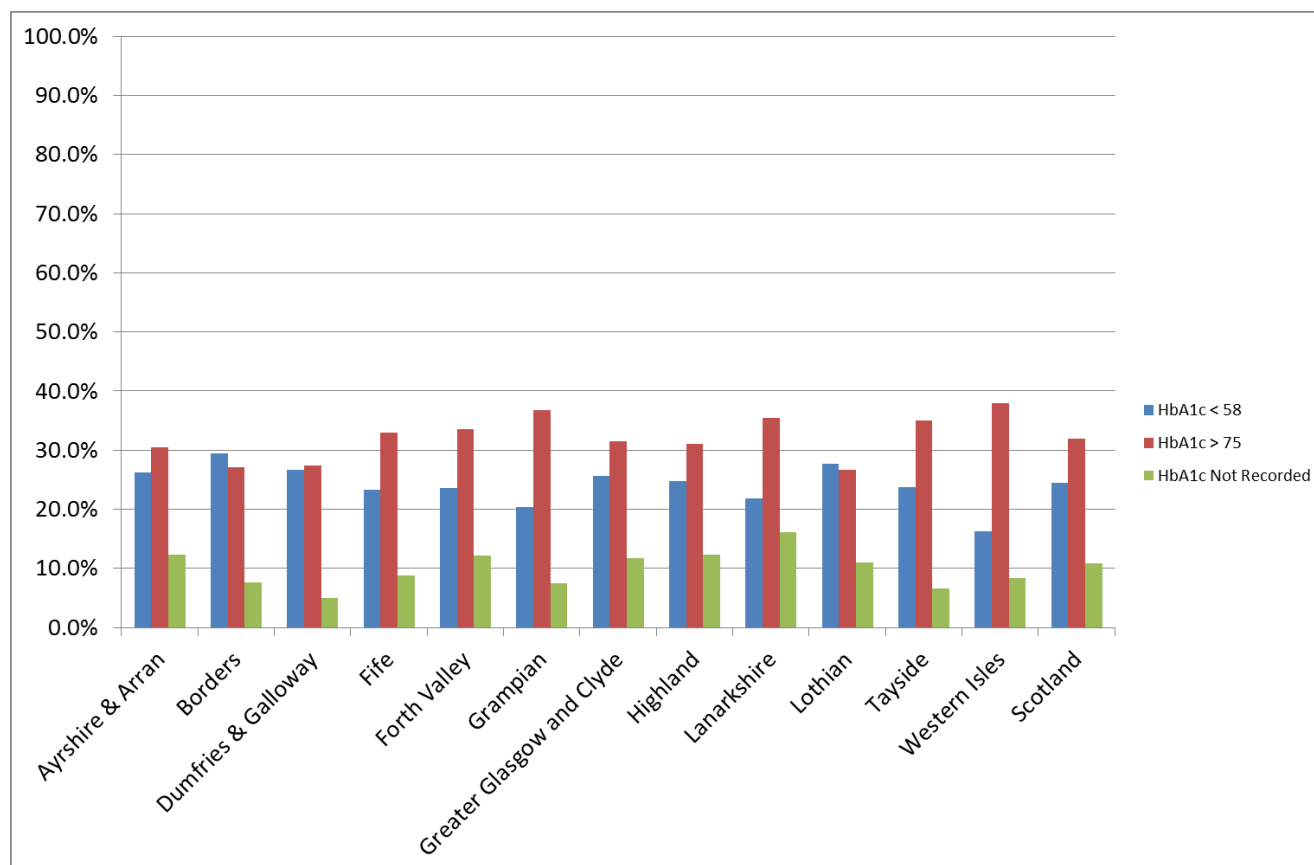
Note: Bars for boards with hidden data aren't shown.

**Table 37 Measure 3: HbA<sub>1c</sub> control - Type 1 and other age 12-17 by NHS board, Scotland 2017.**

NHS board	HbA <sub>1c</sub> < 58 mmol/mol		HbA <sub>1c</sub> > 75 mmol/mol		Recorded people (n)	HbA <sub>1c</sub> Not Recorded		All aged 12-17 (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	*	*	*	*	*	*	*	147
Borders	*	*	*	*	*	*	*	42
Dumfries & Galloway	*	*	*	*	*	*	*	57
Fife	*	*	*	*	*	*	*	113
Forth Valley	*	*	*	*	*	*	*	106
Grampian	*	*	*	*	*	*	*	205
Greater Glasgow and Clyde	125	35.2	84	23.7	355	7	1.9	362
Highland	52	38.8	21	15.7	134	8	5.6	142
Lanarkshire	85	29.0	80	27.3	293	14	4.6	307
Lothian	*	*	*	*	*	*	*	246
Orkney	*	*	*	*	7	0	0	7
Shetland	*	*	*	*	9	0	0	9
Tayside	*	*	*	*	*	*	*	134
Western Isles	*	*	*	*	9	0	0	9
<b>Scotland</b>	<b>512</b>	<b>27.9</b>	<b>518</b>	<b>28.2</b>	<b>1,834</b>	<b>52</b>	<b>2.8</b>	<b>1,886</b>

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

Figure 24 Measure 3: HbA<sub>1c</sub> control - Type 1 age 18+ by NHS board, Scotland 2017.



Note: Bars for boards with hidden data aren't shown.

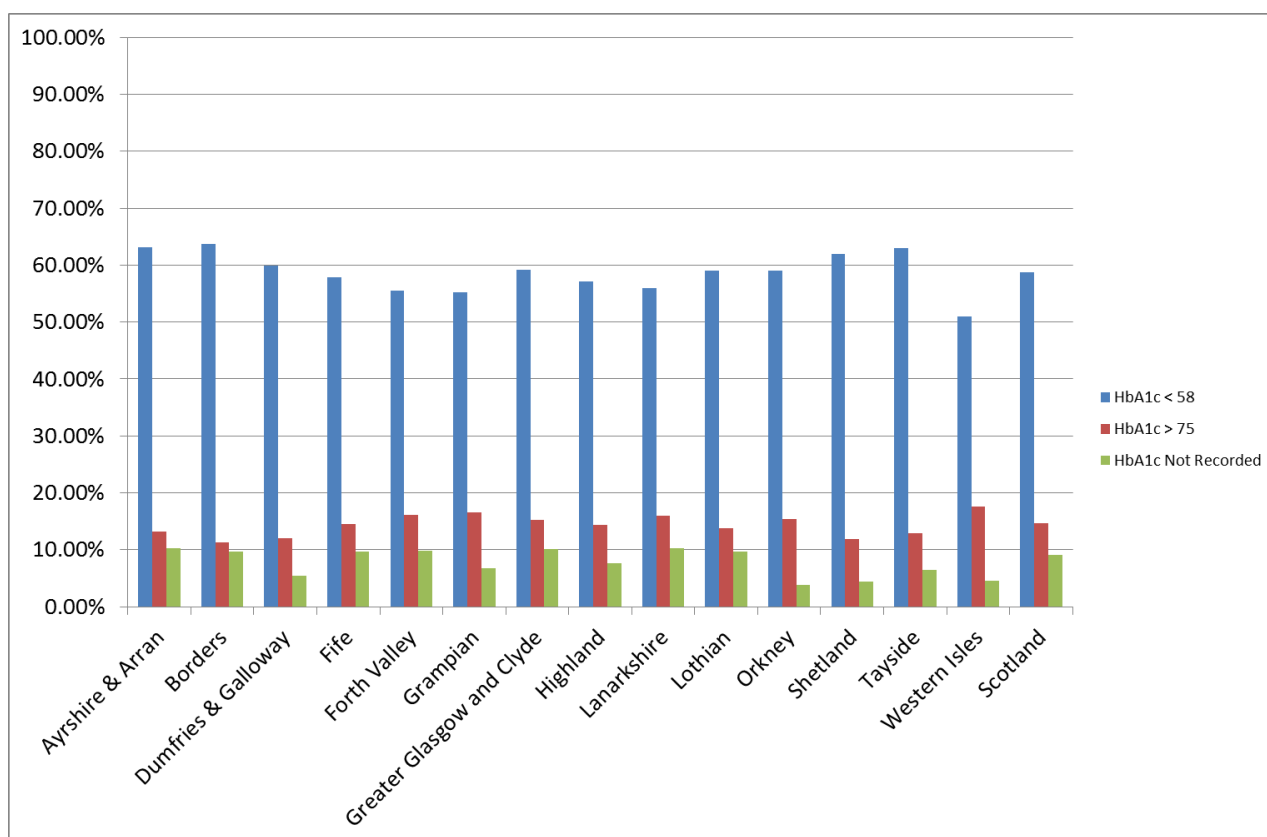
Table 38 Measure 3: HbA<sub>1c</sub> control - Type 1 age 18+ by NHS board, Scotland 2017.

NHS board	HbA <sub>1c</sub> < 58 mmol/mol		HbA <sub>1c</sub> > 75 mmol/mol		Recorded people (n)	HbA <sub>1c</sub> Not Recorded		All aged 18+ (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	481	26.2	560	30.5	1,835	257	12.3	2,092
Borders	170	29.5	156	27.0	577	48	7.7	625
Dumfries & Galloway	218	26.7	224	27.4	817	43	5.0	860
Fife	416	23.3	589	33.0	1,785	173	8.8	1,958
Forth Valley	342	23.6	486	33.5	1,449	201	12.2	1,650
Grampian	582	20.3	1,056	36.8	2,868	234	7.5	3,102
Greater Glasgow and Clyde	1,319	25.7	1,618	31.5	5,142	681	11.7	5,823
Highland	396	24.8	498	31.1	1,600	226	12.4	1,826
Lanarkshire	687	21.9	1,114	35.5	3,140	606	16.2	3,746
Lothian	1,078	27.7	1,042	26.7	3,897	480	11.0	4,377
Orkney	*	*	*	*	*	*	*	*
Shetland	*	*	*	*	*	*	*	*
Tayside	433	23.7	640	35.0	1,827	130	6.6	1,957
Western Isles	27	16.3	63	38.0	166	15	8.3	181
<b>Scotland</b>	<b>6,203</b>	<b>24.5</b>	<b>8,095</b>	<b>32.0</b>	<b>25,317</b>	<b>3103</b>	<b>10.9</b>	<b>28,420</b>

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



**Figure 25 Measure 3: HbA<sub>1c</sub> control - Type 2 and other age 18+ by NHS board, Scotland 2017.**



**Table 39 Measure 3: HbA<sub>1c</sub> control - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	HbA <sub>1c</sub> < 58 mmol/mol		HbA <sub>1c</sub> > 75 mmol/mol		Recorded people (n)	HbA <sub>1c</sub> Not Recorded		All aged 18+ (n)
	People (n)	%	People (n)	%		People (n)	%	
Ayrshire & Arran	12,422	63.2	2,593	13.2	19,661	2017	9.3	21,678
Borders	3,558	63.7	634	11.3	5,588	542	8.8	6,130
Dumfries & Galloway	4,891	59.9	987	12.1	8,167	438	5.1	8,605
Fife	10,317	57.8	2,594	14.5	17,844	1,723	8.8	19,567
Forth Valley	7,785	55.5	2,257	16.1	14,024	1,375	8.9	15,399
Grampian	13,198	55.2	3,967	16.6	23,905	1,629	6.4	25,534
Greater Glasgow and Clyde	31,008	59.2	7,966	15.2	52,345	5,315	9.2	57,660
Highland	8,230	57.1	2,062	14.3	14,409	1,108	7.1	15,517
Lanarkshire	17,757	55.9	5,095	16.0	31,767	3,269	9.3	35,036
Lothian	19,785	59.0	4,602	13.7	33,514	3,243	8.8	36,757
Orkney	619	59.0	161	15.3	1,049	40	3.7	1,089
Shetland	593	62.0	114	11.9	957	42	4.2	999
Tayside	12,779	63.0	2,616	12.9	20,275	1,297	6.0	21,572
Western Isles	625	50.9	215	17.5	1,227	56	4.4	1,283
<b>Scotland</b>	<b>143,567</b>	<b>58.7</b>	<b>35,863</b>	<b>14.7</b>	<b>244,732</b>	<b>22,094</b>	<b>8.3</b>	<b>266,826</b>

## 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.

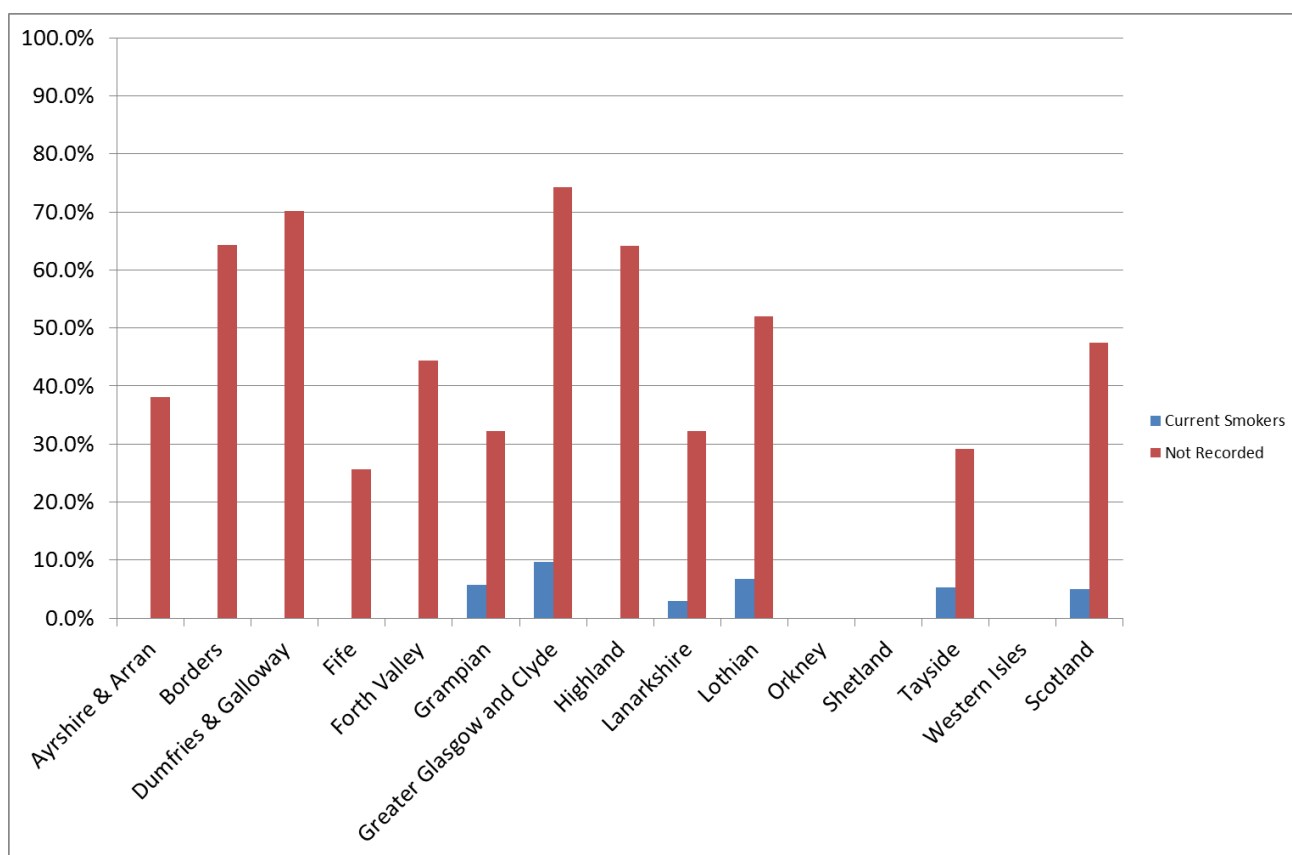
Numerator = people in each age/type cohort whose latest smoking status in the prior 15 months was “Current Smoker”

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 2017.**



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

**Table 40 Measure 4: Current smokers - Type 1 and other age 12-17 by NHS board, Scotland 2017.**

NHS board	Current Smoker		Recorded people (n)	Not Recorded		All aged 12-17 (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	*	*	91	56	38.1	147
Borders	0	0.0	15	27	64.3	42
Dumfries & Galloway	*	*	17	40	70.2	57
Fife	*	*	84	29	25.7	113
Forth Valley	*	*	59	47	44.3	106
Grampian	8	5.8	139	66	32.2	205
Greater Glasgow and Clyde	9	9.7	93	269	74.3	362
Highland	*	*	51	91	64.1	142
Lanarkshire	6	2.9	208	99	32.2	307
Lothian	8	6.8	118	128	52.0	246
Orkney	0	0.0	*	*	*	7
Shetland	0	0.0	9	0	0.0	9
Tayside	5	5.3	95	39	29.1	134
Western Isles	0	0.0	*	*	*	9
<b>Scotland</b>	<b>50</b>	<b>5.1</b>	<b>990</b>	<b>896</b>	<b>47.5</b>	<b>1,886</b>

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 2017.

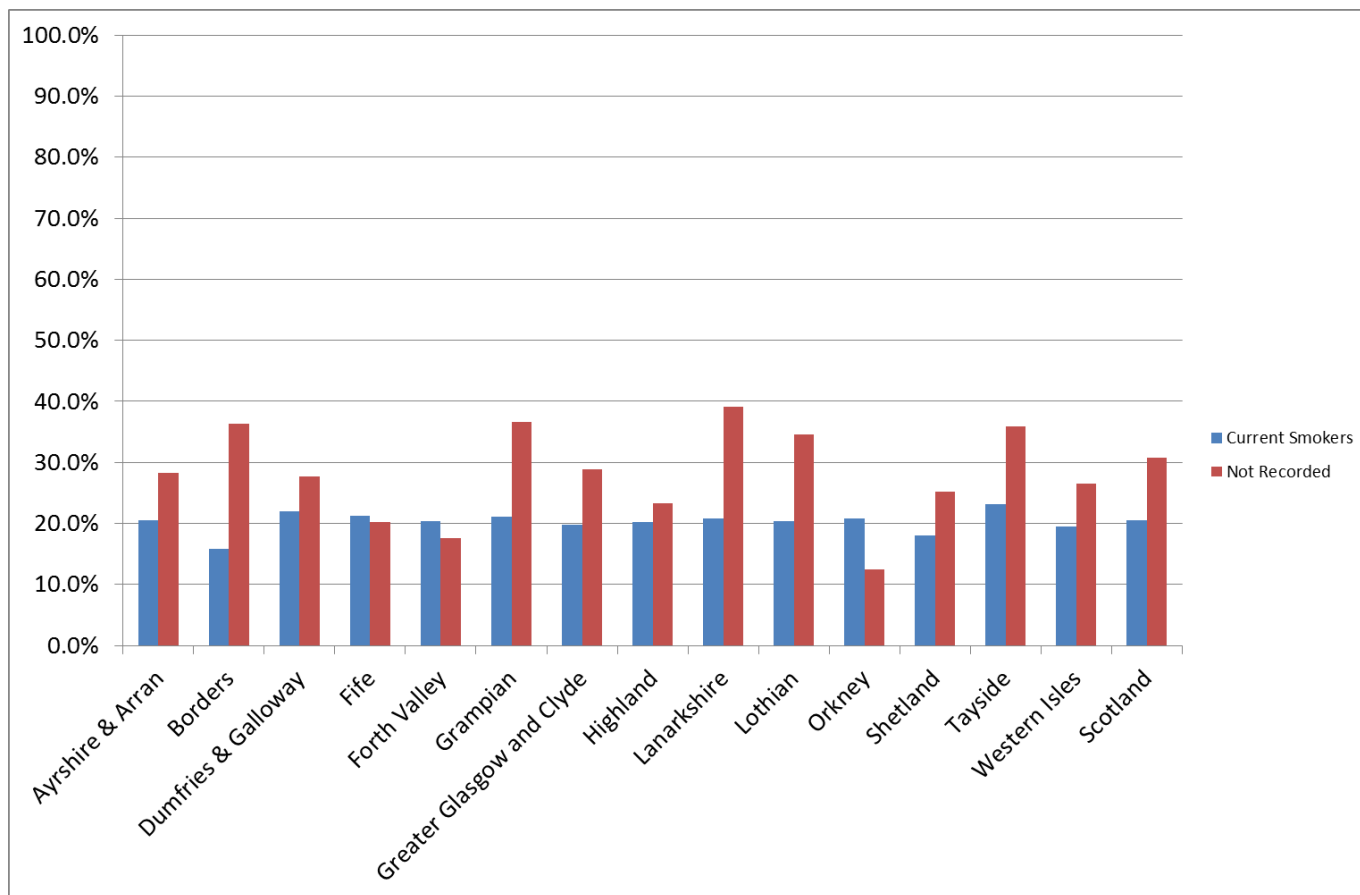
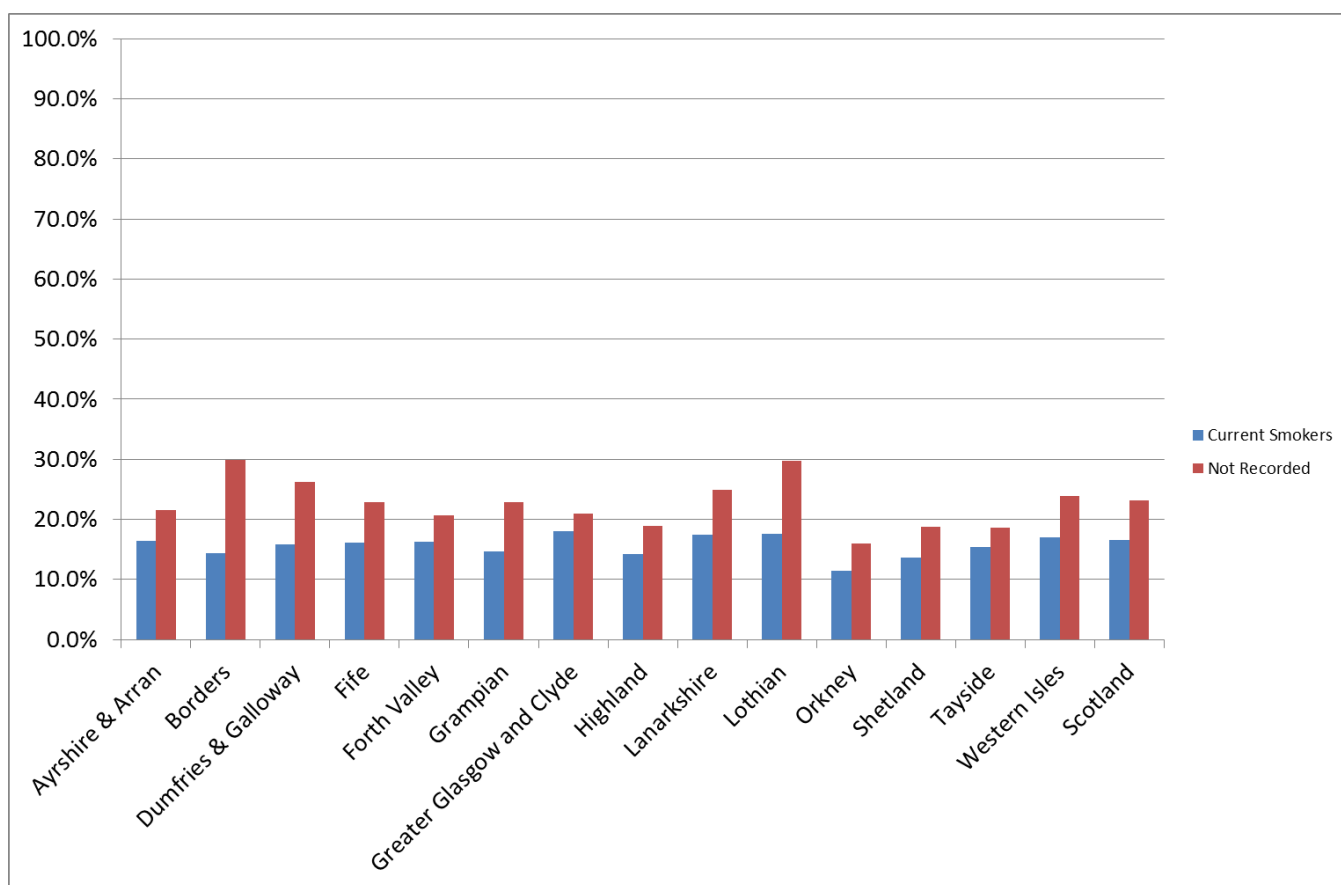


Table 41 Measure 4: Current smokers - Type 1 age 18+ by NHS board, Scotland 2017.

NHS board	Current Smoker		Recorded people (n)	Not Recorded		All aged 18+ (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	308	20.5	1,501	591	28.3	2,092
Borders	63	15.8	398	227	36.3	625
Dumfries & Galloway	137	22.0	622	238	27.7	860
Fife	332	21.2	1,563	395	20.2	1,958
Forth Valley	277	20.4	1,360	290	17.6	1,650
Grampian	416	21.1	1,967	1,135	36.6	3,102
Greater Glasgow and Clyde	819	19.8	4,142	1,681	28.9	5,823
Highland	283	20.2	1,401	425	23.3	1,826
Lanarkshire	473	20.8	2,278	1,468	39.2	3,746
Lothian	583	20.4	2,864	1,513	34.6	4,377
Orkney	19	20.9	91	13	12.5	104
Shetland	16	18.0	89	30	25.2	119
Tayside	291	23.2	1,256	701	35.8	1,957
Western Isles	26	19.5	133	48	26.5	181
<b>Scotland</b>	<b>4,043</b>	<b>20.6</b>	<b>19,665</b>	<b>8,755</b>	<b>30.8</b>	<b>28,420</b>

**Figure 28 Measure 4: Current smokers - Type 2 and other age 18+ by NHS board, Scotland 2017.**



**Table 42 Measure 4: Current smokers - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Current Smoker		Recorded people (n)	Not Recorded		All aged 18+ (n)
	People (n)	%		People (n)	%	
Ayrshire & Arran	2,805	16.5	17,021	4,657	21.5	21,678
Borders	619	14.4	4,294	1,836	30.0	6,130
Dumfries & Galloway	1,008	15.9	6,352	2,253	26.2	8,605
Fife	2,445	16.2	15,107	4,460	22.8	19,567
Forth Valley	1,986	16.3	12,209	3,190	20.7	15,399
Grampian	2,888	14.7	19,708	5,826	22.8	25,534
Greater Glasgow and Clyde	8,222	18.1	45,547	12,113	21.0	57,660
Highland	1,781	14.2	12,579	2,938	18.9	15,517
Lanarkshire	4,580	17.4	26,318	8,718	24.9	35,036
Lothian	4,555	17.6	25,835	10,922	29.7	36,757
Orkney	105	11.5	915	174	16.0	1,089
Shetland	110	13.6	811	188	18.8	999
Tayside	2,707	15.4	17,560	4,012	18.6	21,572
Western Isles	166	17.0	976	307	23.9	1,283
<b>Scotland</b>	<b>33,977</b>	<b>16.6</b>	<b>205,232</b>	<b>61,594</b>	<b>23.1</b>	<b>266,826</b>

## Measure 5: Cholesterol and Blood Pressure

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

### Methodology

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

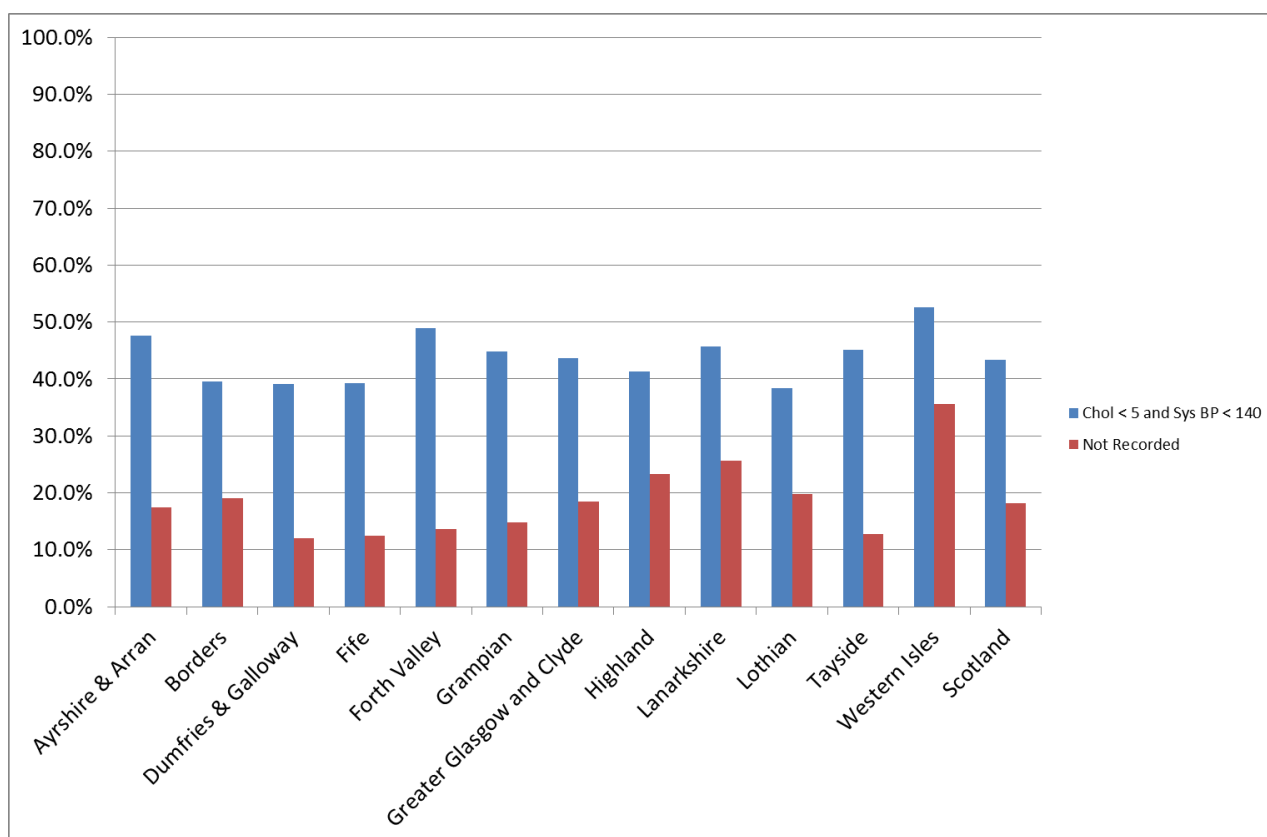
Numerator 1 = the number of people with diabetes aged 50-69 years whose latest cholesterol was <5mmol/L AND whose latest SBP was <140 mmHg.

Denominator 1 = the total number of people with diabetes aged 50-69 years who had both a cholesterol value and a 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 a 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 2017.**



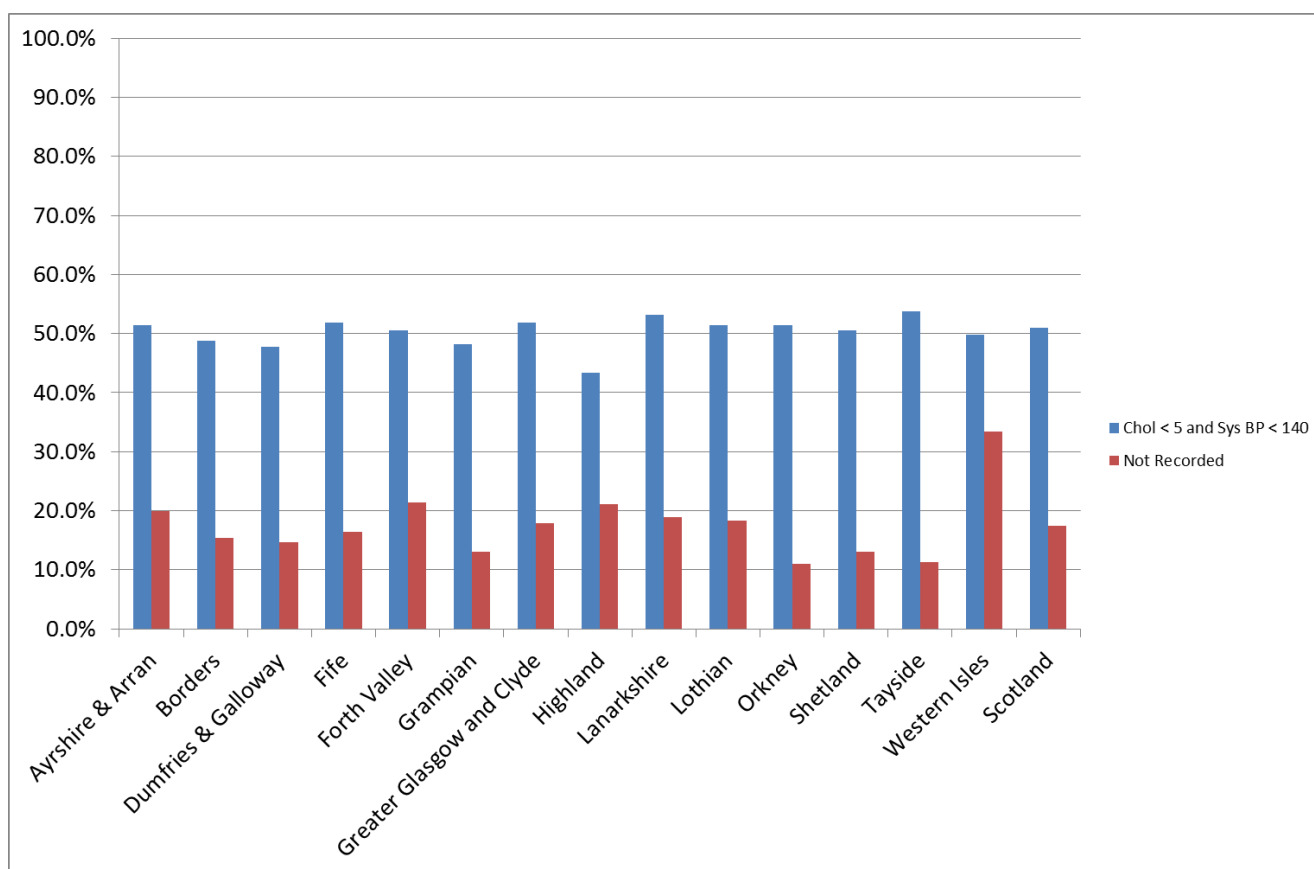
Note: Bars for boards with hidden data aren't shown.

**Table 43 Measure 5: Cholesterol and blood pressure - Type 1 age 50-69 by NHS board, Scotland 2017.**

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	294	47.6	618	131	17.5	749
Borders	79	39.5	200	47	19.0	247
Dumfries & Galloway	120	39.1	307	42	12.0	349
Fife	234	39.2	597	85	12.5	682
Forth Valley	216	49.0	441	70	13.7	511
Grampian	399	44.9	889	154	14.8	1,043
Greater Glasgow and Clyde	631	43.6	1,447	328	18.5	1,775
Highland	212	41.3	513	156	23.3	669
Lanarkshire	433	45.7	947	327	25.7	1,274
Lothian	447	38.4	1,165	286	19.7	1,451
Orkney	*	*	*	*	*	39
Shetland	*	*	*	*	*	45
Tayside	277	45.1	614	90	12.8	704
Western Isles	20	52.6	38	21	35.6	59
<b>Scotland</b>	<b>3,404</b>	<b>43.4</b>	<b>7,851</b>	<b>1,746</b>	<b>18.2</b>	<b>9,597</b>

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

**Figure 30 Measure 5: Cholesterol and blood pressure - Type 2 and other age 50-69 by NHS board, Scotland 2017.**



**Table 44 Measure 5: Cholesterol and blood pressure - Type 2 and other age 50-69 by NHS board, Scotland 2017.**

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	4,226	51.4	8,228	2,046	19.9	10,274
Borders	1,102	48.8	2,258	409	15.3	2,667
Dumfries & Galloway	1,563	47.8	3,271	562	14.7	3,833
Fife	3,926	51.8	7,578	1,484	16.4	9,062
Forth Valley	2,892	50.5	5,725	1,564	21.5	7,289
Grampian	4,920	48.2	10,209	1,524	13.0	11,733
Greater Glasgow and Clyde	12,100	51.9	23,327	5,070	17.9	28,397
Highland	2,406	43.3	5,552	1,482	21.1	7,034
Lanarkshire	7,338	53.1	13,816	3,234	19.0	17,050
Lothian	7,230	51.4	14,077	3,163	18.3	17,240
Orkney	217	51.4	422	52	11.0	474
Shetland	214	50.5	424	64	13.1	488
Tayside	4,555	53.7	8,476	1,086	11.4	9,562
Western Isles	189	49.7	380	190	33.3	570
<b>Scotland</b>	<b>52,878</b>	<b>51.0</b>	<b>103,743</b>	<b>21,930</b>	<b>17.5</b>	<b>125,673</b>



## 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 associated table and figure for those with type 1 diabetes have been omitted.

### Methodology

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

Numerator 1 (Prevalent ulcers) = number of patients in each age/type cohort whose latest foot status records one or more active foot ulcer/s.

Numerator 2 (Incident ulcers) = number of patients in each age/type cohort who have had a new ulcer recorded in the last 12 months via any source

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

### Notes:

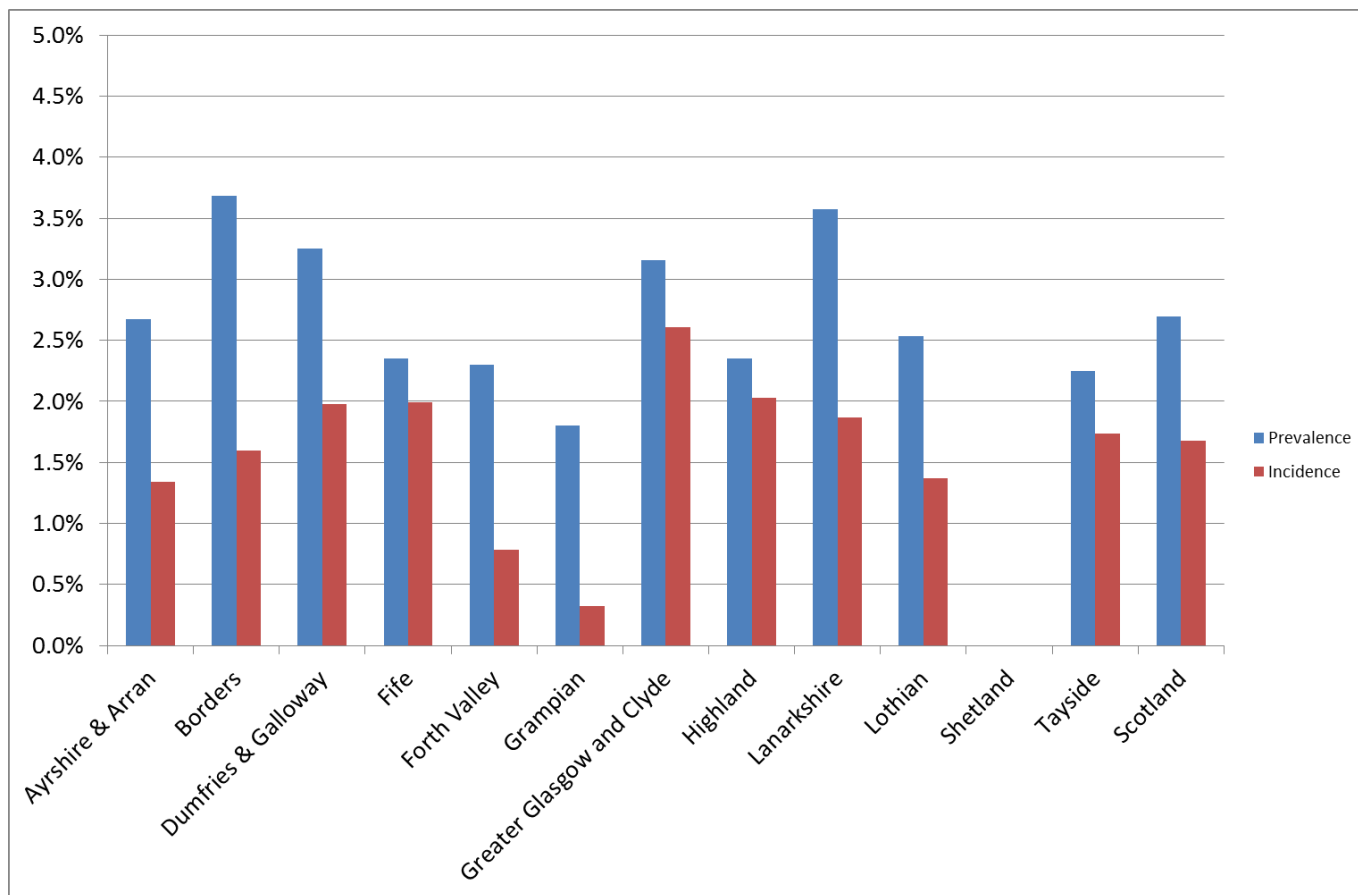
Incident ulcers in this report are all new ulcers that occurred in the prior 12 months even in patients with a previous history of foot ulceration. It is not where a person with totally "clean" feet develops a first ever foot ulcer.

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 2017.



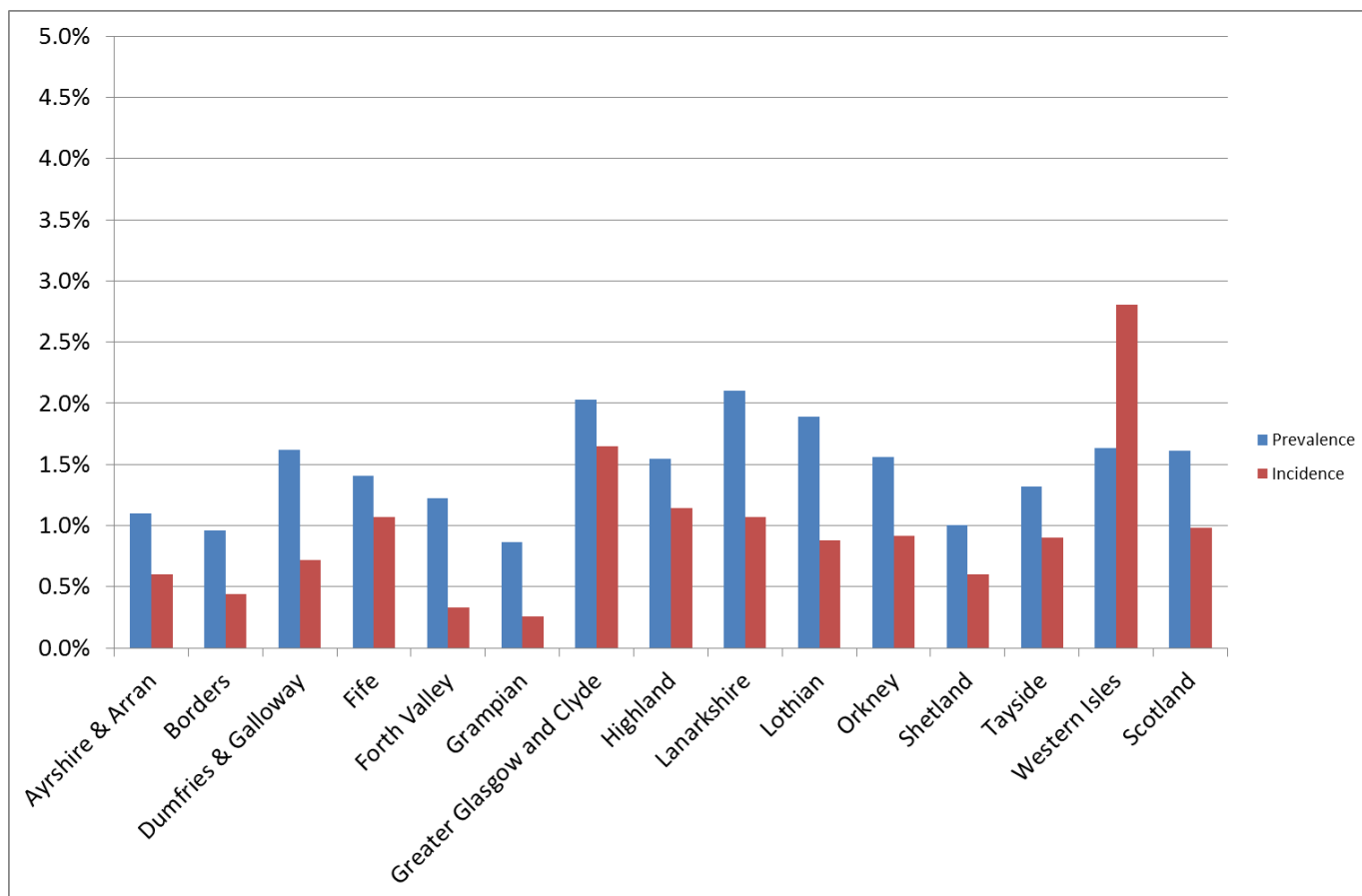
Note: Bars for boards with hidden data aren't shown.

Table 45 Measure 6: Foot ulcers - Type 1 age 18+ by NHS board, Scotland 2017.

NHS board	Prevalence		Incidence		All aged 18+ (n)
	People (n)	%	People (n)	%	
Ayrshire & Arran	56	2.7	28	1.3	2,092
Borders	23	3.7	10	1.6	625
Dumfries & Galloway	28	3.3	17	2.0	860
Fife	46	2.3	39	2.0	1,958
Forth Valley	38	2.3	13	0.8	1,650
Grampian	56	1.8	10	0.3	3,102
Greater Glasgow and Clyde	184	3.2	152	2.6	5,823
Highland	43	2.4	37	2.0	1,826
Lanarkshire	134	3.6	70	1.9	3,746
Lothian	111	2.5	60	1.4	4,377
Orkney	*	*	*	*	104
Shetland	0	0.0	0	0.0	119
Tayside	44	2.2	34	1.7	1,957
Western Isles	*	*	*	*	181
<b>Scotland</b>	<b>767</b>	<b>2.7</b>	<b>476</b>	<b>1.7</b>	<b>28,420</b>

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 2017.**



**Table 46 Measure 6: Foot ulcers - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Prevalence		Incidence		All aged 18+ (n)
	People (n)	%	People (n)	%	
Ayrshire & Arran	239	1.1	131	0.6	21,678
Borders	59	1.0	27	0.4	6,130
Dumfries & Galloway	139	1.6	62	0.7	8,605
Fife	275	1.4	210	1.1	19,567
Forth Valley	188	1.2	51	0.3	15,399
Grampian	221	0.9	66	0.3	25,534
Greater Glasgow and Clyde	1,170	2.0	951	1.6	57,660
Highland	240	1.5	177	1.1	15,517
Lanarkshire	737	2.1	374	1.1	35,036
Lothian	696	1.9	323	0.9	36,757
Orkney	17	1.6	10	0.9	1,089
Shetland	10	1.0	6	0.6	999
Tayside	284	1.3	194	0.9	21,572
Western Isles	21	1.6	36	2.8	1,283
<b>Scotland</b>	<b>4,296</b>	<b>1.6</b>	<b>2,618</b>	<b>1.0</b>	<b>266,826</b>

## 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.

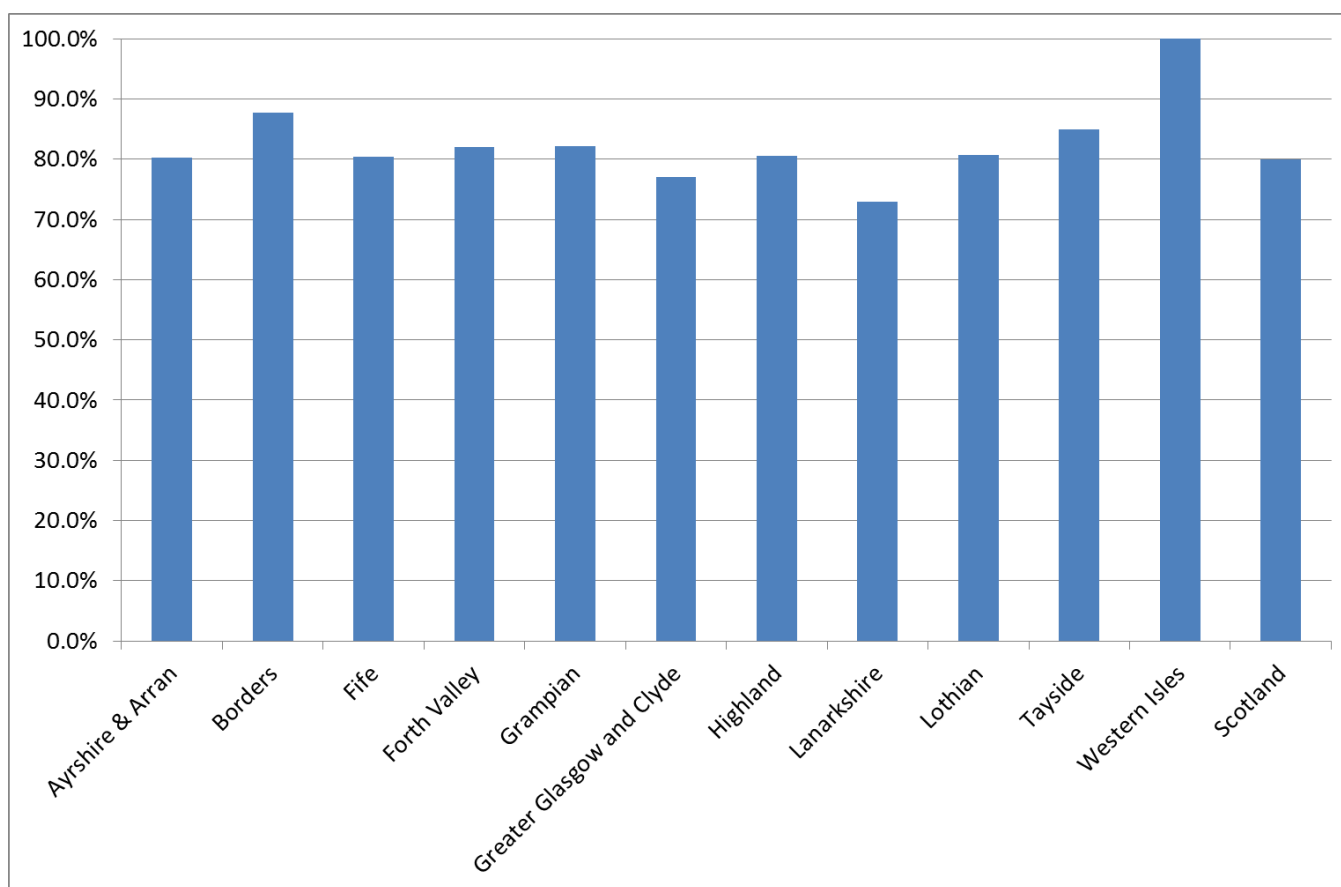
Numerator = number of eligible people with diabetes in each age/type cohort who had a DRS screening attendance recorded in the prior 15 months

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 2017.**



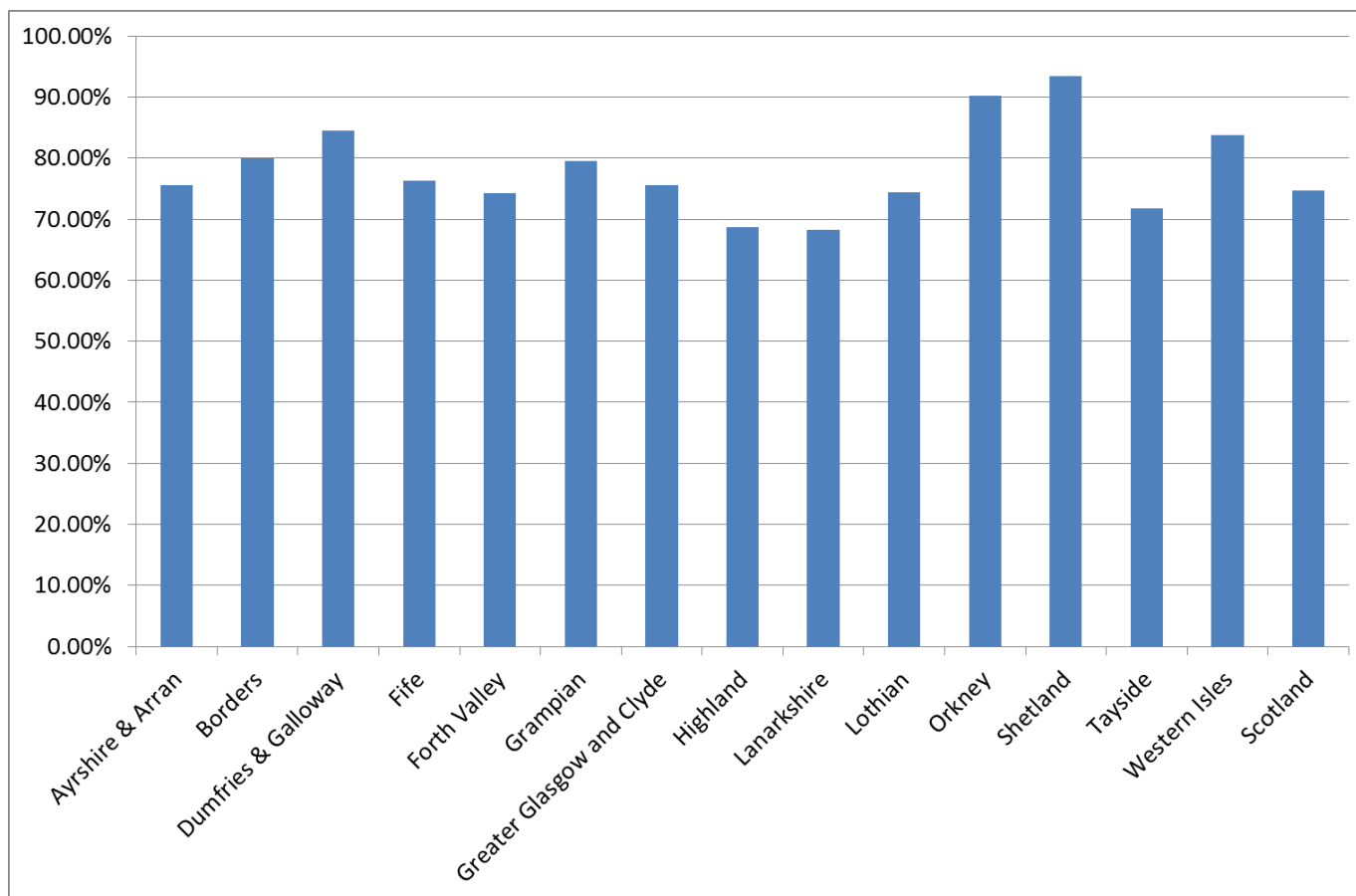
Note: Bars for boards with hidden data aren't shown.

**Table 47 Measure 7: Retinopathy screening – Type 1 and other age 12-17 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 12-17 (n)
	People (n)	%	
Ayrshire & Arran	118	80.3	147
Borders	36	87.8	41
Dumfries & Galloway	*	*	56
Fife	90	80.4	112
Forth Valley	87	82.1	106
Grampian	162	82.2	197
Greater Glasgow and Clyde	276	77.1	358
Highland	112	80.6	139
Lanarkshire	216	73.0	296
Lothian	196	80.7	243
Orkney	*	*	7
Shetland	*	*	9
Tayside	113	85.0	133
Western Isles	9	100.0	9
<b>Scotland</b>	<b>1,481</b>	<b>79.9</b>	<b>1,853</b>

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

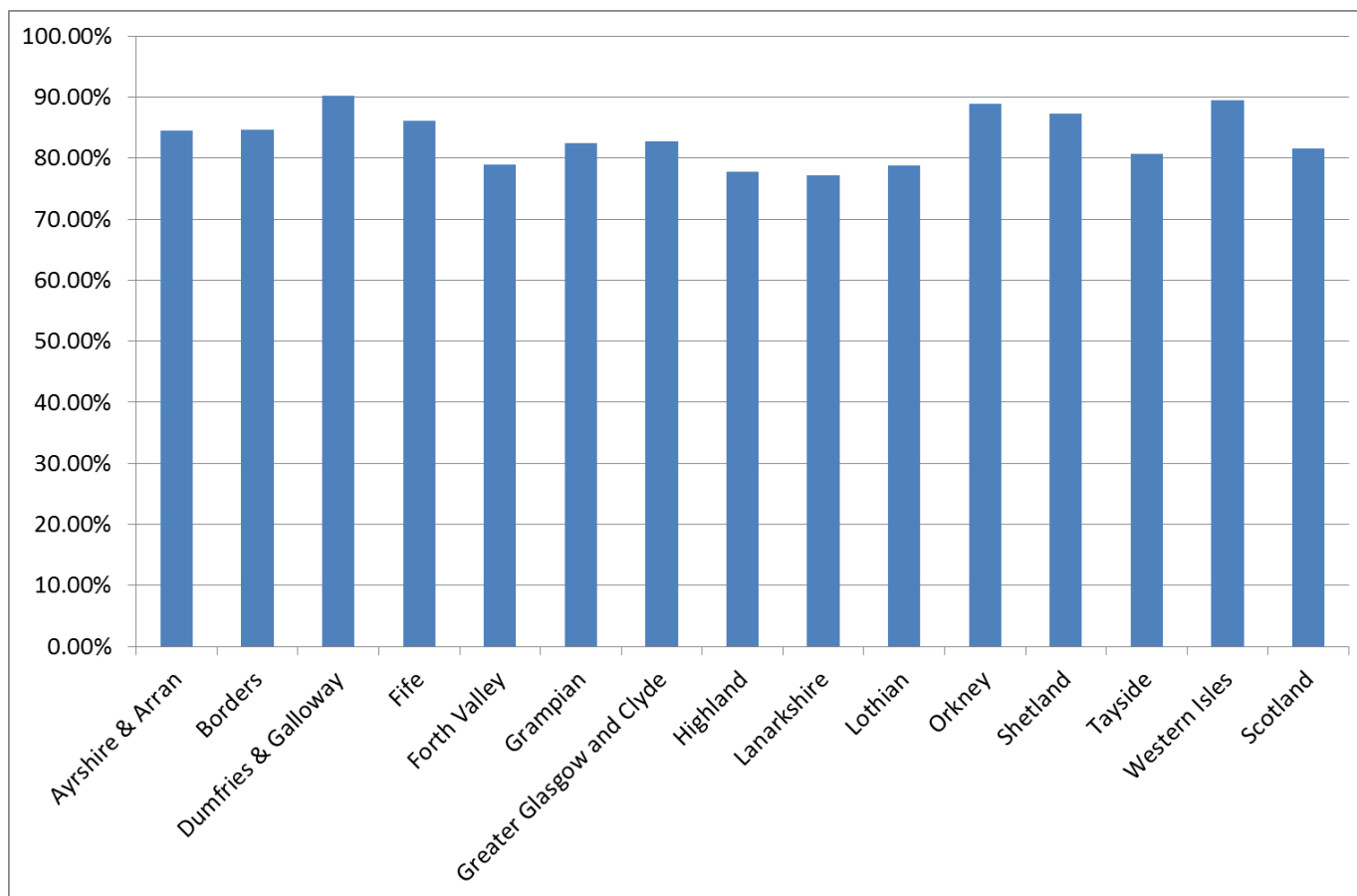
**Figure 34 Measure 7: Retinopathy screening - Type 1 age 18+ by NHS board, Scotland 2017.**



**Table 48 Measure 7: Retinopathy screening - Type 1 age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	1,330	75.5	1,761
Borders	377	80.0	471
Dumfries & Galloway	563	84.5	666
Fife	1,185	76.3	1,553
Forth Valley	1,112	74.2	1,498
Grampian	2,217	79.5	2,789
Greater Glasgow and Clyde	3,797	75.6	5,025
Highland	1,120	68.6	1,632
Lanarkshire	2,097	68.3	3,069
Lothian	2,728	74.5	3,664
Orkney	83	90.2	92
Shetland	100	93.5	107
Tayside	1,080	71.8	1,505
Western Isles	129	83.8	154
<b>Scotland</b>	<b>17,918</b>	<b>74.7</b>	<b>23,986</b>

**Figure 35 Measure 7: Retinopathy screening - Type 2 and other age 18+ by NHS board, Scotland 2017.**



**Table 49 Measure 7: Retinopathy screening - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	17,144	84.4	20,302
Borders	4,728	84.7	5,581
Dumfries & Galloway	7,100	90.2	7,870
Fife	15,725	86.1	18,256
Forth Valley	11,816	79.0	14,954
Grampian	20,170	82.4	24,478
Greater Glasgow and Clyde	45,335	82.8	54,753
Highland	11,394	77.8	14,654
Lanarkshire	24,881	77.2	32,240
Lothian	27,163	78.8	34,455
Orkney	907	88.8	1,021
Shetland	821	87.3	940
Tayside	16,147	80.7	20,016
Western Isles	1,064	89.5	1,189
<b>Scotland</b>	<b>204,395</b>	<b>81.5</b>	<b>250,709</b>

## Measure 8: 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 the associated table and figure for those with type 1 diabetes have been omitted.

### Methodology

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

Numerator = number of people with diabetes in each age/type cohort identified as having ESRD or requiring RRT

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

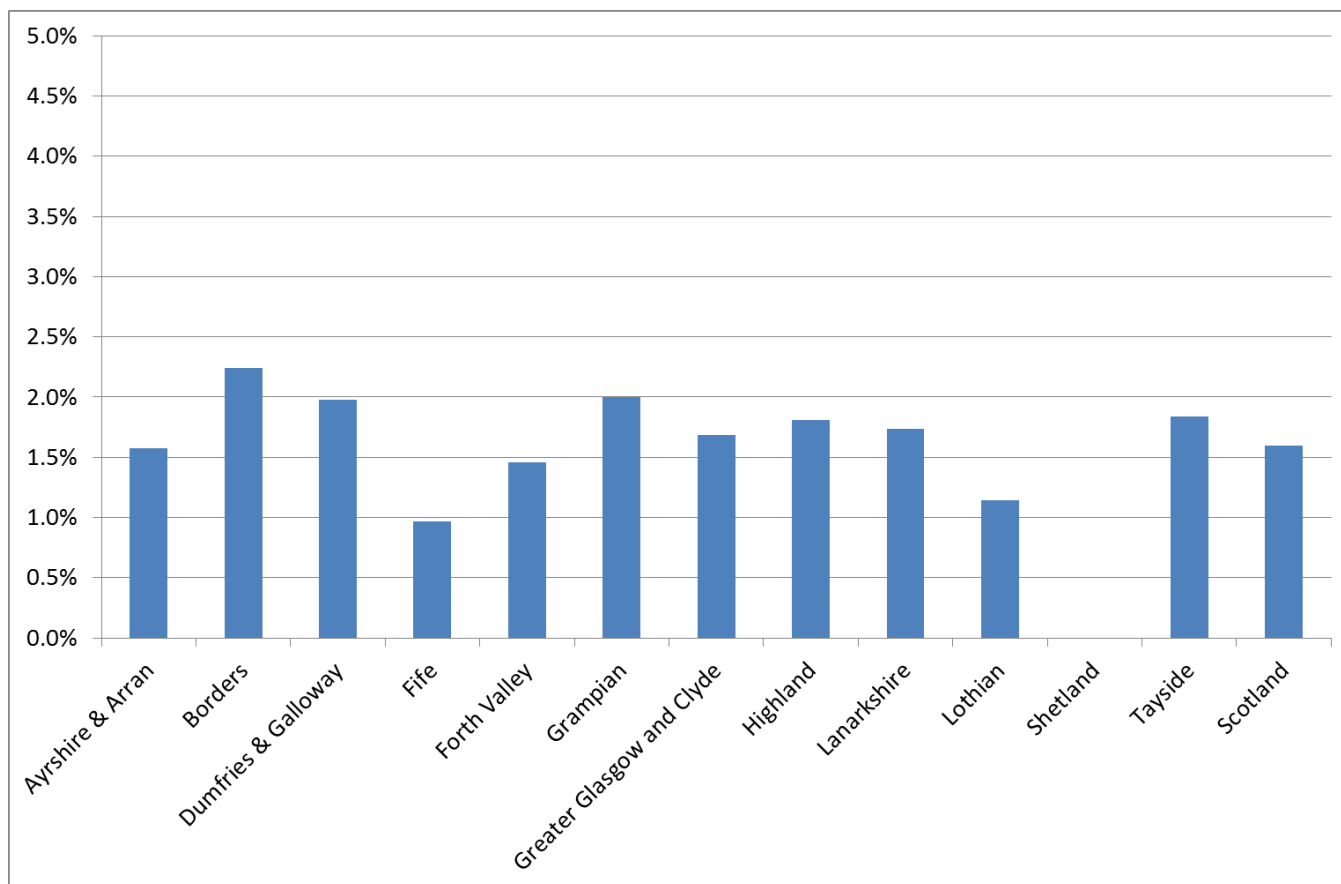
### Notes

ESRD/RRT is 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 chronically greater than 500  $\mu\text{mol/l}$  or eGFR was less than 15 (stage 5 chronic kidney disease) on two occasions at least three months (93 days) apart within the previous 15 months (method from Scottish Diabetes Survey).



**Figure 36 Measure 8: End Stage Renal Disease - Type 1 age 18+ by NHS board, Scotland 2017.**



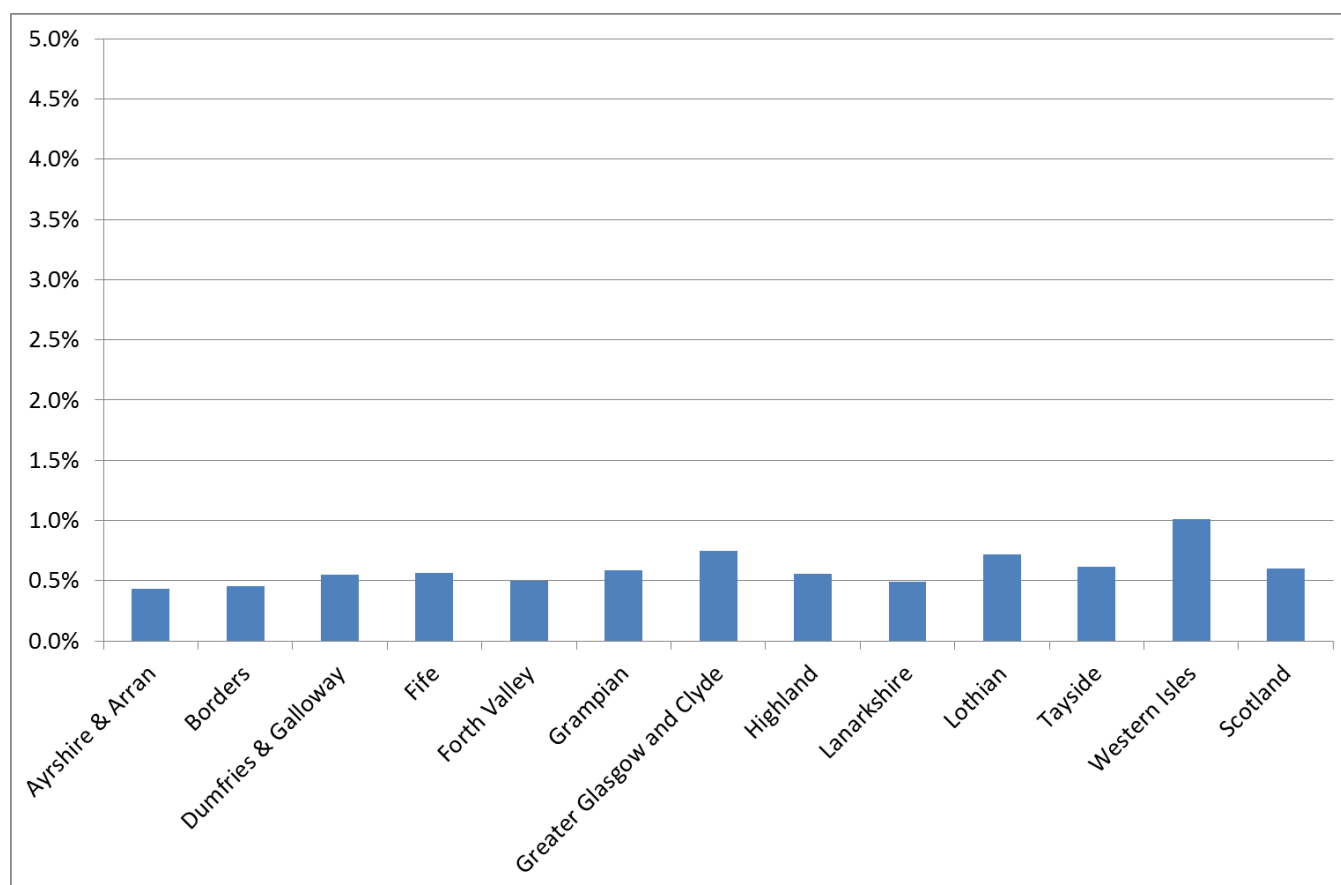
Note: Bars for boards with hidden data aren't shown.

**Table 50 Measure 8: End Stage Renal Disease - Type 1 age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	33	1.6	2,092
Borders	14	2.2	625
Dumfries & Galloway	17	2.0	860
Fife	19	1.0	1,958
Forth Valley	24	1.5	1,650
Grampian	62	2.0	3,102
Greater Glasgow and Clyde	98	1.7	5,823
Highland	33	1.8	1,826
Lanarkshire	65	1.7	3,746
Lothian	50	1.1	4,377
Orkney	*	*	104
Shetland	0	0.0	119
Tayside	36	1.8	1,957
Western Isles	*	*	181
<b>Scotland</b>	<b>455</b>	<b>1.6</b>	<b>28,420</b>

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

**Figure 37 Measure 8: End Stage Renal Disease - Type 2 and other age 18+ by NHS board, Scotland 2017.**



Note: Bars for boards with hidden data aren't shown.

**Table 51 Measure 8: End Stage Renal Disease - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	93	0.4	21,678
Borders	28	0.5	6,130
Dumfries & Galloway	47	0.5	8,605
Fife	111	0.6	19,567
Forth Valley	77	0.5	15,399
Grampian	149	0.6	25,534
Greater Glasgow and Clyde	429	0.7	57,660
Highland	86	0.6	15,517
Lanarkshire	172	0.5	35,036
Lothian	263	0.7	36,757
Orkney	*	*	1,089
Shetland	*	*	999
Tayside	133	0.6	21,572
Western Isles	13	1.0	1,283
<b>Scotland</b>	<b>1,611</b>	<b>0.6</b>	<b>266,826</b>

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.

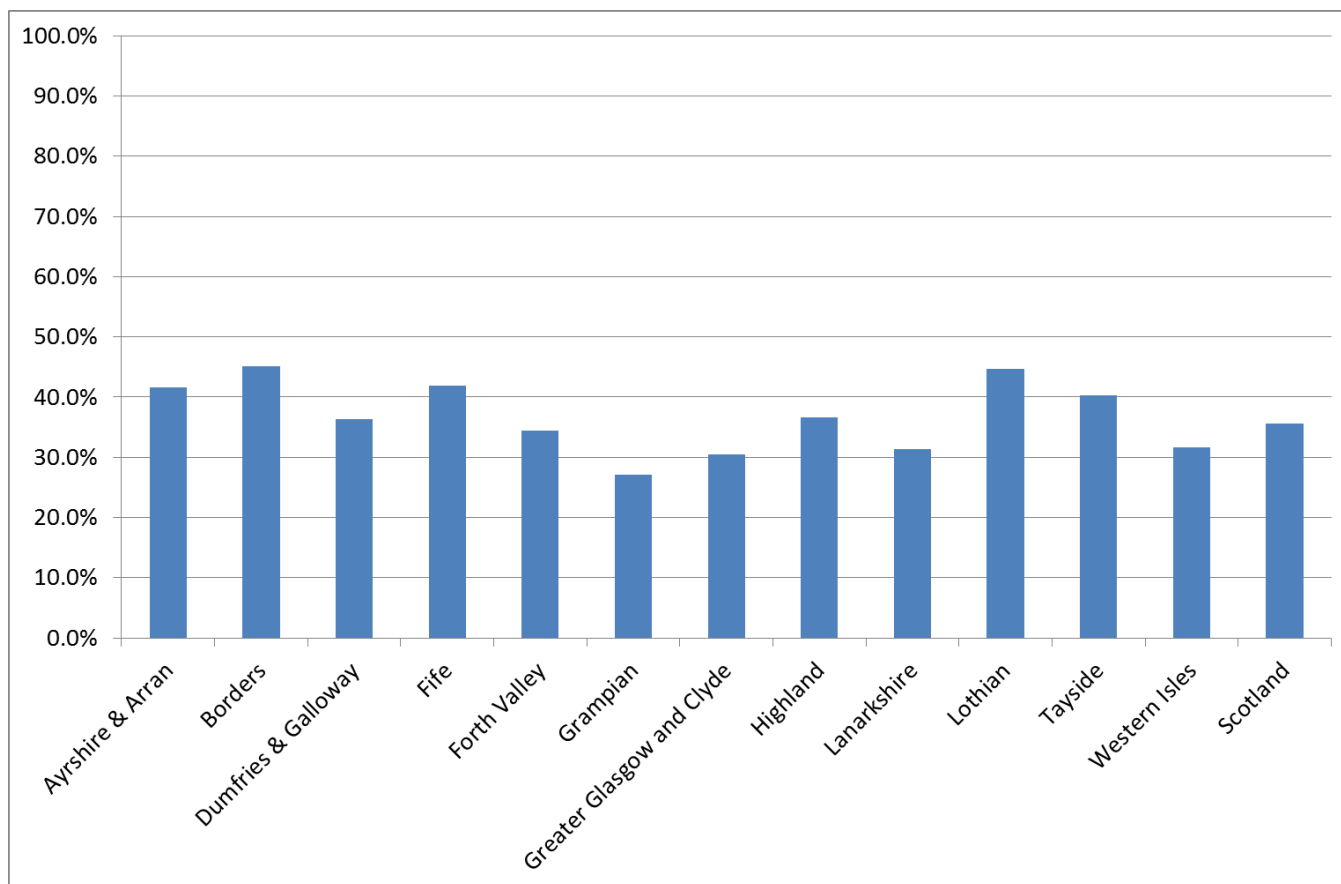
### Methodology

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 2017.**



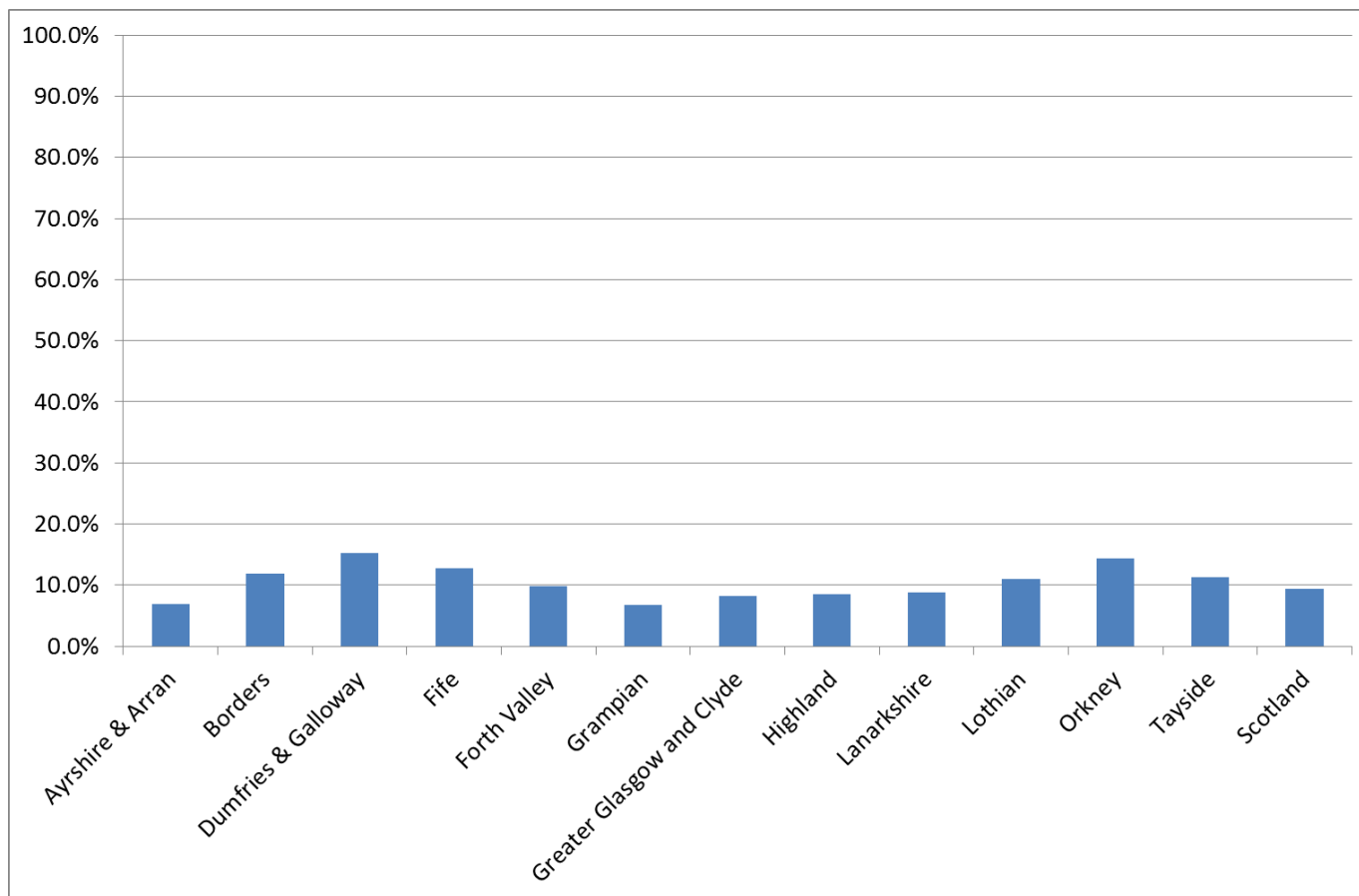
Note: Bars for boards with hidden data aren't shown.

**Table 52 Measure 9: Insulin pump therapy - Type 1 age 0-17 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 0-17 (n)
	People (n)	%	
Ayrshire & Arran	103	41.5	248
Borders	28	45.2	62
Dumfries & Galloway	33	36.3	91
Fife	85	41.9	203
Forth Valley	65	34.4	189
Grampian	94	27.1	347
Greater Glasgow and Clyde	172	30.5	564
Highland	78	36.6	213
Lanarkshire	143	31.4	456
Lothian	176	44.7	394
Orkney	*	*	10
Shetland	*	*	14
Tayside	77	40.3	191
Western Isles	6	31.6	19
<b>Scotland</b>	<b>1,070</b>	<b>35.7</b>	<b>3,001</b>

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 2017.**



Note: Bars for boards with hidden data aren't shown.

**Table 53 Measure 9: Insulin pump therapy - Type 1 age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	143	6.8	2,092
Borders	74	11.8	625
Dumfries & Galloway	131	15.2	860
Fife	249	12.7	1,958
Forth Valley	163	9.9	1,650
Grampian	209	6.7	3,102
Greater Glasgow and Clyde	480	8.2	5,823
Highland	155	8.5	1,826
Lanarkshire	330	8.8	3,746
Lothian	483	11.0	4,377
Orkney	15	14.4	104
Shetland	*	*	119
Tayside	221	11.3	1,957
Western Isles	*	*	181
<b>Scotland</b>	<b>2,668</b>	<b>9.4</b>	<b>28,420</b>

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  $\geq 30$  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 associated table and figure for those with type 1 diabetes have been omitted.

### Methodology

Included population = people with diabetes who had a BMI  $\geq 30$  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 ( $\pm 90$  days) are included.

Numerator = number of people with diabetes in each age/type cohort whose latest weight shows a  $\geq 5\%$  reduction since their weight a year ago.

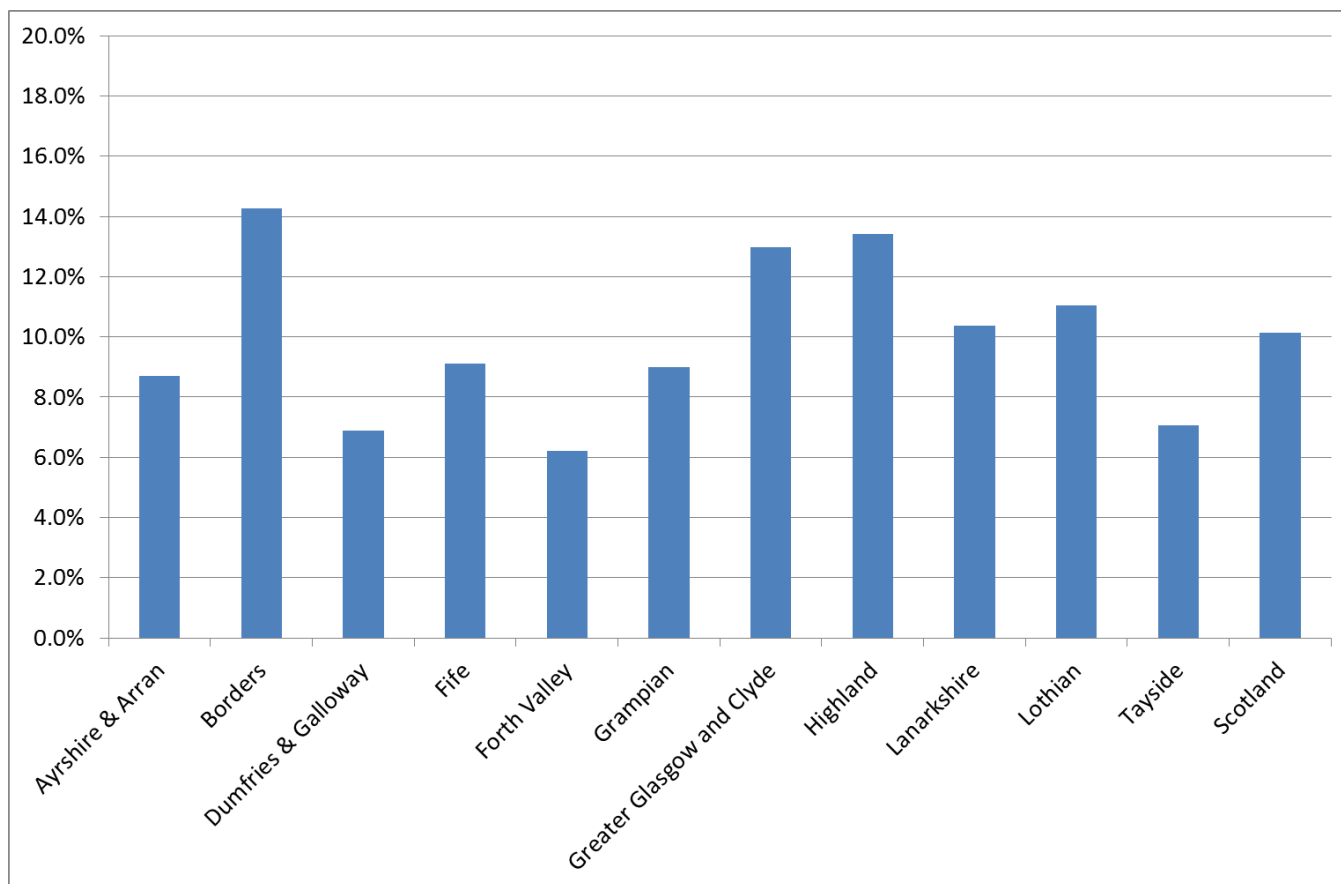
Denominator = the total number of people with diabetes in each age/type cohort who meet the required inclusion criteria (see above).

### 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  $\pm 90$  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 2017.**



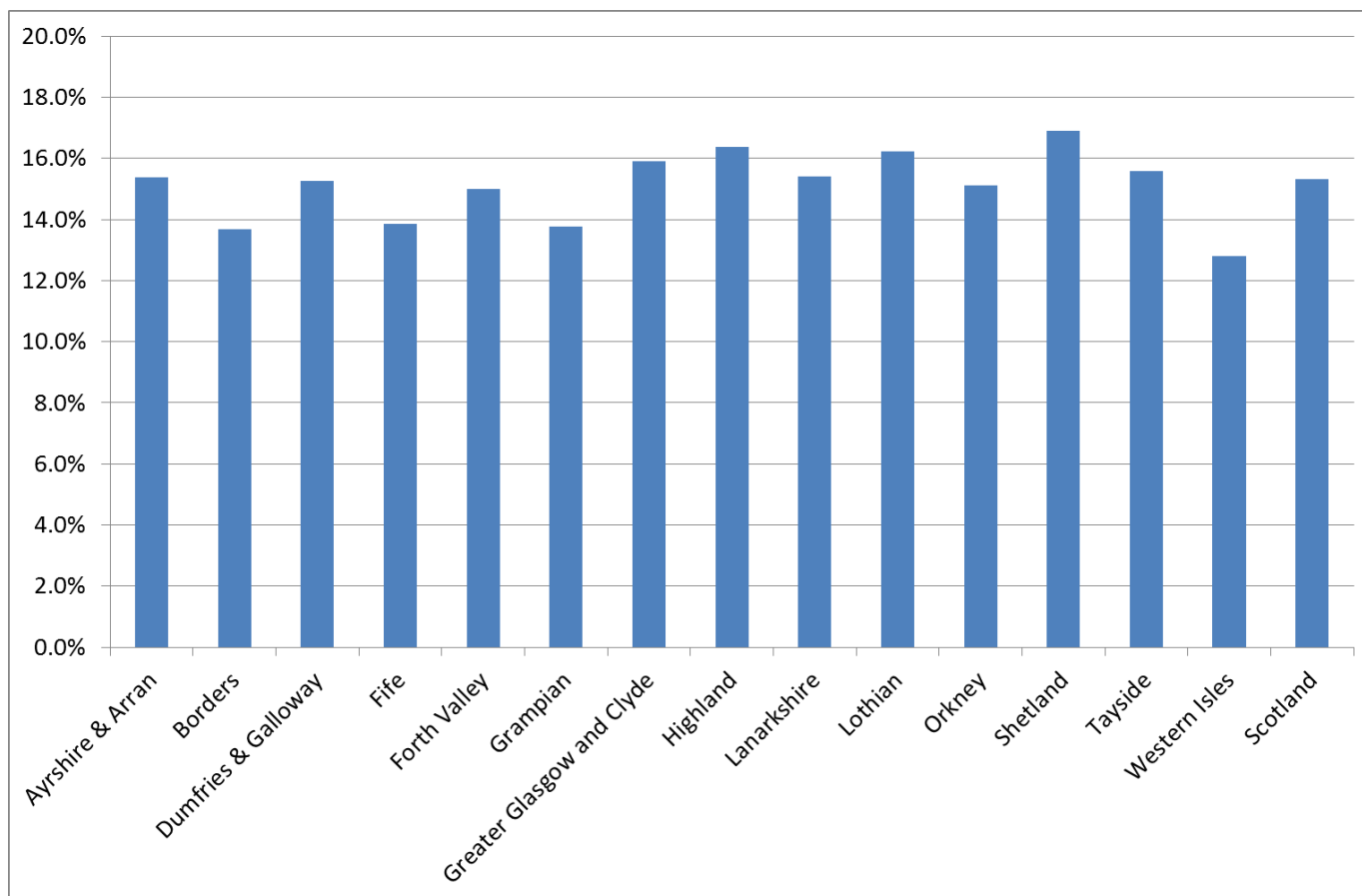
Note: Bars for boards with hidden data aren't shown.

**Table 54 Measure 10: Significant weight loss - Type 1 age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	24	8.7	276
Borders	12	14.3	84
Dumfries & Galloway	11	6.9	160
Fife	34	9.1	373
Forth Valley	16	6.2	257
Grampian	55	9.0	611
Greater Glasgow and Clyde	98	13.0	755
Highland	34	13.4	253
Lanarkshire	59	10.4	569
Lothian	73	11.0	661
Orkney	*	*	14
Shetland	*	*	20
Tayside	25	7.1	354
Western Isles	*	*	24
<b>Scotland</b>	<b>447</b>	<b>10.1</b>	<b>4,411</b>

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 2017.**



**Table 55 Measure 10: Significant weight loss - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	892	15.4	5,800
Borders	224	13.7	1,636
Dumfries & Galloway	430	15.3	2,819
Fife	840	13.9	6,062
Forth Valley	695	15.0	4,632
Grampian	1,244	13.8	9,032
Greater Glasgow and Clyde	2,590	15.9	16,265
Highland	872	16.4	5,324
Lanarkshire	1,509	15.4	9,789
Lothian	1,655	16.2	10,195
Orkney	59	15.1	390
Shetland	58	16.9	343
Tayside	1,207	15.6	7,741
Western Isles	54	12.8	422
<b>Scotland</b>	<b>12,329</b>	<b>15.3</b>	<b>80,450</b>



## Measure 11: Attended Structured Education

Percentage of people with diabetes who have ever attended Level 3 structured education - presented in defined age ranges.

Attended structured education is not one of the applicable Processes of Care for those under 18 years of age, and consequently the associated table and figure for those with type 1 diabetes have been omitted.

### Methodology

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

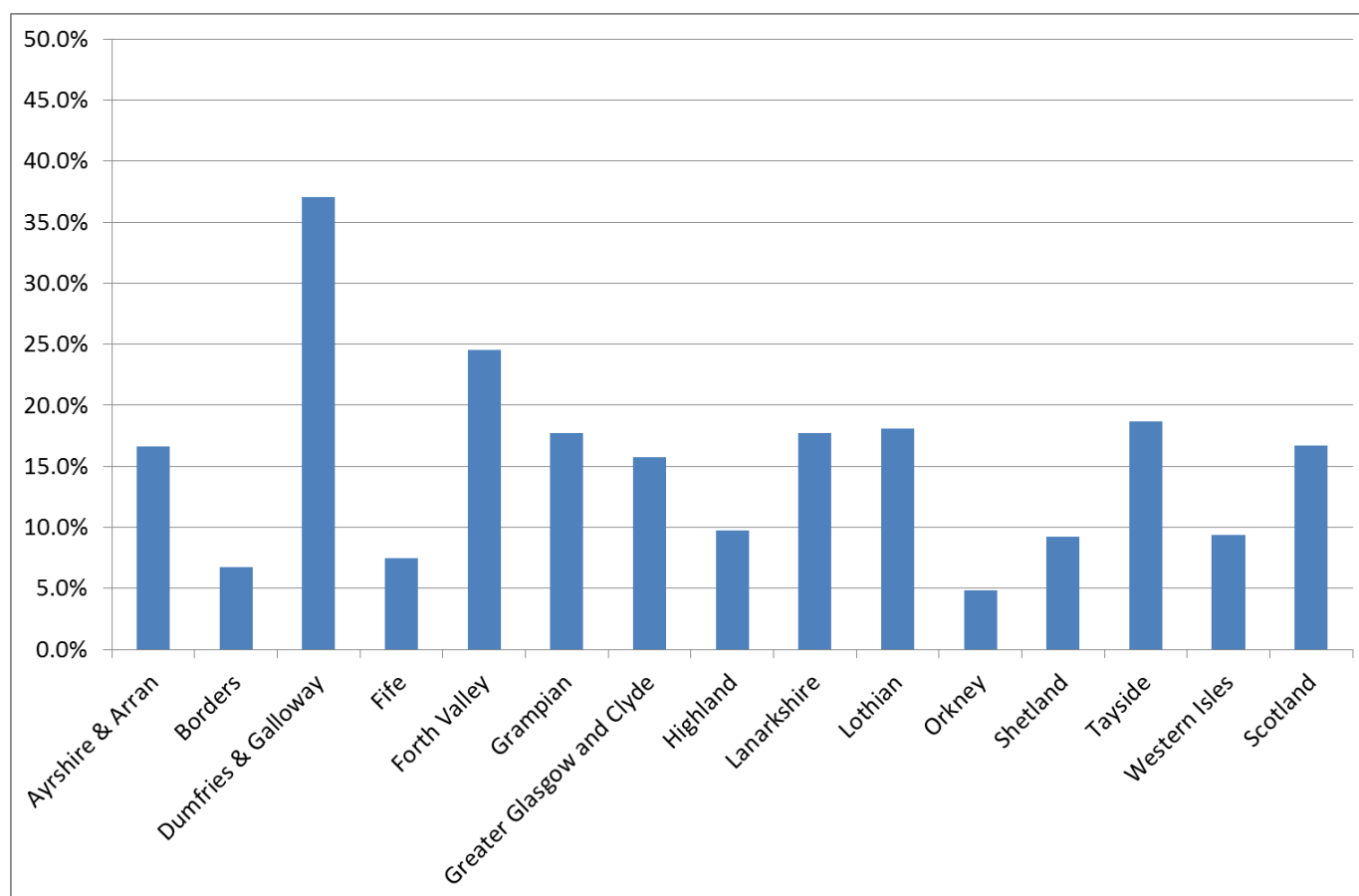
Numerator = number of people with diabetes in each age/type cohort who have at least one "Level 3" education record with "Education Status" = "Participated". The record may have been recorded at any time.

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

### Notes

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

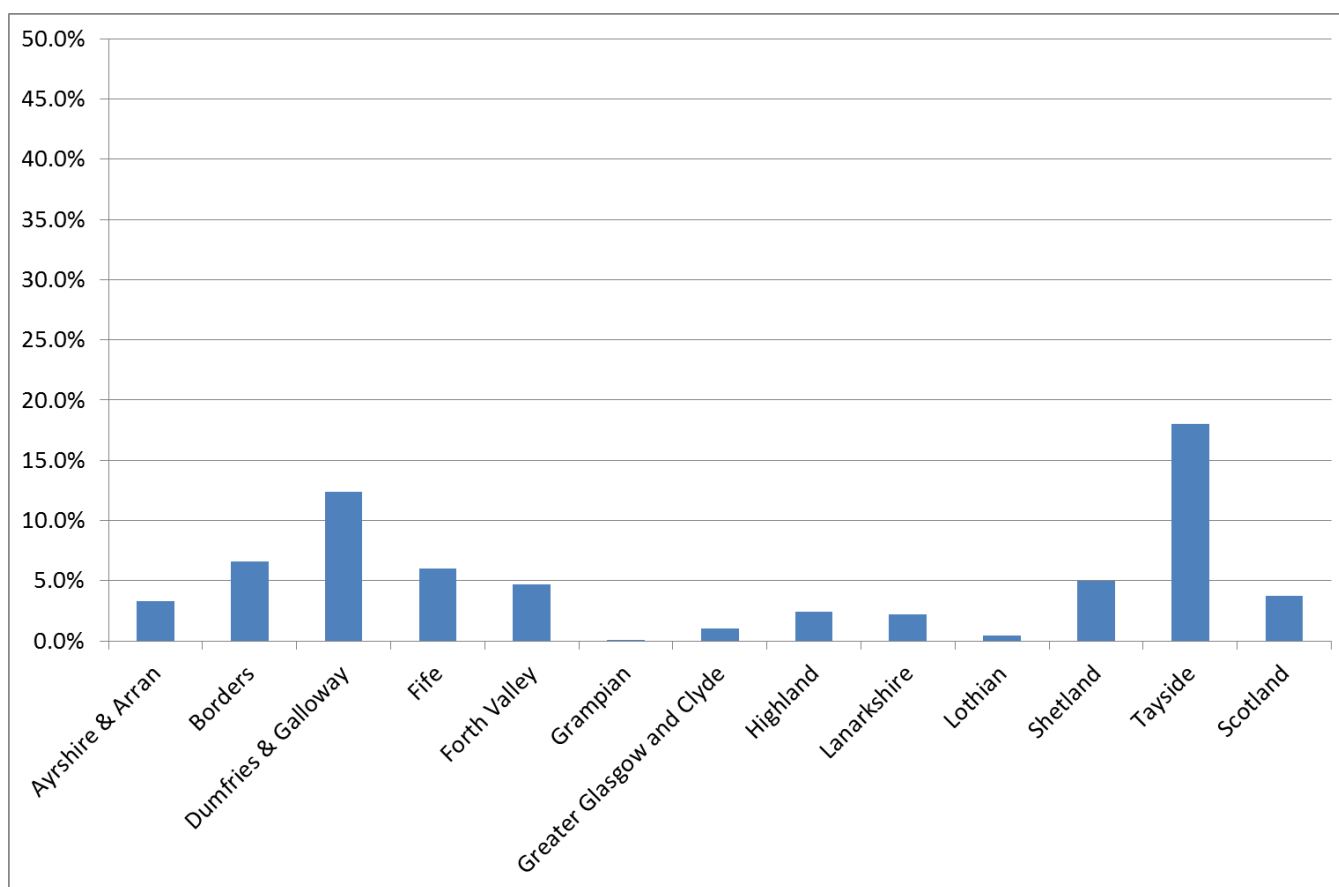
**Figure 42 Measure 11: Attended structured education - Type 1 age 18+ by NHS board, Scotland 2017.**



**Table 56 Measure 11: Attended structured education - Type 1 age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	348	16.6	2,092
Borders	42	6.7	625
Dumfries & Galloway	319	37.1	860
Fife	146	7.5	1,958
Forth Valley	405	24.5	1,650
Grampian	549	17.7	3,102
Greater Glasgow and Clyde	915	15.7	5,823
Highland	178	9.7	1,826
Lanarkshire	663	17.7	3,746
Lothian	793	18.1	4,377
Orkney	5	4.8	104
Shetland	11	9.2	119
Tayside	365	18.7	1,957
Western Isles	17	9.4	181
<b>Scotland</b>	<b>4,756</b>	<b>16.7</b>	<b>28,420</b>

**Figure 43 Measure 11: Attended structured education - Type 2 and other age 18+ by NHS board, Scotland 2017.**



Note: Bars for boards with hidden data aren't shown.

**Table 57 Measure 11: Attended structured education - Type 2 and other age 18+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18+ (n)
	People (n)	%	
Ayrshire & Arran	709	3.3	21,678
Borders	406	6.6	6,130
Dumfries & Galloway	1,064	12.4	8,605
Fife	1,177	6.0	19,567
Forth Valley	722	4.7	15,399
Grampian	26	0.1	25,534
Greater Glasgow and Clyde	575	1.0	57,660
Highland	373	2.4	15,517
Lanarkshire	768	2.2	35,036
Lothian	152	0.4	36,757
Orkney	*	*	1,089
Shetland	50	5.0	999
Tayside	3,891	18.0	21,572
Western Isles	*	*	1,283
<b>Scotland</b>	<b>9,918</b>	<b>3.7</b>	<b>266,826</b>

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. no HbA<sub>1c</sub> and no 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 associated table and figure for those with type 1 diabetes have been omitted.

### Methodology

Included population = people with diabetes aged 12 or over who have a duration of diabetes  $\geq 1$  year are included.

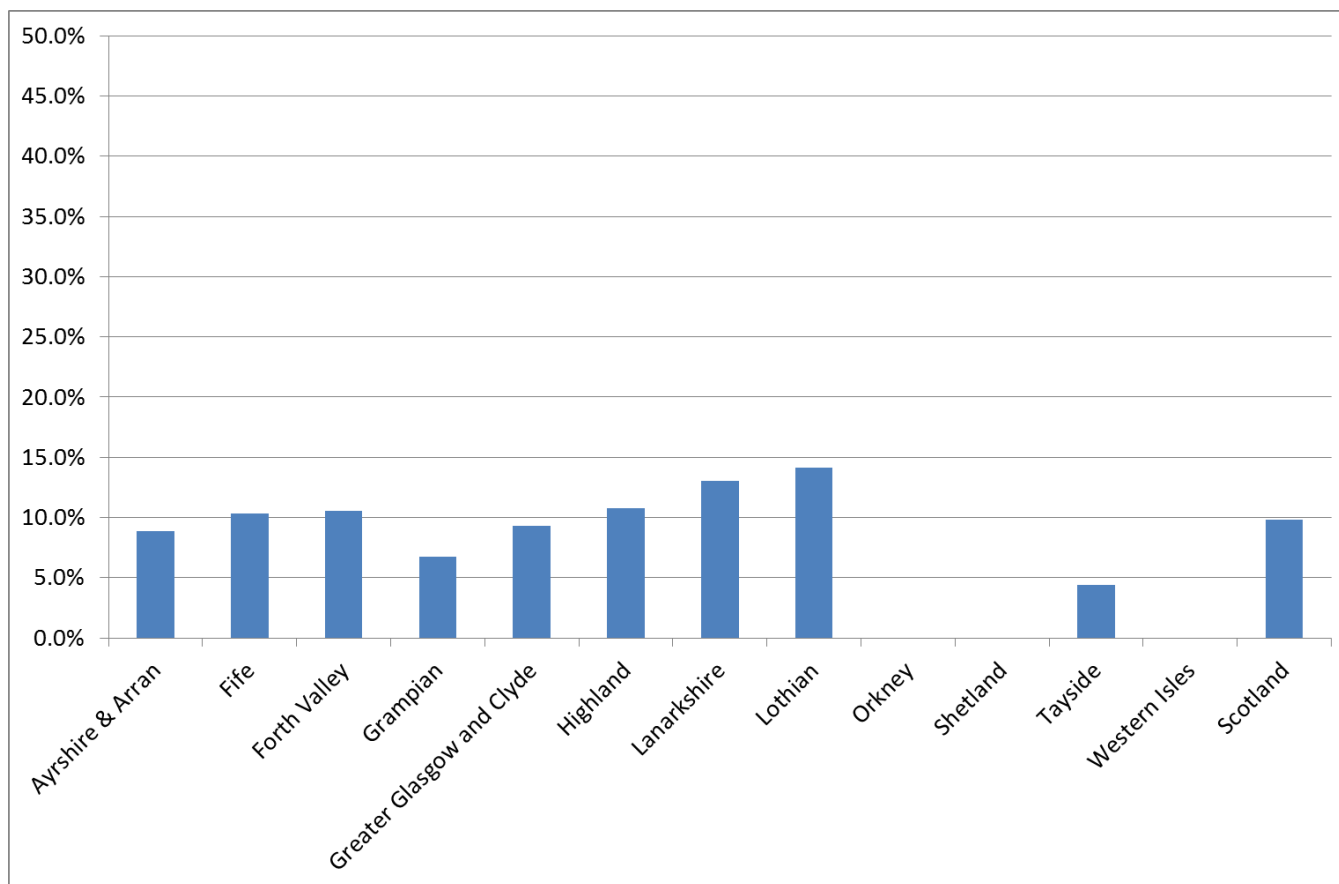
Numerator = the total number of people in each age/type cohort who have no record of HbA<sub>1c</sub> and no record of retinal screening in the prior 15 months.

Denominator = the total number of people in each age/type cohort who have a duration of diabetes  $\geq 1$  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<sub>1c</sub> or retinal screening).

**Figure 44 Measure 12: Disengaged from diabetes care - Type 1 age 18-25 by NHS board, Scotland 2017.**



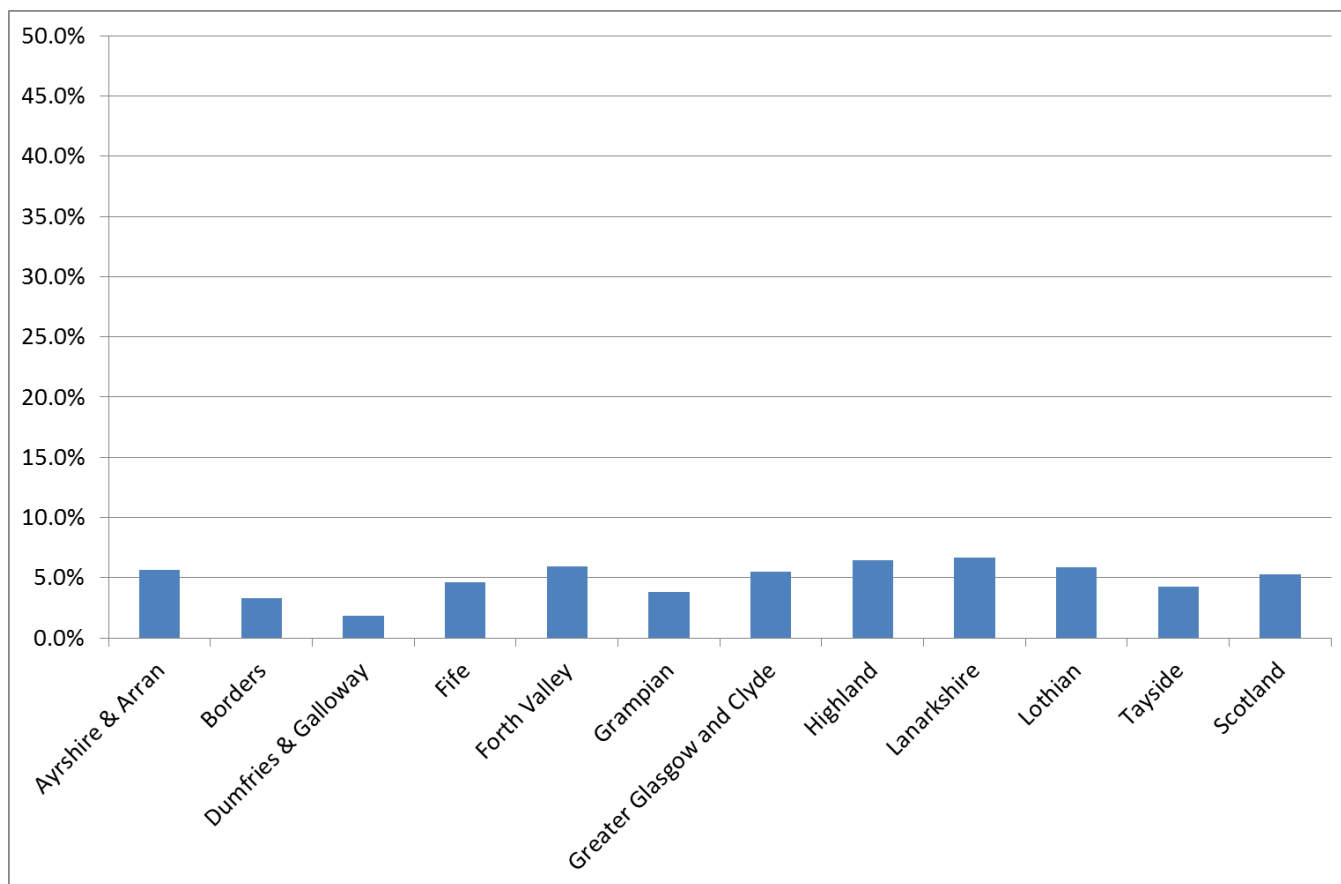
Note: Bars for boards with hidden data aren't shown.

**Table 58 Measure 12: Disengaged from diabetes care - Type 1 age 18-25 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18-25 (n)
	People (n)	%	
Ayrshire & Arran	23	8.9	259
Borders	*	*	64
Dumfries & Galloway	*	*	70
Fife	23	10.4	222
Forth Valley	23	10.6	218
Grampian	26	6.7	387
Greater Glasgow and Clyde	73	9.3	784
Highland	21	10.8	195
Lanarkshire	61	13.0	468
Lothian	83	14.1	587
Orkney	0	0.0	17
Shetland	0	0.0	10
Tayside	12	4.4	275
Western Isles	0	0.0	19
<b>Scotland</b>	<b>352</b>	<b>9.8</b>	<b>3,575</b>

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 2017.**



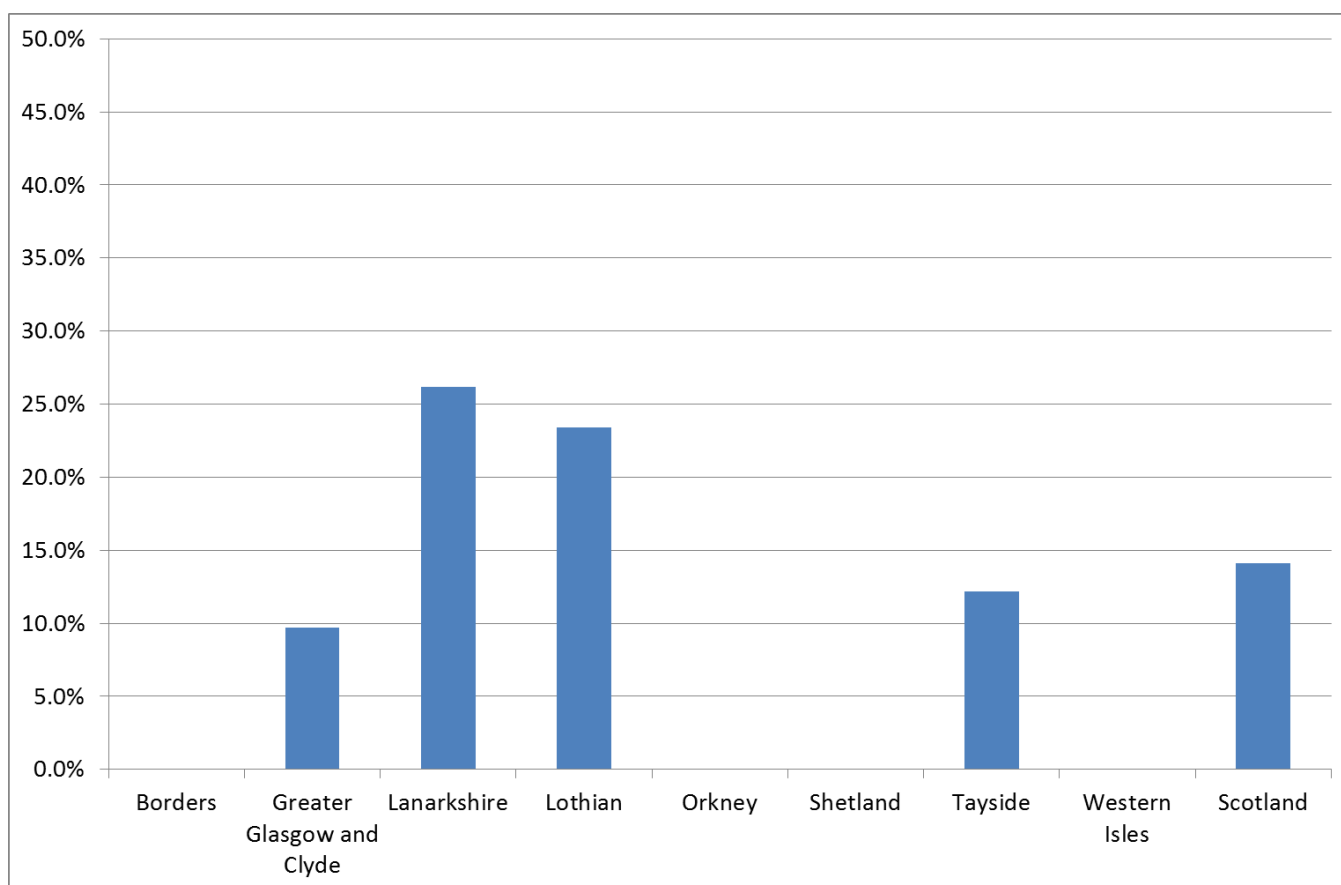
Note: Bars for boards with hidden data aren't shown.

**Table 59 Measure 12: Disengaged from diabetes care - Type1 Age 26+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 26+ (n)
	People (n)	%	
Ayrshire & Arran	102	5.7	1,802
Borders	18	3.3	550
Dumfries & Galloway	14	1.8	769
Fife	78	4.6	1,703
Forth Valley	83	5.9	1,401
Grampian	101	3.8	2,640
Greater Glasgow and Clyde	269	5.5	4,893
Highland	103	6.4	1,600
Lanarkshire	215	6.7	3,217
Lothian	218	5.9	3,697
Orkney	*	*	86
Shetland	*	*	104
Tayside	70	4.3	1,642
Western Isles	*	*	159
<b>Scotland</b>	<b>1,279</b>	<b>5.3</b>	<b>24,263</b>

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 2017.**



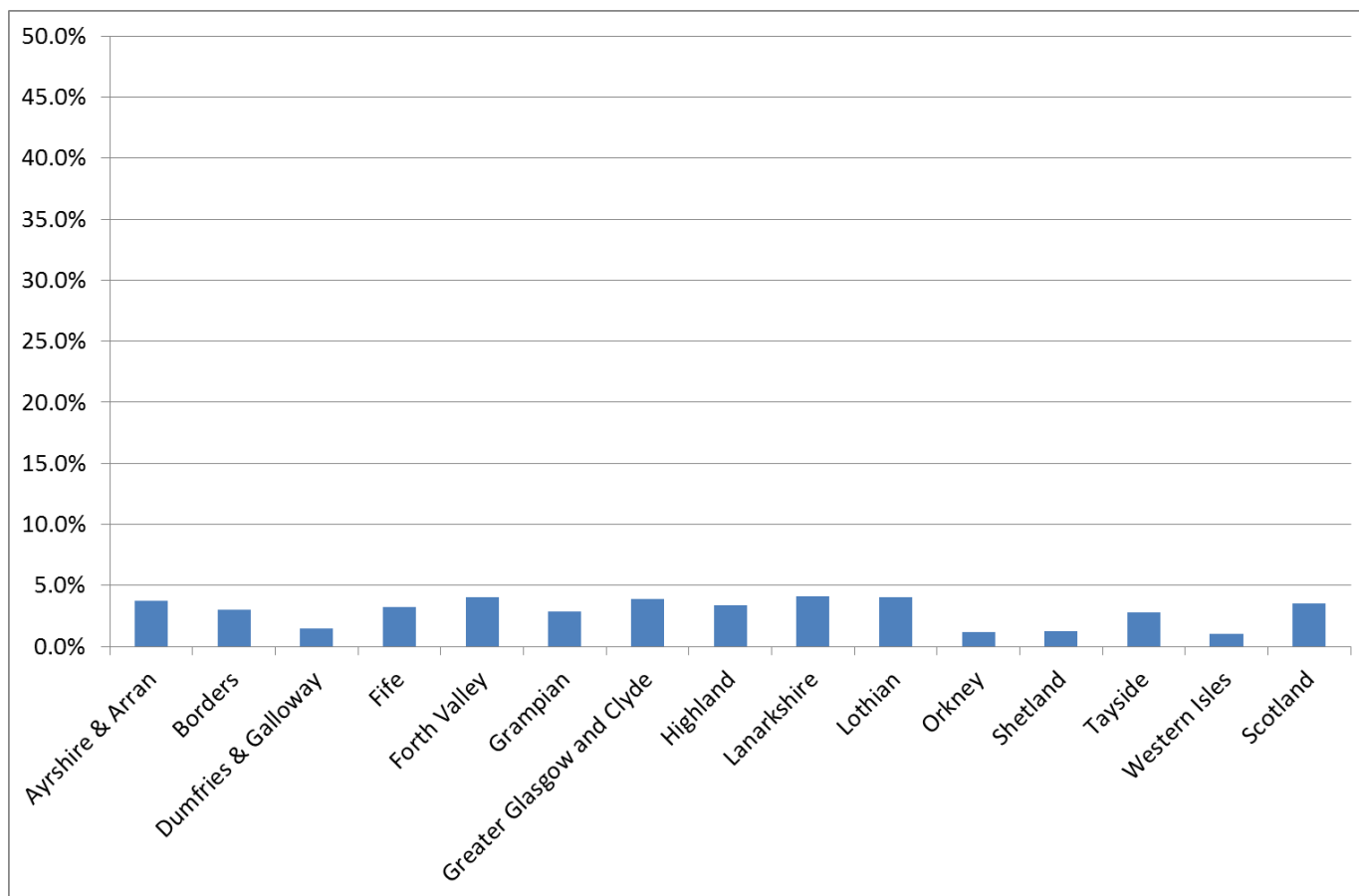
Note: Bars for boards with hidden data aren't shown.

**Table 60 Measure 12: Disengaged from diabetes care - Type 2 and other age 18-25 by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 18-25 (n)
	People (n)	%	
Ayrshire & Arran	*	*	26
Borders	0	0.0	*
Dumfries & Galloway	*	*	10
Fife	*	*	34
Forth Valley	*	*	21
Grampian	*	*	39
Greater Glasgow and Clyde	9	9.7	93
Highland	*	*	18
Lanarkshire	11	26.2	42
Lothian	15	23.4	64
Orkney	0	0.0	0
Shetland	0	0.0	*
Tayside	5	12.2	41
Western Isles	0	0.0	0
<b>Scotland</b>	<b>56</b>	<b>14.1</b>	<b>397</b>

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 2017.**



**Table 61 Measure 12: Disengaged from diabetes care - Type 2 and other age 26+ by NHS board, Scotland 2017.**

NHS board	Achieving measure		All aged 26+ (n)
	People (n)	%	
Ayrshire & Arran	763	3.7	20,385
Borders	174	3.0	5,747
Dumfries & Galloway	120	1.5	8,085
Fife	591	3.2	18,341
Forth Valley	574	4.0	14,299
Grampian	689	2.9	23,939
Greater Glasgow and Clyde	2,078	3.9	53,952
Highland	483	3.4	14,347
Lanarkshire	1,341	4.1	32,923
Lothian	1,385	4.1	34,083
Orkney	12	1.2	1,000
Shetland	12	1.3	939
Tayside	557	2.7	20,259
Western Isles	12	1.0	1,178
<b>Scotland</b>	<b>8,791</b>	<b>3.5</b>	<b>249,477</b>



## National and Regional Detail

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

### Prevalence Regional Detail

**Table 62 Crude and age-adjusted prevalence of diabetes (all types), by NHS board, ranked by age-adjusted prevalence, Scotland 2017.**

NHS board	Population (n)	Number on the diabetes register at the end of the year (n)	Crude prevalence (%)	Age-adjusted prevalence (%)
Western Isles	26,900	1,483	5.5	4.6
Shetland	23,200	1,132	4.9	4.8
Orkney	21,850	1,203	5.5	4.8
Highland	321,900	17,567	5.5	4.8
Borders	114,530	6,822	6.0	5.0
Grampian	588,100	28,996	4.9	5.1
Lothian	880,000	41,561	4.7	5.2
Dumfries and Galloway	149,520	9,561	6.4	5.3
Tayside	415,470	23,725	5.7	5.4
Forth Valley	304,480	17,247	5.7	5.6
Fife	370,330	21,750	5.9	5.6
Ayrshire and Arran	370,560	24,021	6.5	5.9
Greater Glasgow and Clyde	1,161,370	64,090	5.5	5.9
Lanarkshire	656,490	39,346	6.0	6.0
<b>Scotland</b>	<b>5,404,700</b>	<b>298,504</b>	<b>5.5</b>	<b>5.5</b>

Variation between NHS boards also depends on deprivation, the age and the ethnic distribution of the population of each Board. Age-adjusted prevalence is based on direct age/sex standardisation using the Scottish population as the reference population structure.

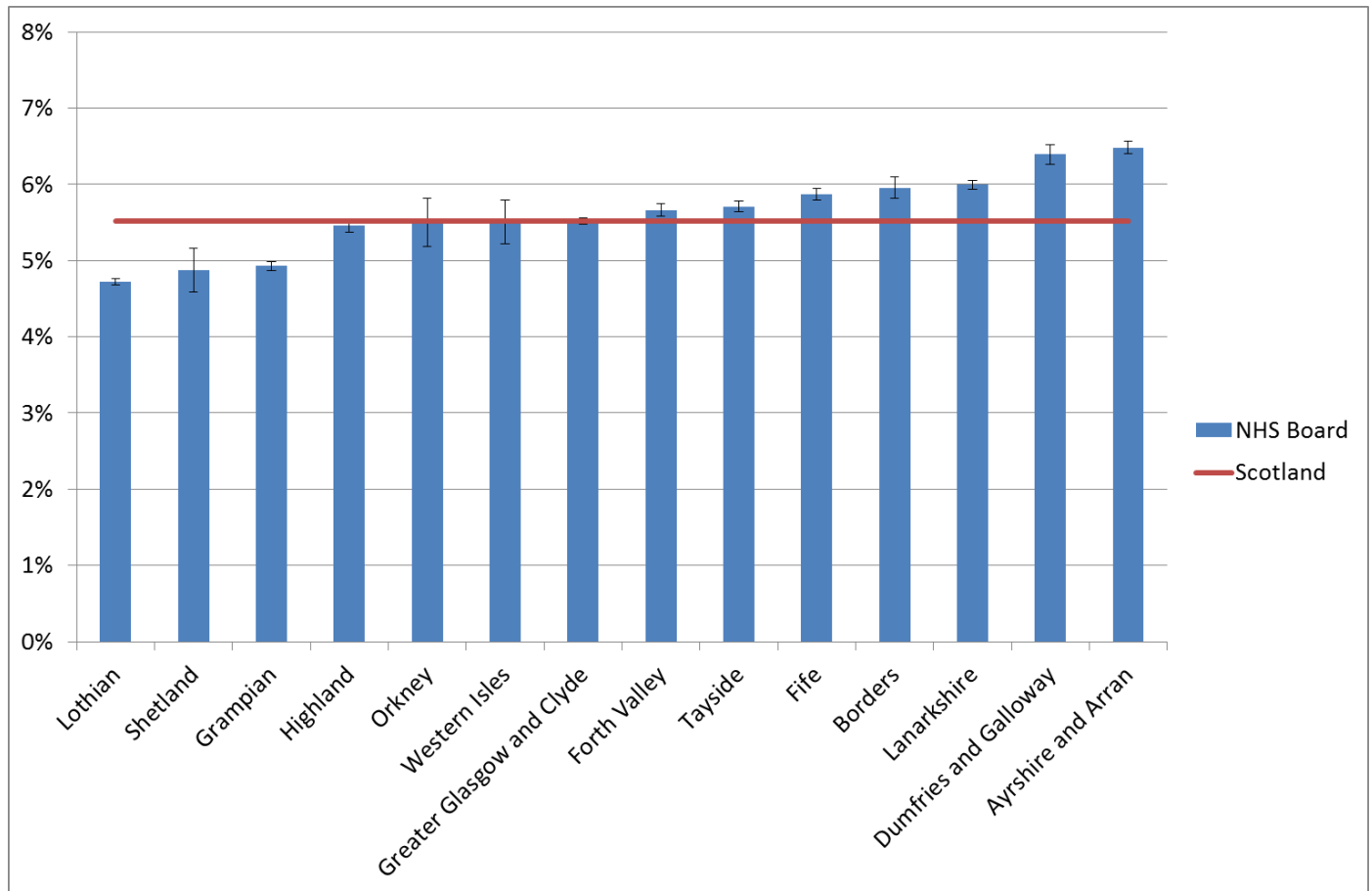
**Table 63 Crude prevalence of diabetes for people aged 65 and over (all types), by NHS board, ranked by prevalence, Scotland 2017.**

NHS board	Age >= 65 (n)	Age >= 65 with Diabetes (n)	Prevalence in those aged >= 65 (%)
Western Isles	6,639	856	12.9
Orkney	4,967	678	13.7
Shetland	4,403	603	13.7
Highland	71,632	9,892	13.8
Borders	27,243	4,072	14.9
Dumfries and Galloway	36,907	5,522	15.0
Lothian	141,365	21,258	15.0
Grampian	102,357	15,525	15.2
Tayside	86,370	13,534	15.7
Fife	73,658	11,742	15.9
Ayrshire and Arran	80,401	12,958	16.1
Forth Valley	56,465	9,116	16.1
Greater Glasgow and Clyde	190,573	31,170	16.4
Lanarkshire	115,872	19,747	17.0
<b>Scotland</b>	<b>998,852</b>	<b>156,673</b>	<b>15.7</b>

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. Because of publication dates, surveys have in each case used population figures for the previous year - so that the 2017 survey uses diabetes data from 2017 but mid-year population estimates from 2016. This will lead to a very small overestimate of diabetes prevalence.

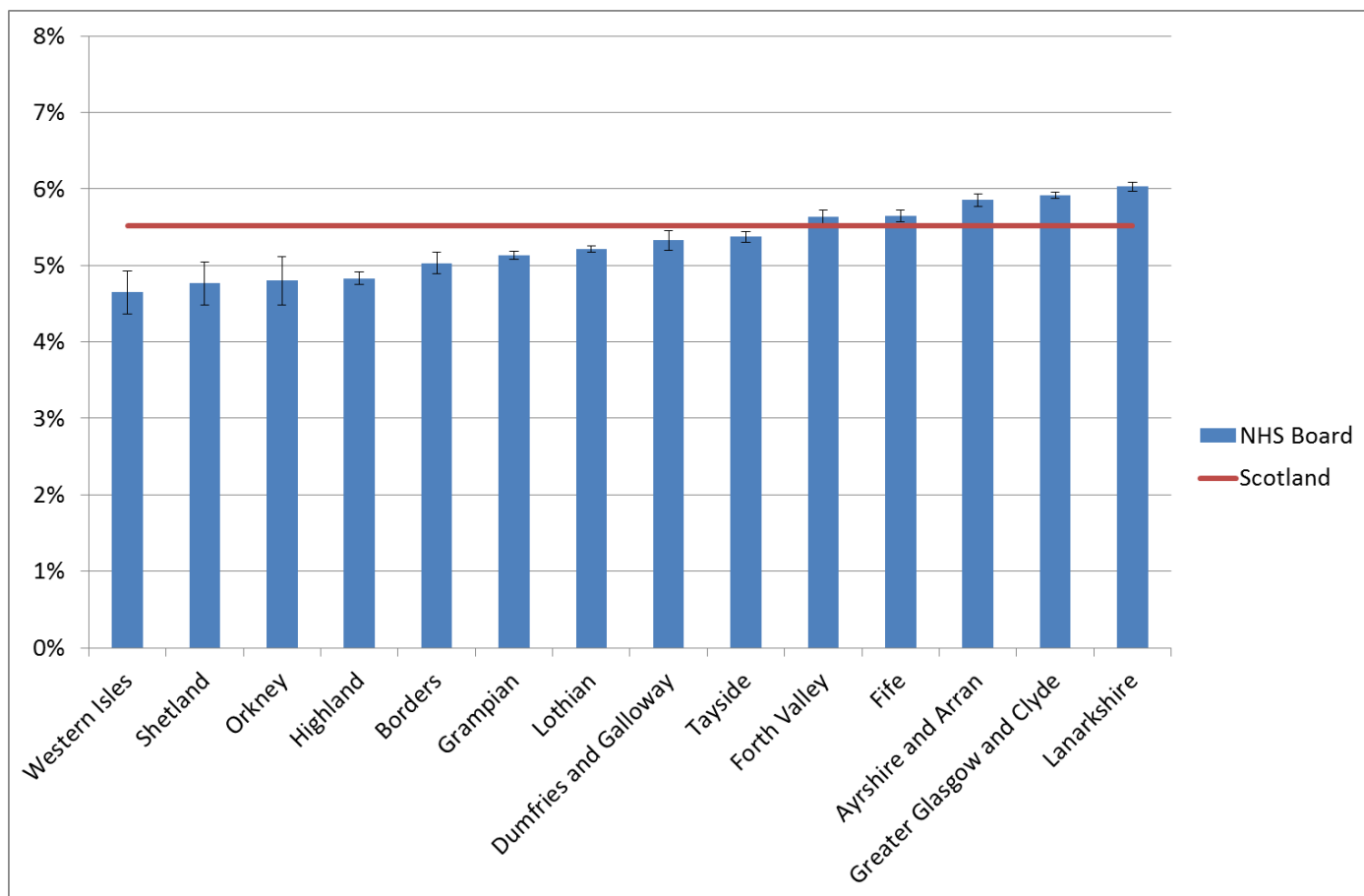
Differences in prevalence are due to a number of factors. One is age - type 2 diabetes is more common in older age groups so the age structure of an area will affect the crude prevalence. A health board area with an older population will have a higher crude prevalence; e.g. the crude (unadjusted) prevalence 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.

**Figure 48 Crude diabetes prevalence (all types) by NHS Health Board, ranked by prevalence, Scotland 2017.**



Note: Vertical capped lines show 95% confidence intervals.

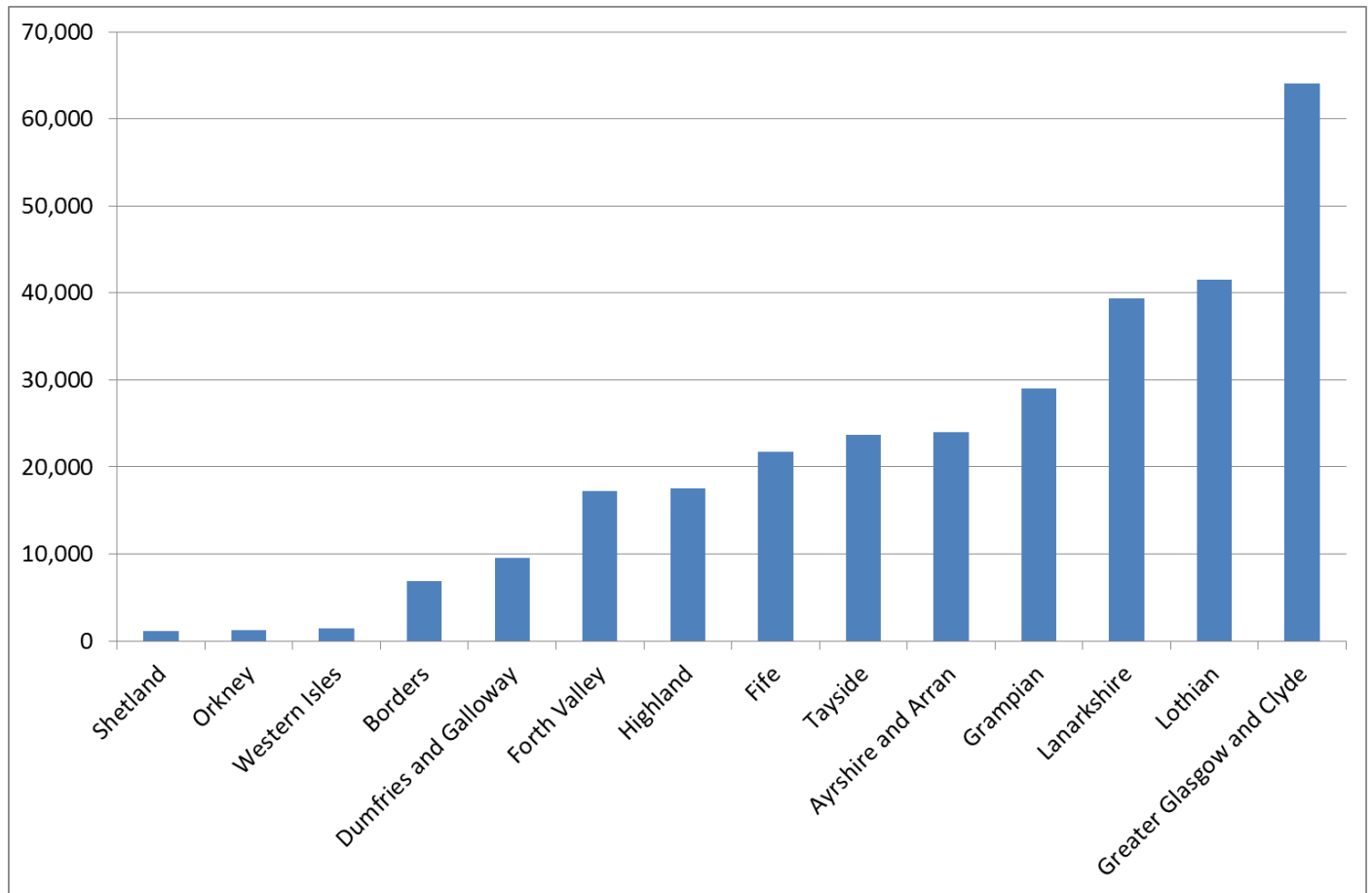
**Figure 49 Age-adjusted diabetes prevalence (all types) by NHS Health Board, ranked by prevalence, Scotland 2017.**



Note: Vertical lines show 95% confidence intervals.

Table 62 and Figure 48 and Figure 49 show both crude and age-adjusted figures for the prevalence of diabetes of all types in 2017. 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 63 shows that the prevalence of diabetes is particularly high among those aged 65 and over.

**Figure 50** Number of people with diabetes (all types) in each NHS Health Board, Scotland 2017.



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

## Incidence of Type 2 Diabetes

The methodology used in calculating the incidence figures below were updated this year (2017), see the [Type 1 Diabetes Incidence](#) section for more details.

**Table 64 Type 2 diabetes: Number of new cases and incidence rate (per 100,000 population per year) by age, Scotland 2010-2017.**

Age	2010 (a)		2011 (a)		2012 (a)		2013		2014		2015		2016		2017		
	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	0	585,337	*	0
10-19	18	3	10	2	21	4	*	*	19	3	20	3	17	3	569,816	*	4
20-29	166	24	163	23	208	29	178	25	197	28	165	23	228	31	732,068	205	28
30-39	755	118	730	115	939	148	810	125	756	117	834	129	869	132	669,146	898	134
40-49	2,555	331	2,552	333	2,733	359	2,570	333	2,467	326	2,432	329	2,364	328	704,036	2,225	316
50-59	4,287	672	4,106	638	4,567	699	4,387	650	4,210	612	4,451	636	4,417	619	721,229	4,266	591
60-69	4,870	954	4,741	916	4,943	940	5,023	930	4,513	830	4,677	853	4,570	825	561,608	4,331	771
>=70	4,925	933	4,667	877	4,596	861	4,876	898	4,217	769	4,472	801	4,508	801	569,613	4,269	749
<b>Total</b>	<b>17,576</b>	<b>355</b>	<b>16,969</b>	<b>341</b>	<b>18,007</b>	<b>360</b>	<b>17,853</b>	<b>353</b>	<b>16,379</b>	<b>324</b>	<b>17,051</b>	<b>336</b>	<b>16,973</b>	<b>334</b>	<b>5,112,719</b>	<b>16,216</b>	<b>317</b>

Note: a) In the years prior to 2013, the at-risk population includes those with diagnosed frank diabetes, under-estimating the incidence rate. \* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. The Scottish at-risk population figures excludes people with frank diabetes at the end of the previous year whose age is unknown (n = 134).

**Table 65 Type 2 diabetes: Incidence rate (per 100,000 population per year) by age, Scotland 2010-2017.**

Age range	2010 (a)	2011 (a)	2012 (a)	2013	2014	2015	2016	2017
0-9	0	0	0	0	0	0	0	0
10-19	3	2	4	1	3	3	3	4
20-29	24	23	29	25	28	23	31	28
30-39	118	115	148	125	117	129	132	134
40-49	331	333	359	333	326	329	328	316
50-59	672	638	699	650	612	636	619	591
60-69	954	916	940	930	830	853	825	771
>=70	933	877	861	898	769	801	801	749
<b>Total</b>	<b>355</b>	<b>341</b>	<b>360</b>	<b>353</b>	<b>324</b>	<b>336</b>	<b>334</b>	<b>317</b>

Note: a) In the years prior to 2013, the at-risk population includes those with diagnosed frank diabetes, under-estimating the incidence rate.

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

## Incidence Regional Detail

**Table 66 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 rate in 2017, Scotland 2011-2017.**

NHS board	2011		2012		2013		2014		2015		2016		2017		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Mid 2016 Population without diabetes	Cases	Rate
Western Isles	*	*	9	36	*	*	8	31	*	*	8	31	25,479	*	*
Orkney	5	26	*	*	0	0	0	0	*	*	*	*	20,682	*	*
Borders	17	16	20	19	16	15	12	11	19	18	26	24	107,836	15	14
Tayside	58	15	73	19	65	17	59	15	67	17	76	19	392,176	62	16
Lothian	136	17	153	19	152	19	147	18	136	17	163	20	839,803	145	17
Ayrshire and Arran	68	20	79	23	64	18	73	21	67	19	51	15	347,071	60	17
Lanarkshire	110	21	110	21	88	16	93	15	110	18	113	18	617,819	117	19
Fife	80	23	63	18	47	14	52	15	50	14	74	21	348,941	67	19
Dumfries and Galloway	20	14	20	14	21	15	20	14	23	16	25	18	140,108	27	19
Highland	74	25	49	16	62	20	54	18	50	16	50	16	304,800	59	19
Greater Glasgow and Clyde	221	19	228	20	187	16	193	18	194	18	202	19	1,098,496	225	20
Forth Valley	61	22	70	25	52	18	56	20	55	19	43	15	287,751	59	21
Grampian	117	22	90	17	88	16	111	20	111	20	108	19	559,680	125	22
Shetland	*	*	*	*	*	*	5	23	7	32	*	*	22,077	7	32
<b>Scotland</b>	<b>973</b>	<b>20</b>	<b>978</b>	<b>20</b>	<b>848</b>	<b>17</b>	<b>883</b>	<b>17</b>	<b>898</b>	<b>18</b>	<b>943</b>	<b>19</b>	<b>5,112,719</b>	<b>978</b>	<b>19</b>

Note: \* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. This table displays only 7 years of information due to limited space on the page.



**Table 67 Type 1 diabetes: Crude incidence rate of new cases for all ages (cases per 100,000 population per year) by NHS board, ranked by rate in 2017, Scotland 2009-2017.**

NHS board	2009	2010	2011	2012	2013	2014	2015	2016	2017
Western Isles	16	24	*	36	*	31	*	31	*
Orkney	11	21	26	*	0	0	*	*	*
Borders	15	19	16	19	15	11	18	24	14
Tayside	15	19	15	19	17	15	17	19	16
Lothian	17	20	17	19	19	18	17	20	17
Ayrshire and Arran	20	20	20	23	18	21	19	15	17
Lanarkshire	24	19	21	21	16	15	18	18	19
Fife	16	15	23	18	14	15	14	21	19
Dumfries and Galloway	20	18	14	14	15	14	16	18	19
Highland	23	18	25	16	20	18	16	16	19
Greater Glasgow and Clyde	19	18	19	20	16	18	18	19	20
Forth Valley	18	23	22	25	18	20	19	15	21
Grampian	22	24	22	17	16	20	20	19	22
Shetland	24	28	*	*	*	23	32	*	32
<b>Scotland</b>	<b>19</b>	<b>19</b>	<b>20</b>	<b>20</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>19</b>

Note: \* indicates a figure between 1 and 4 or a figure that indirectly reveals such figures. This table displays only 9 years of information due to limited space on the page.

**Table 68 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 rate in 2017, Scotland 2011-2017.**

NHS board	2011		2012		2013		2014		2015		2016		2017		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Mid 2016 Population without diabetes	Cases	Rate
Shetland	82	382	51	237	51	230	76	343	77	348	59	267	22,077	55	249
Grampian	1,596	303	1,866	351	1,995	364	1,710	309	1,706	306	1,551	277	559,680	1,530	273
Lothian	2,191	272	2,271	279	2,303	285	2,096	258	2,067	252	2,445	295	839,803	2,436	290
Tayside	1,544	403	1,440	373	1,352	346	1,314	336	1,411	360	1,437	366	392,176	1,224	312
Greater Glasgow and Clyde	3,801	331	4,131	358	4,159	359	3,807	354	4,022	372	3,604	331	1,098,496	3,453	314
Lanarkshire	1,976	369	2,083	390	2,197	405	2,041	329	2,379	384	2,269	368	617,819	1,965	318
Borders	384	357	448	416	385	357	382	354	397	368	358	333	107,836	350	325
Fife	1,235	355	1,363	390	1,397	402	1,367	394	1,074	310	1,125	324	348,941	1,172	336
Highland	1,010	340	1,035	348	1,023	336	826	271	908	298	1,039	341	304,800	1,040	341
Dumfries and Galloway	573	408	563	402	514	361	482	341	506	359	533	379	140,108	492	351
Ayrshire and Arran	1,545	444	1,570	453	1,315	373	1,287	367	1,357	389	1,371	394	347,071	1,254	361
Forth Valley	876	313	1,051	373	981	345	844	297	986	346	1,017	355	287,751	1,051	365
Western Isles	71	284	75	302	90	342	80	307	91	351	94	366	25,479	105	412
Orkney	85	443	61	318	91	443	67	326	70	341	71	346	20,682	89	430
<b>Scotland</b>	<b>16,969</b>	<b>340</b>	<b>18,008</b>	<b>360</b>	<b>17,853</b>	<b>353</b>	<b>16,379</b>	<b>324</b>	<b>17,051</b>	<b>336</b>	<b>16,973</b>	<b>334</b>	<b>5,112,719</b>	<b>16,216</b>	<b>317</b>

Note: This table displays only 7 years of information due to limited space on the page.

**Table 69 Type 2 diabetes: Crude incidence rate for all ages (cases per 100,000 population per year) by NHS board, ranked by rate in 2017, Scotland 2009-2017.**

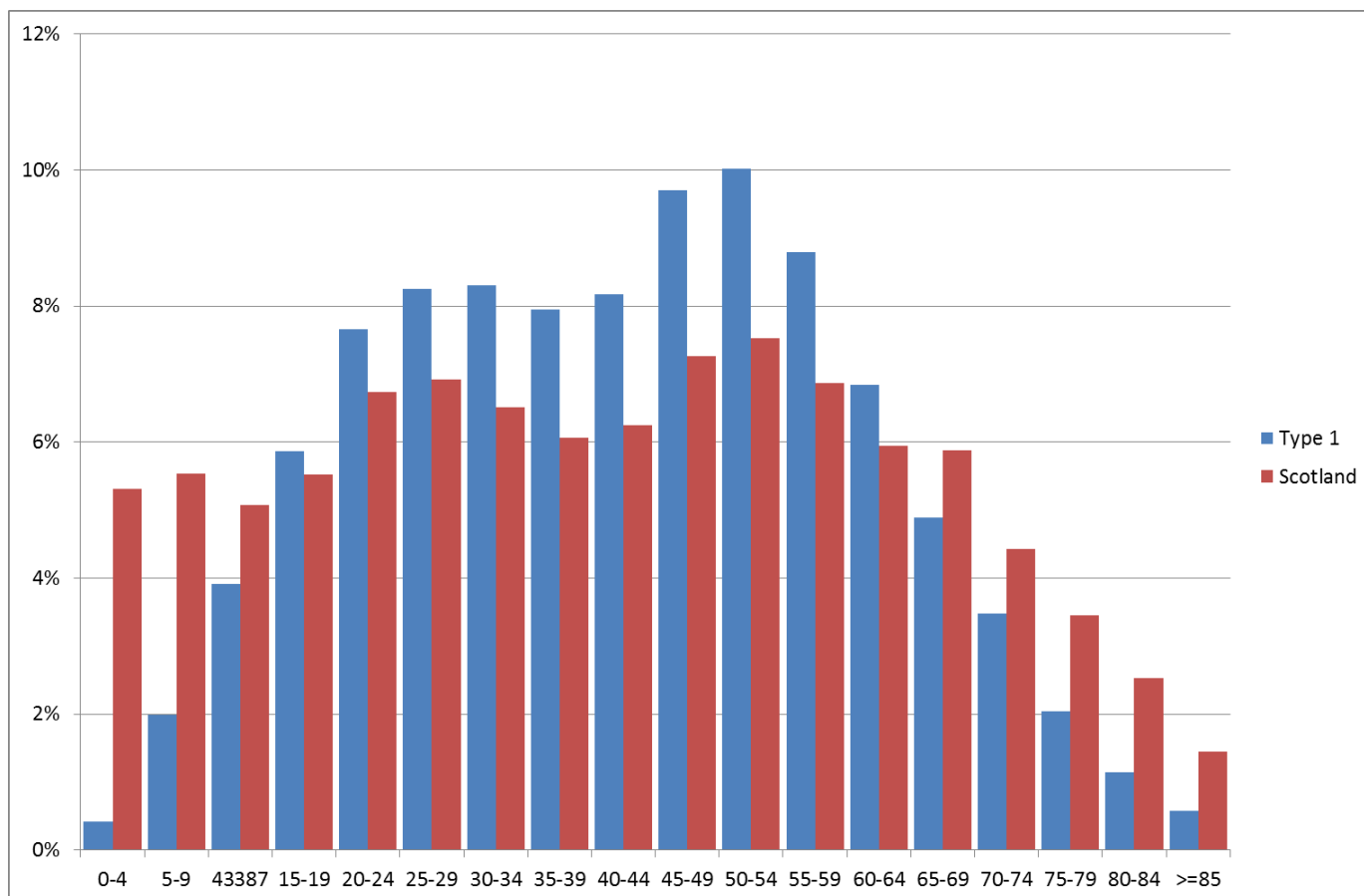
NHS board	2009	2010	2011	2012	2013	2014	2015	2016	2017
Shetland	350	352	382	237	230	343	348	267	249
Grampian	398	329	303	351	364	309	306	277	273
Lothian	281	250	272	279	285	258	252	295	290
Tayside	425	438	403	373	346	336	360	366	312
Greater Glasgow and Clyde	353	345	331	358	359	354	372	331	314
Lanarkshire	429	388	369	390	405	329	384	368	318
Borders	382	398	357	416	357	354	368	333	325
Fife	380	374	355	390	402	394	310	324	336
Highland	382	377	340	348	336	271	298	341	341
Dumfries and Galloway	472	417	408	402	361	341	359	379	351
Ayrshire and Arran	474	436	444	453	373	367	389	394	361
Forth Valley	350	350	313	373	345	297	346	355	365
Western Isles	382	403	284	302	342	307	351	366	412
Orkney	352	309	443	318	443	326	341	346	430
<b>Scotland</b>	<b>376</b>	<b>354</b>	<b>340</b>	<b>360</b>	<b>353</b>	<b>324</b>	<b>336</b>	<b>334</b>	<b>317</b>

Note: This table displays only 9 years of information due to limited space on the page.

## Age and Sex

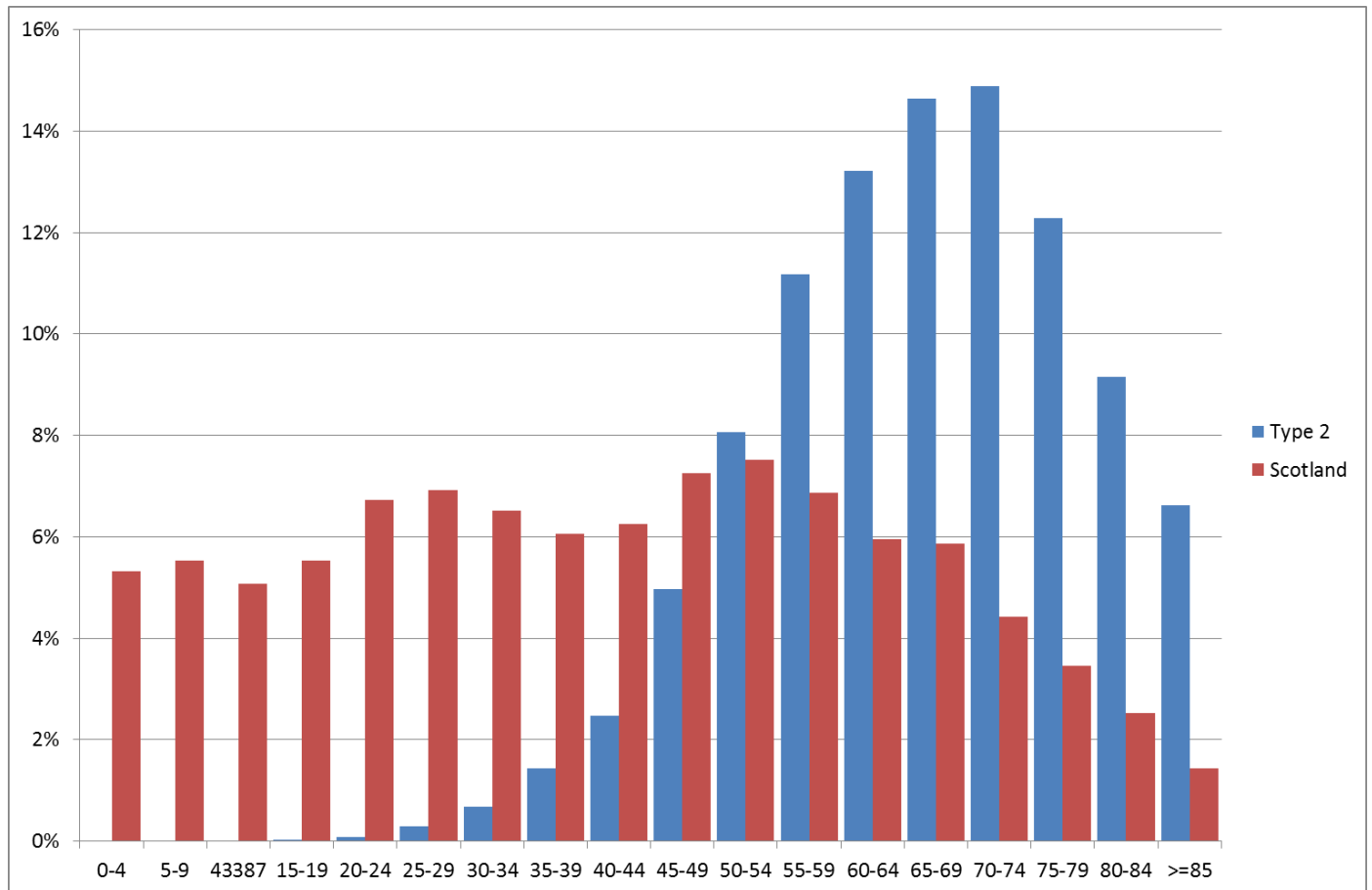
Type 2 diabetes is more common in older people; 52.5% (156,673) of all people with diabetes recorded in the survey are aged 65 years or older (Table 63). Figure 51 and Figure 52 show the age distribution of people with type 1 and type 2 diabetes compared with that of the general population.

**Figure 51 Type 1 diabetes: Age distribution of people recorded as having diabetes compared with age distribution of general population, Scotland 2017.**



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 recent study of the Scottish type 1 diabetes population (<http://dx.doi.org/10.1001/jama.2014.16425>) has shown that life expectancy, while reduced, is improved compared to older studies.

**Figure 52 Type 2 diabetes: Age distribution of people recorded as having diabetes compared with age distribution of general population, Scotland 2017.**



**Table 70** 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 2017.

Age	Type 1 diabetes			Type 2 diabetes		
	People (n)	%	Cumulative Percentage (%)	People (n)	%	Cumulative Percentage (%)
0-4	132	0.4	0.4	0	0.0	0.0
5-9	625	2.0	2.4	*	0.0	0.0
10-14	1,231	3.9	6.3	*	0.0	0.0
15-19	1,843	5.9	12.2	65	0.0	0.0
20-24	2,406	7.7	19.8	232	0.1	0.1
25-29	2,593	8.3	28.1	754	0.3	0.4
30-34	2,609	8.3	36.4	1,781	0.7	1.1
35-39	2,498	7.9	44.4	3,779	1.4	2.5
40-44	2,569	8.2	52.5	6,509	2.5	5.0
45-49	3,047	9.7	62.2	13,063	5.0	10.0
50-54	3,149	10.0	72.2	21,204	8.1	18.0
55-59	2,761	8.8	81.0	29,400	11.2	29.2
60-64	2,149	6.8	87.9	34,771	13.2	42.4
65-69	1,538	4.9	92.8	38,539	14.6	57.0
70-74	1,091	3.5	96.2	39,176	14.9	71.9
75-79	641	2.0	98.3	32,342	12.3	84.2
80-84	358	1.1	99.4	24,111	9.2	93.4
>=85	182	0.6	100.0	17,435	6.6	100.0
<b>Scotland</b>	<b>31,422</b>	<b>100.0</b>	<b>100.0</b>	<b>263,170</b>	<b>100.0</b>	<b>100.0</b>

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

A greater proportion of those with diagnosed diabetes are male; 56.1% (17,613) of those with type 1 diabetes and 56.2% (147,796) of those with type 2 diabetes. This proportion has remained relatively stable since the survey started in 2001.

## Mortality

**Table 71 The number and crude percentage of the diabetic population (all diabetes types) who have died within the last year, by NHS board, ranked by mortality, Scotland 2017.**

NHS board	Deaths	
	n	% of population
Lothian	1,522	3.5
Western Isles	55	3.6
Shetland	44	3.7
Greater Glasgow and Clyde	2,498	3.8
Forth Valley	673	3.8
Grampian	1,139	3.8
Ayrshire and Arran	951	3.8
Lanarkshire	1,560	3.8
Fife	893	3.9
Tayside	981	4.0
Borders	284	4.0
Highland	740	4.0
Dumfries and Galloway	421	4.2
Orkney	62	4.9
<b>Scotland</b>	<b>11,823</b>	<b>3.8</b>

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 take into account important differences in age structure which result in higher mortality in boards with older populations.

## Type of Diabetes Regional Detail

**Table 72** Number of people with diabetes and the distribution of diabetes type, by NHS board, ranked by the percentage with type 2 diabetes, Scotland 2017.

NHS board	Type 1		Type 2		Other types of diabetes	Total
	n	%	n	%		
Western Isles	200	13.5	1,276	86.0	7	1,483
Highland	2,041	11.6	15,134	86.2	392	17,567
Lothian	4,771	11.5	35,916	86.4	874	41,561
Grampian	3,449	11.9	25,338	87.4	209	28,996
Shetland	133	11.7	991	87.5	8	1,132
Lanarkshire	4,221	10.7	34,622	88.0	503	39,346
Borders	689	10.1	6,016	88.2	117	6,822
Forth Valley	1,839	10.7	15,222	88.3	186	17,247
Greater Glasgow and Clyde	6,390	10.0	56,854	88.7	846	64,090
Dumfries and Galloway	951	9.9	8,497	88.9	113	9,561
Fife	2,161	9.9	19,435	89.4	154	21,750
Tayside	2,148	9.1	21,310	89.8	267	23,725
Ayrshire and Arran	2,340	9.7	21,576	89.8	105	24,021
Orkney	114	9.5	1,084	90.1	5	1,203
<b>Scotland</b>	<b>31,447</b>	<b>10.5</b>	<b>263,271</b>	<b>88.2</b>	<b>3,786</b>	<b>298,504</b>

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 82% of the registered population with type 1 and type 2 diabetes (Table 75). The completeness of this information has increased from 43.2% in 2008. Type 2 diabetes is much more common, and tends to present at an earlier age in South Asian than White ethnic groups.

**Table 73 Type 1 diabetes: Completeness of recording of ethnic group by NHS board, ranked by decreasing completeness, Scotland 2017.**

NHS board	Ethnic group identified	
	People (n)	Percentage (%)
Dumfries and Galloway	926	97.4
Shetland	129	97.0
Borders	649	94.2
Forth Valley	1,727	93.9
Greater Glasgow and Clyde	5,959	93.3
Lothian	4,415	92.5
Fife	1,979	91.6
Lanarkshire	3,660	86.7
Highland	1,667	81.7
Orkney	92	80.7
Tayside	1,676	78.0
Western Isles	146	73.0
Grampian	2,427	70.4
Ayrshire and Arran	1,593	68.1
<b>Scotland</b>	<b>27,045</b>	<b>86.0</b>

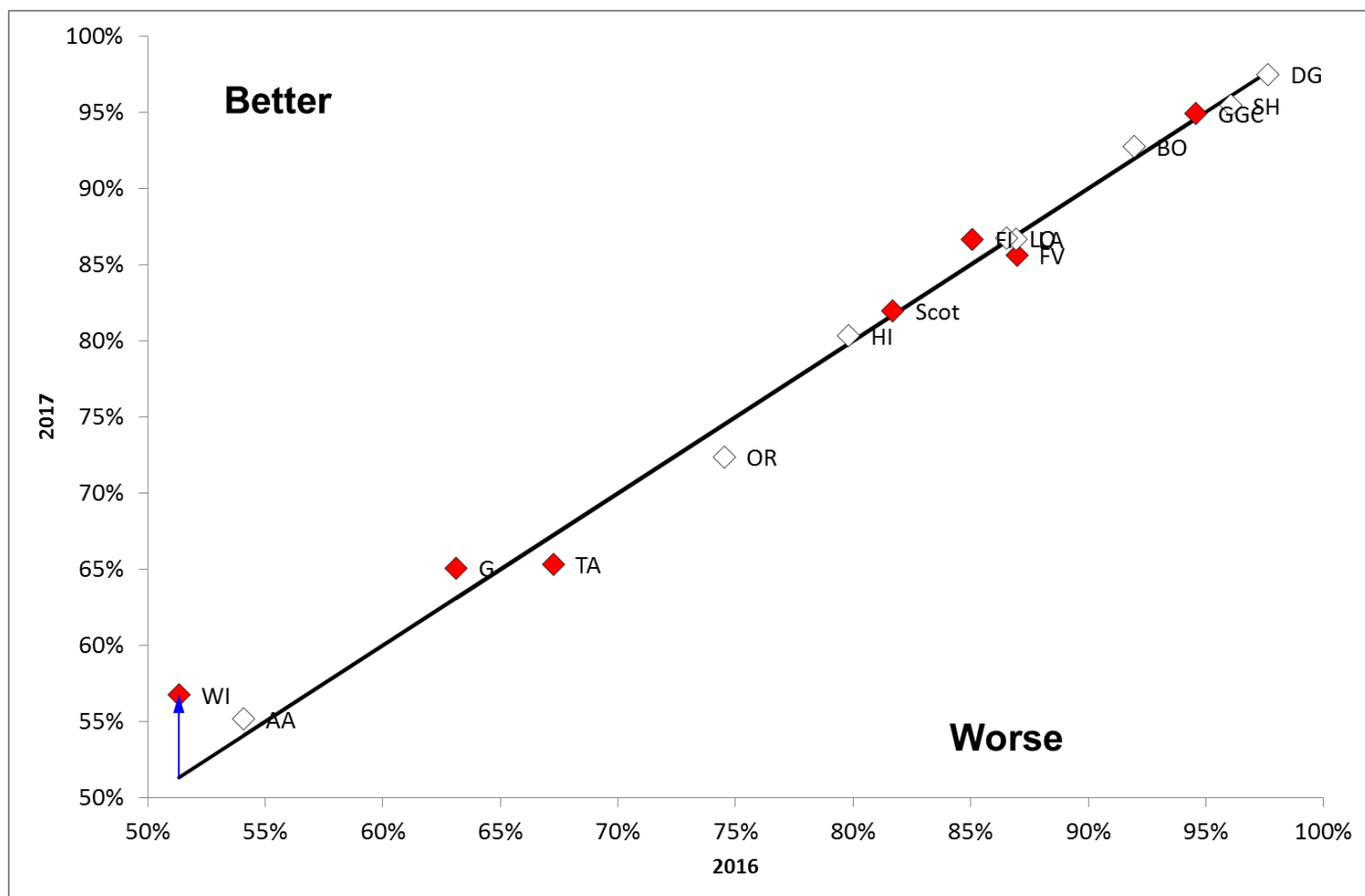
**Table 74 Type 2 diabetes: Completeness of recording of ethnic group by NHS board, ranked by decreasing completeness, Scotland 2017.**

NHS board	Ethnic group identified	
	People (n)	Percentage (%)
Dumfries and Galloway	8,283	97.5
Shetland	944	95.3
Greater Glasgow and Clyde	54,073	95.1
Borders	5,570	92.6
Lanarkshire	30,005	86.7
Fife	16,735	86.1
Lothian	30,878	86.0
Forth Valley	12,880	84.6
Highland	12,131	80.2
Orkney	775	71.5
Grampian	16,307	64.4
Tayside	13,650	64.1
Western Isles	692	54.2
Ayrshire and Arran	11,608	53.8
<b>Scotland</b>	<b>214,531</b>	<b>81.5</b>

**Table 75 Completeness of recording of ethnic group for people with diabetes (type 1 and type 2 combined) by year, Scotland 2008-2017.**

Year	Identified	
	People (n)	%
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
2010	164,370	69.6
2009	126,997	56.0
2008	94,925	43.2

**Figure 53** Completeness of recording of ethnic group for people recorded as having type 1 or type 2 diabetes (combined) , Scotland, from 2016 to 2017.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2016 and 2017. If any board has changed by more than 4% between 2016 and 2017, arrows showing the direction of change have been added.

**Table 76** Recorded ethnic group for type 1, type 2 and combined type 1 and type 2 diabetes, Scotland 2017.

Ethnic group	Type 1 diabetes		Type 2 diabetes		Type 1 and 2	
	People (n)	%	People (n)	%	People (n)	%
A – White	25,778	82.0	196,296	74.6	222,074	75.4
B - Mixed or multiple ethnic groups	622	2.0	6,390	2.4	7,012	2.4
C - Asian, Asian Scottish or Asian British	357	1.1	9,263	3.5	9,620	3.3
D - African, Caribbean or Black	132	0.4	1,115	0.4	1,247	0.4
E - Other ethnic group	156	0.5	1,467	0.6	1,623	0.6
Not recorded	4,402	14.0	48,740	18.5	53,142	18.0

## Duration of Type 2 Diabetes

The date of diagnosis was recorded for 98.9% of people with either type 1 or type 2 diabetes, of whom 5.8% have had diabetes for less than one year and 11.6% have had diabetes for 20 years or more (Table 77). It should be noted that not all dates of diagnosis are accurate, especially for those with long-standing diabetes.

**Table 77 Duration of diabetes (years since diagnosis) by type of diabetes for people with type 1 or type 2 diabetes, Scotland 2017.**

Duration (Years)	Type 1 diabetes		Type 2 diabetes		Type 1 and Type 2	
	People (n)	%	People (n)	%	People (n)	Total %
<1	970	3.1	16,038	6.2	17,008	5.8
1-4	3,581	11.6	65,998	25.3	69,579	23.9
5-9	4,480	14.5	72,907	28.0	77,387	26.6
10-14	4,169	13.5	53,645	20.6	57,814	19.8
15-19	4,078	13.2	31,818	12.2	35,896	12.3
20-24	3,341	10.8	12,124	4.7	15,465	5.3
25-29	2,874	9.3	4,925	1.9	7,799	2.7
30-34	2,300	7.4	1,839	0.7	4,139	1.4
34-39	2,001	6.5	593	0.2	2,594	0.9
40-44	1,362	4.4	245	0.1	1,607	0.6
45-49	885	2.9	130	0.0	1,015	0.3
>=50	939	3.0	142	0.1	1,081	0.4
<b>Total</b>	<b>30,980</b>	<b>100.0</b>	<b>260,404</b>	<b>100.0</b>	<b>291,384</b>	<b>100.0</b>

Note: Excludes people where date of diagnosis not known (type 1 = 457; type 2 = 2867). The 2017 Scottish Diabetes Survey has taken a more robust approach to validating date of diagnosis of diabetes than previous surveys, for example by excluding dates of diagnoses incorrectly recorded as prior to the person's date of birth. As a consequence higher numbers and proportions of people have missing data than for previous Surveys.

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 82.8% of people with type 1 or type 2 diabetes in the previous 15 months (Table 78). This is a slight decrease from 86.5% recorded in 2015 and 89.2% recorded in 2012.

**Table 78 Proportion of people with type 1 or type 2 diabetes (combined) with a record of BMI in the previous 15 months, Scotland 2017.**

Year	BMI recorded (%)
2017	82.8
2016	84.6
2015	86.5
2014	87.7
2013	88.7
2012	89.2
2011	88.7
2010	82.0
2009	89.7
2008	87.4

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3156)

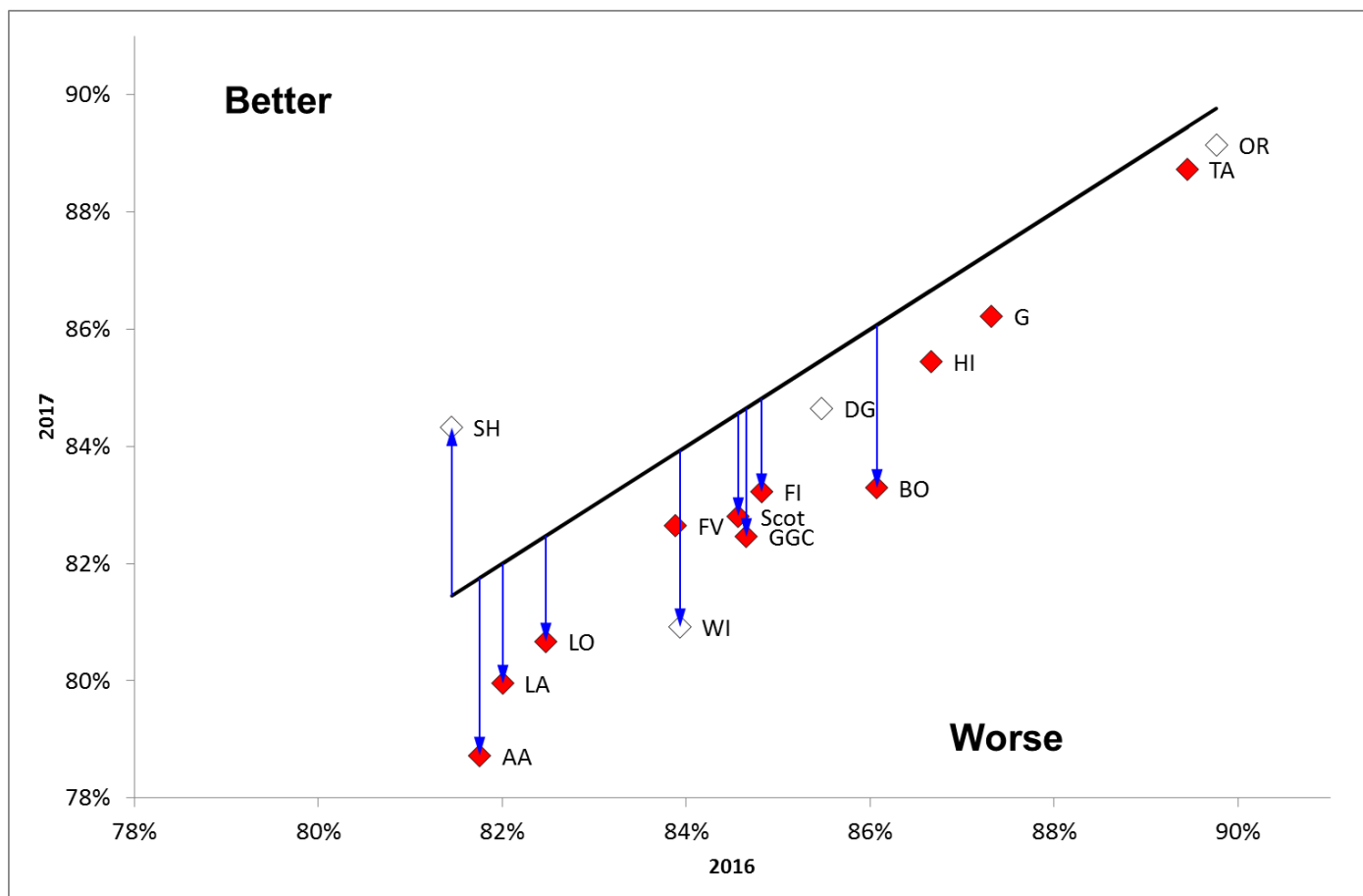
## Body Mass Index Regional Detail

**Table 79** 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 2017.

NHS board	BMI recorded (%)		Total recorded	Total not recorded
	Type 1 diabetes	Type 2 diabetes		
Orkney	86.5	89.4	1,059	129
Tayside	87.8	88.8	20,643	2,623
Highland	80.2	86.1	14,490	2,468
Grampian	89.1	85.9	24,518	3,919
Shetland	79.0	85.0	936	174
Dumfries and Galloway	87.7	84.3	7,916	1,436
Borders	85.8	83.0	5,530	1,109
Fife	85.1	83.0	17,798	3,587
Forth Valley	83.2	82.6	13,941	2,927
Greater Glasgow and Clyde	81.8	82.5	51,671	10,989
Western Isles	80.1	81.0	1,179	278
Lothian	83.8	80.3	32,493	7,786
Lanarkshire	81.2	79.8	30,621	7,675
Ayrshire and Arran	78.8	78.7	18,631	5,036
<b>Scotland</b>	<b>83.5</b>	<b>82.7</b>	<b>241,426</b>	<b>50,136</b>

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (type 1 n = 3026, type 2 n = 130)

**Figure 54** Proportion of people recorded as having type 1 or type 2 diabetes (combined) who had a record of BMI, Scotland, from 2016 to 2017.



Note: Arrows showing the direction of change have been added for all boards with more than 1.5% change between 2016 and 2017. Points in red indicate statistically significant change. The diagonal line shows no change between 2016 and 2017.

**Table 80 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  $\geq$  40kg/m<sup>2</sup>, Scotland 2017.**

NHS board	BMI (kg/m <sup>2</sup> ,%)						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	$\geq$ 40		
Western Isles	2.1	36.6	39.3	17.2	2.8	2.1	145	36
Forth Valley	1.3	36.1	37.3	17.3	5.8	2.1	1,372	278
Greater Glasgow and Clyde	1.8	37.5	36.7	16.8	4.9	2.2	4,761	1,062
Tayside	1.5	34.2	37.7	19.3	4.9	2.4	1,719	238
Lothian	2.3	37.4	36.6	16.4	4.9	2.5	3,666	711
Lanarkshire	1.9	33.5	36.3	19.4	6.2	2.6	3,042	704
Highland	1.2	32.9	39.3	18.5	5.2	2.9	1,466	361
Dumfries and Galloway	1.2	34.5	36.6	19.5	5.3	2.9	754	106
Ayrshire and Arran	1.7	33.0	36.3	19.9	6.0	3.2	1,649	443
Shetland	0.0	39.4	30.9	19.1	7.4	3.2	94	25
Borders	0.7	29.3	37.3	21.8	7.5	3.4	536	89
Grampian	1.3	35.5	38.0	17.0	4.8	3.4	2,765	337
Fife	1.3	31.8	37.2	20.3	5.8	3.5	1,666	292
Orkney	1.1	35.6	36.7	15.6	6.7	4.4	90	14
<b>Scotland</b>	<b>1.7</b>	<b>35.1</b>	<b>37.0</b>	<b>18.1</b>	<b>5.3</b>	<b>2.7</b>	<b>23,725</b>	<b>4,696</b>

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3026).

Of people with type 1 or type 2 diabetes and a record of BMI (Table 80 and Table 81), 32.2% were overweight (BMI 25-29.9kg/m<sup>2</sup>) and 52.7% were obese (BMI 30kg/m<sup>2</sup> or over).

Of people with type 1 diabetes and a record of BMI (Table 80), 37% were overweight (BMI 25-29.9kg/m<sup>2</sup>) and 26.1% were obese (BMI 30kg/m<sup>2</sup> or over).



**Table 81 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 2017.**

NHS board	BMI (kg/m <sup>2</sup> , %)						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	$\geq 40$		
Greater Glasgow and Clyde	0.6	13.5	33.1	28.8	14.4	9.6	46,910	9,927
Tayside	0.4	12.3	32.2	29.8	15.4	9.9	18,924	2,385
Grampian	0.5	12.1	31.8	30.2	15.3	10.1	21,753	3,582
Highland	0.4	11.7	32.2	30.0	15.5	10.2	13,024	2,107
Western Isles	0.5	11.8	29.7	30.0	17.7	10.3	1,034	242
Ayrshire and Arran	0.6	12.6	31.2	29.3	15.9	10.5	16,982	4,593
Lanarkshire	0.5	11.8	30.9	30.1	16.0	10.7	27,579	6,971
Borders	0.4	12.6	32.0	28.4	15.8	10.7	4,994	1,020
Lothian	0.5	12.2	31.7	29.2	15.5	10.8	28,827	7,075
Dumfries and Galloway	0.5	11.6	31.2	29.7	16.1	10.9	7,162	1,330
Forth Valley	0.4	11.2	30.8	29.7	16.2	11.7	12,569	2,649
Orkney	0.4	9.8	32.1	28.9	16.6	12.2	969	115
Fife	0.4	10.8	29.5	29.1	17.6	12.6	16,132	3,295
Shetland	0.2	9.1	26.6	30.8	19.5	13.8	842	149
<b>Scotland</b>	<b>0.5</b>	<b>12.2</b>	<b>31.7</b>	<b>29.5</b>	<b>15.6</b>	<b>10.5</b>	<b>217,701</b>	<b>45,440</b>

Note: Excludes children under 18 years of age or who have no recorded date of birth (n = 130).

Of people with type 2 diabetes and a record of BMI (Table 81), 31.7% were overweight (BMI 25-29.9kg/m<sup>2</sup>) and 55.6% were obese (BMI 30kg/m<sup>2</sup> or over).

## Glycaemic Control National and Regional Detail

91.6% of people with type 1 or type 2 diabetes had an HbA<sub>1c</sub> recorded in the previous 15 months (Table 82). It should be noted that HbA<sub>1c</sub> is higher in the winter with an average variability of around 6mmol/mol.

**Table 82 Percentage of people recorded as having type 1 or type 2 diabetes (combined) with a record of HbA<sub>1c</sub> in previous 15 months, Scotland 2017.**

Year	Recorded within previous 15 months (%)
2017	91.6
2016	92.6
2015	93.5
2014	94.0
2013	93.3
2012	92.1
2011	91.1
2010	91.4
2009	89.5
2008	89.8

**Table 83 Type 2 diabetes: Number and percentage of people with a record of HbA<sub>1c</sub> in each HbA<sub>1c</sub> category by year, Scotland 2009-2017.**

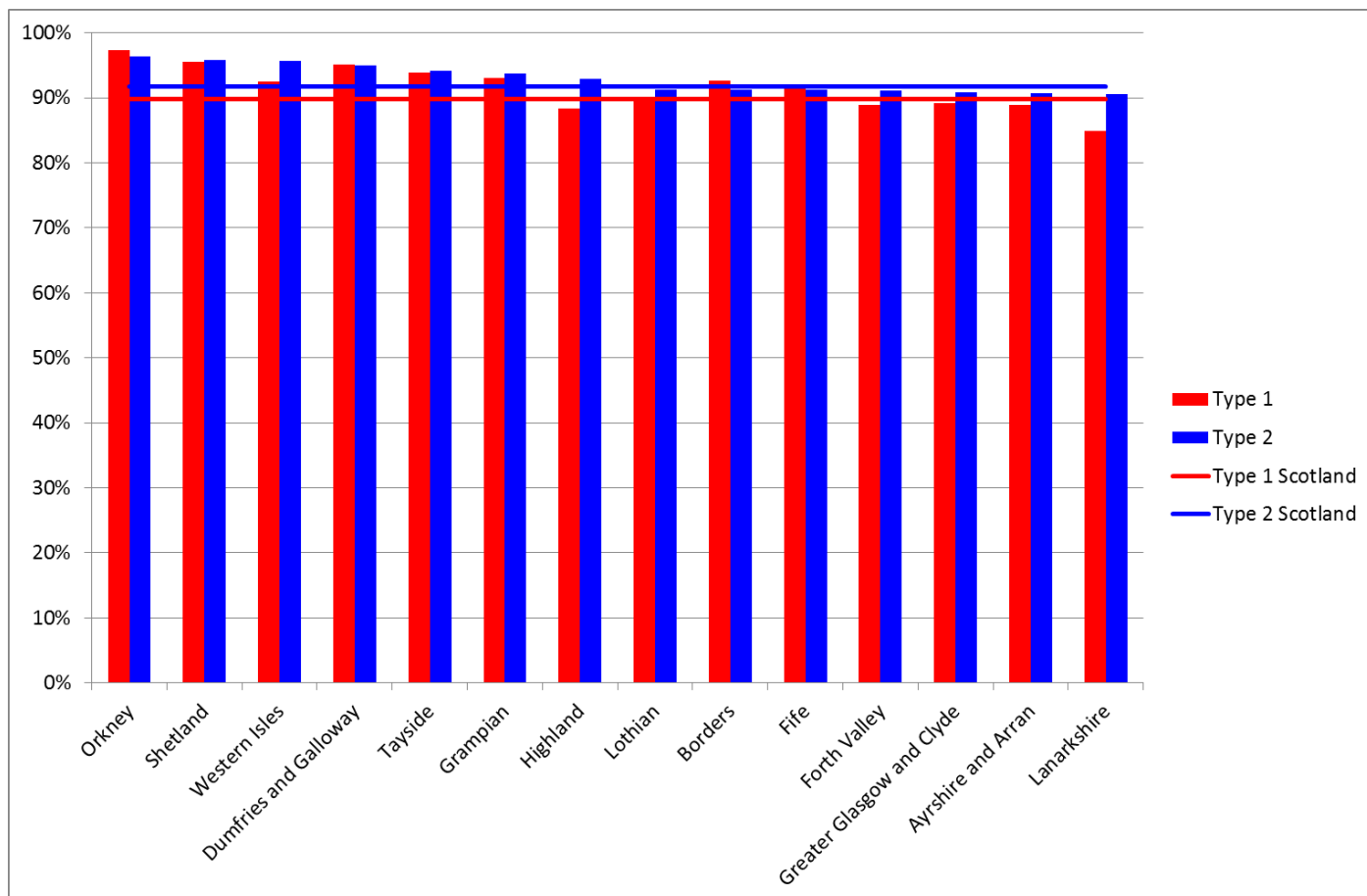
Year	HbA <sub>1c</sub> (mmol/mol)						Total recorded (n)	Not recorded (n)
	< 58		58-75		>75			
	n	%	n	%	n	%		
2017	141,866	58.7	62,440	25.8	37,306	15.4	241,612	21,659
2016	140,185	58.6	61,832	25.8	37,240	15.6	239,257	18,471
2015	136,132	57.8	61,509	26.1	37,836	16.1	235,477	15,405
2014	141,426	61.4	54,780	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
2010	122,563	64.0	42,603	22.3	26,264	13.7	191,430	16,849
2009	114,281	63.8	40,537	22.6	24,234	13.5	179,052	20,212

Note: This table is limited to years since 2009 due to the absence of data prior to that.

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

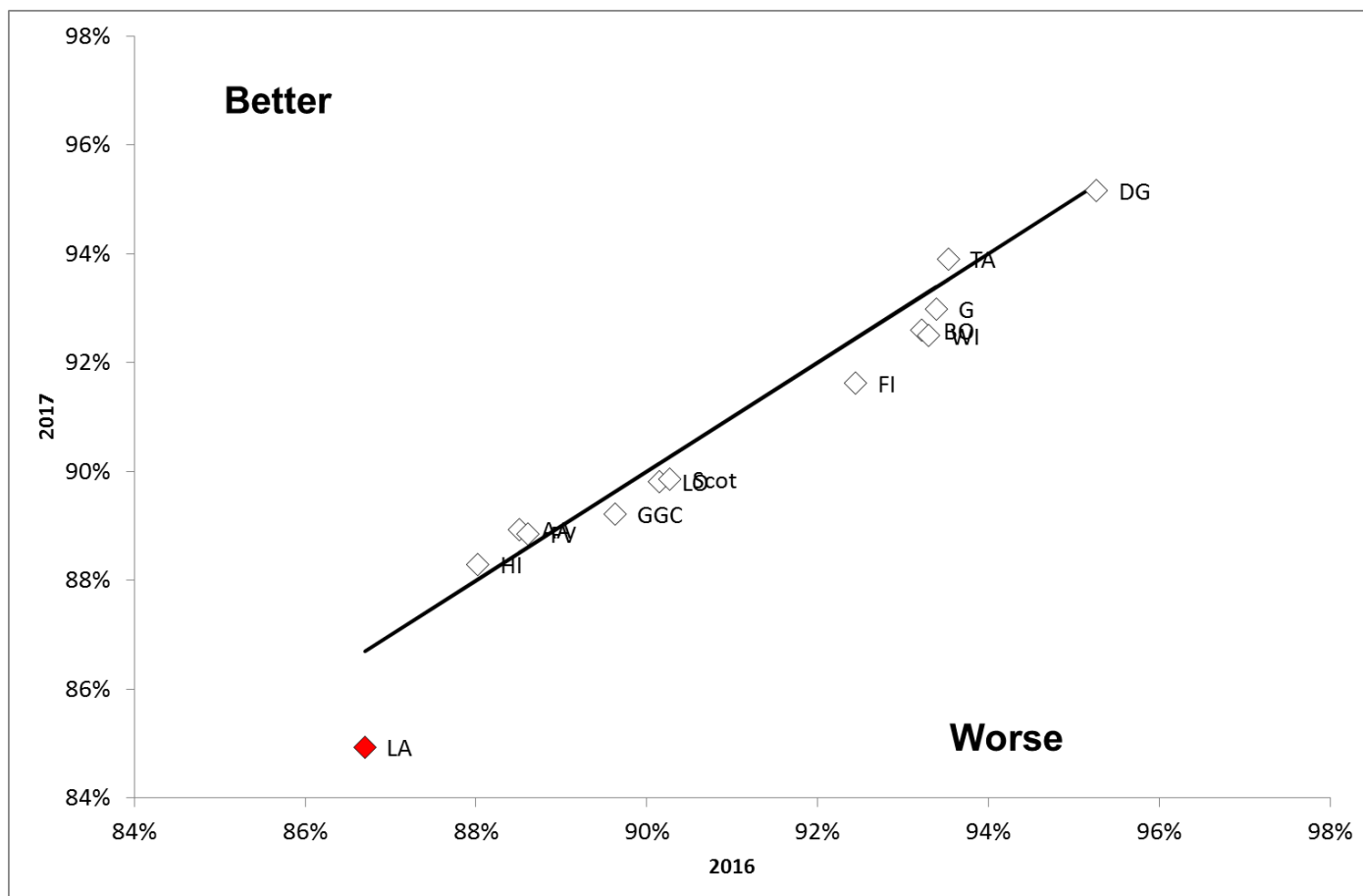
While all laboratories in Scotland are using a standardised (IFCC aligned) HbA<sub>1c</sub> assay, there are some slight differences in actual results between laboratories and some concerns remain about comparability.

**Figure 55 Percentage of people with type 1 or type 2 diabetes with a record of HbA<sub>1c</sub> within the previous 15 months by NHS board and diabetes type, Scotland 2017.**



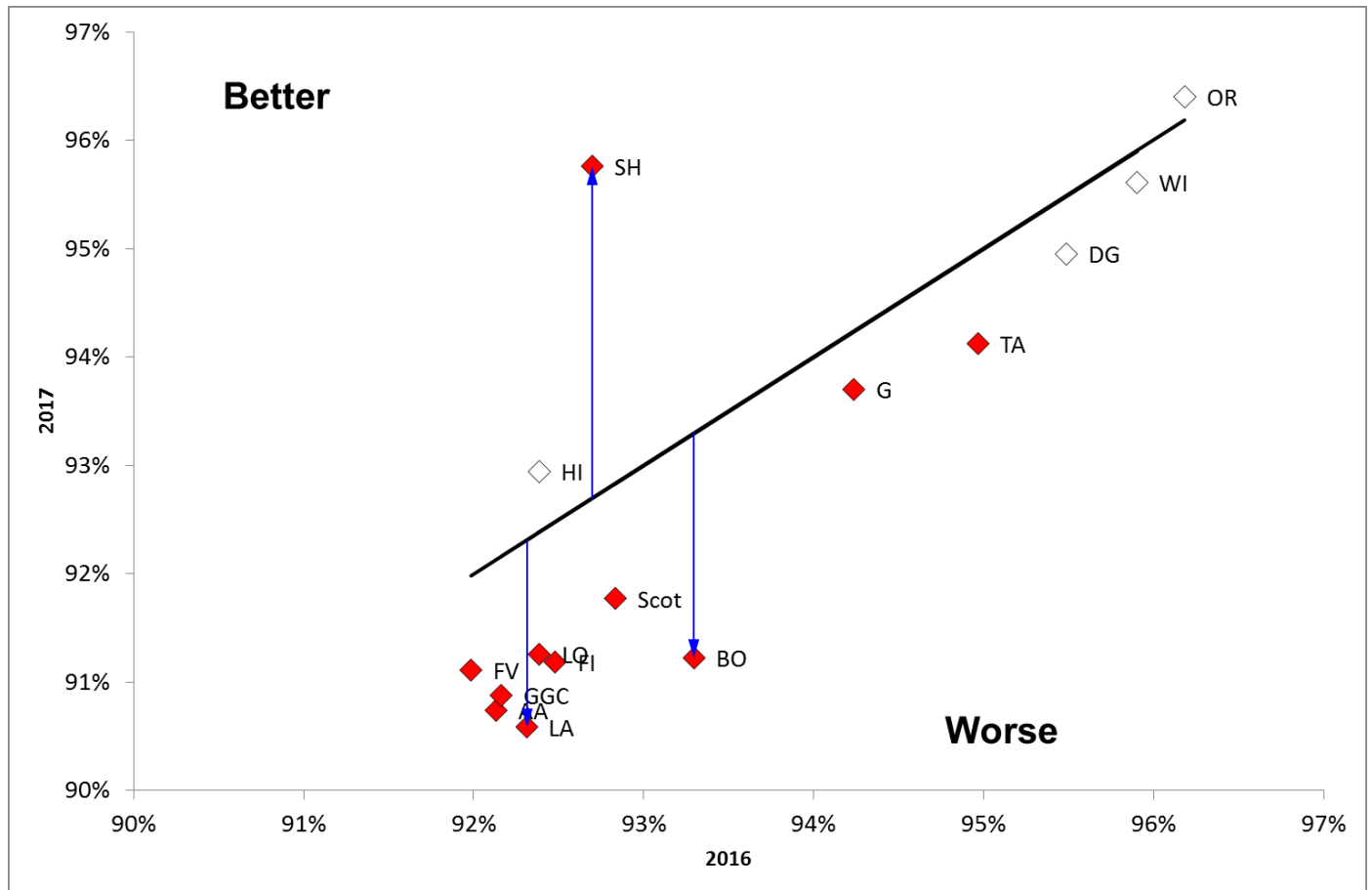
Note: Horizontal lines show figures for Scotland as a whole and bars are ranked by figures for type 2 diabetes

**Figure 56** Proportion of people with type 1 diabetes with a record of HbA<sub>1c</sub> within the previous 15 months by health board, Scotland, from 2016 to 2017.



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 2016 and 2017. Points for two boards are missing as figures are between 1 and 4 or indirectly reveal such figures

**Figure 57** Proportion of people with type 2 diabetes with a record of HbA<sub>1c</sub> within the previous 15 months by health board, Scotland, from 2016 to 2017.



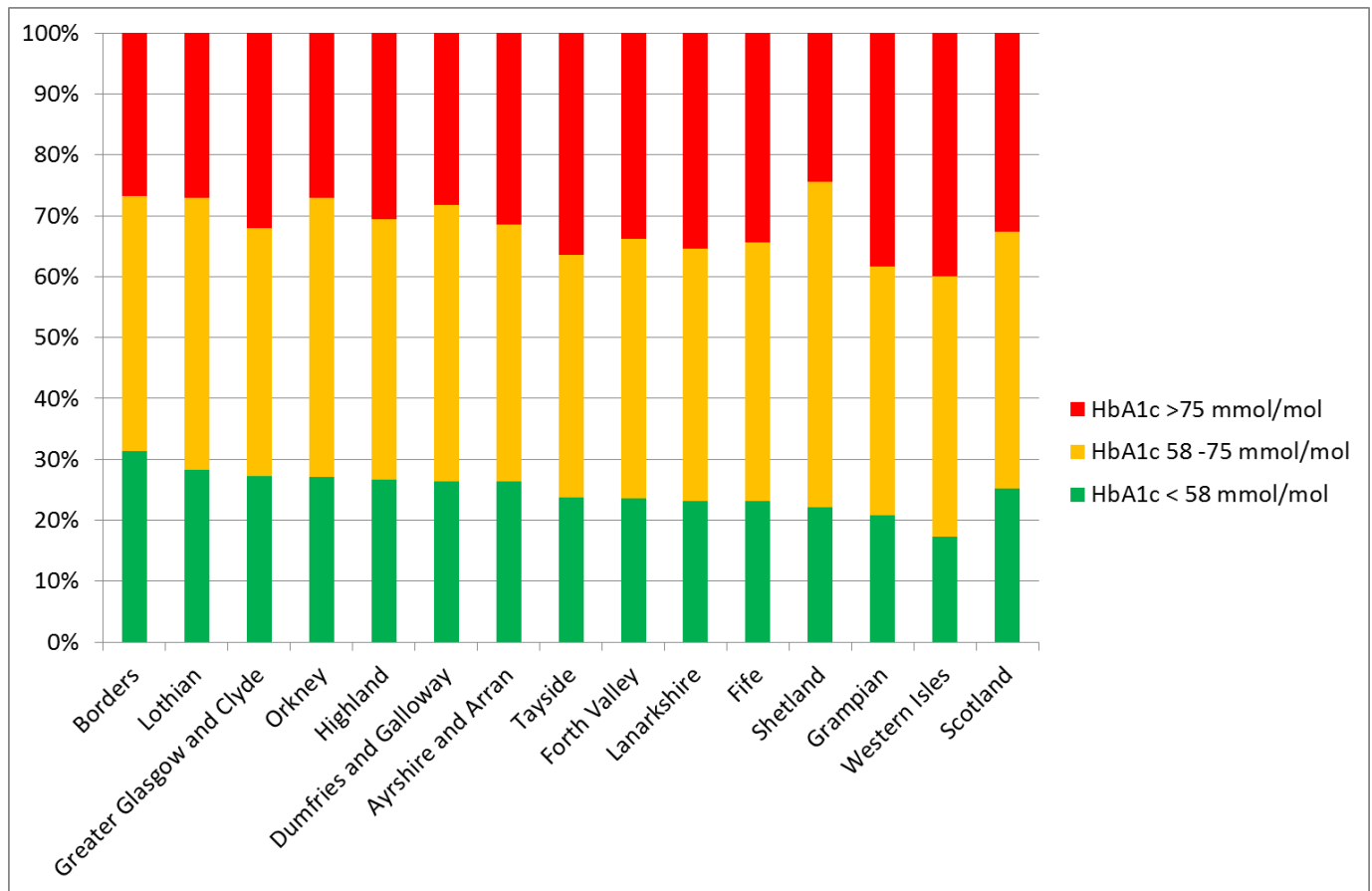
Note: Arrows showing the direction of change have been added for all boards with more than 1.5% change over that period. Points in red indicate statistically significant change. The diagonal line shows no change between 2016 and 2017.

**Table 84** Number and percentage of people with type 1 or type 2 diabetes with a record of HbA<sub>1c</sub> within the previous 15 months, by diabetes type and NHS board, ranked by decreasing percentage of people with type 2 diabetes, Scotland 2017.

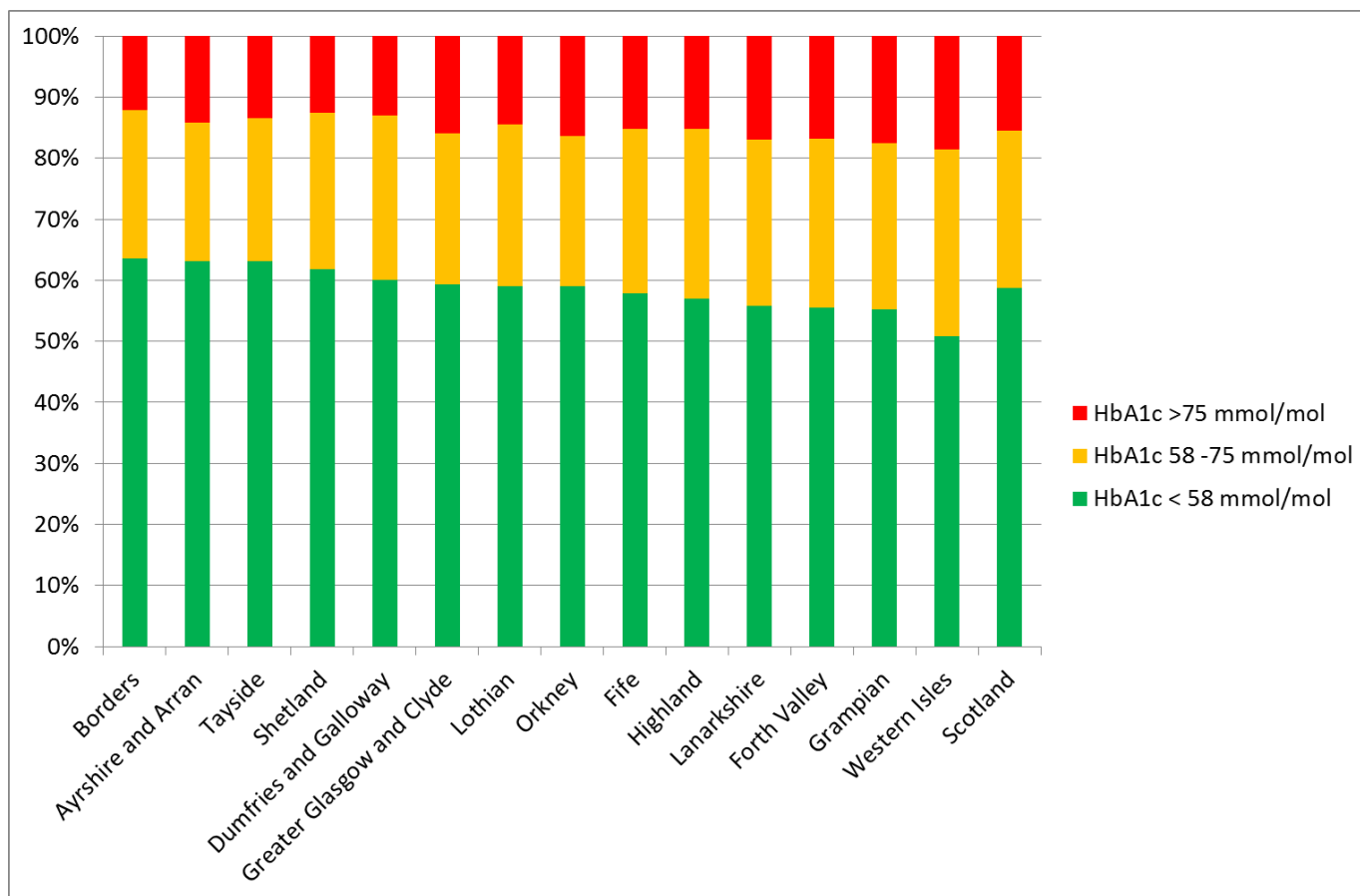
NHS board	Type 1 diabetes			Type 2 diabetes		
	Recorded within previous 15 months		Not recorded (n)	Recorded within previous 15 months		Not recorded (n)
	n	%		n	%	
Orkney	111	*	*	1,045	96.4	39
Shetland	127	*	*	949	95.8	42
Western Isles	185	92.5	15	1,220	95.6	56
Dumfries and Galloway	905	95.2	46	8,068	95.0	429
Tayside	2,017	93.9	131	20,058	94.1	1,252
Grampian	3,207	93.0	242	23,742	93.7	1,596
Highland	1,802	88.3	239	14,066	92.9	1,068
Lothian	4,285	89.8	486	32,776	91.3	3,140
Borders	638	92.6	51	5,488	91.2	528
Fife	1,980	91.6	181	17,722	91.2	1,713
Forth Valley	1,634	88.9	205	13,869	91.1	1,353
Greater Glasgow and Clyde	5,701	89.2	689	51,668	90.9	5,186
Ayrshire and Arran	2,081	88.9	259	19,578	90.7	1,998
Lanarkshire	3,585	84.9	636	31,363	90.6	3,259
<b>Scotland</b>	<b>28,258</b>	<b>89.9</b>	<b>3,189</b>	<b>241,612</b>	<b>91.8</b>	<b>21,659</b>

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

**Figure 58 Type 1 diabetes: Percentage of people with a recorded HbA<sub>1c</sub>, in each HbA<sub>1c</sub> category for HbA<sub>1c</sub> recorded in the previous 15 months, by NHS board, ranked by decreasing percentage of those with a recoded HbA<sub>1c</sub> under 58 mmol/mol, Scotland 2017.**



**Figure 59 Type 2 diabetes: Percentage of people with a recorded HbA<sub>1c</sub>, in each HbA<sub>1c</sub> category for HbA<sub>1c</sub> recorded in the previous 15 months, by NHS board, ranked by decreasing percentage of those with a recorded HbA<sub>1c</sub> under 58 mmol/mol, Scotland 2017.**





In 55.2% of people with type 1 or type 2 diabetes with a recorded result, HbA<sub>1c</sub> was less than 58mmol/mol, although this proportion differed by type of diabetes (Table 85 and Table 86).

**Table 85 Type 1 diabetes: HbA<sub>1c</sub> category as a percentage of people with HbA<sub>1c</sub> recorded in previous 15 months, by NHS board, ranked by descending percentage with HbA<sub>1c</sub> under 58mmol/mol, Scotland 2017.**

NHS board	HbA <sub>1c</sub> (mmol/mol)						Total recorded (n)	Not recorded (n)
	< 58		58 -75		>75			
	n	%	n	%	n	%		
Borders	200	31.3	267	41.8	171	26.8	638	51
Lothian	1,209	28.2	1,916	44.7	1,160	27.1	4,285	486
Greater Glasgow and Clyde	1,554	27.3	2,321	40.7	1,826	32.0	5,701	689
Orkney	30	27.0	51	45.9	30	27.0	111	*
Highland	481	26.7	770	42.7	551	30.6	1,802	239
Dumfries and Galloway	239	26.4	411	45.4	255	28.2	905	46
Ayrshire and Arran	548	26.3	878	42.2	655	31.5	2,081	259
Tayside	478	23.7	805	39.9	734	36.4	2,017	131
Forth Valley	385	23.6	696	42.6	553	33.8	1,634	205
Lanarkshire	830	23.2	1,488	41.5	1,267	35.3	3,585	636
Fife	458	23.1	842	42.5	680	34.3	1,980	181
Shetland	28	22.0	68	53.5	31	24.4	127	*
Grampian	668	20.8	1,308	40.8	1,231	38.4	3,207	242
Western Isles	32	17.3	79	42.7	74	40.0	185	15
<b>Scotland</b>	<b>7,140</b>	<b>25.3</b>	<b>11,900</b>	<b>42.1</b>	<b>9,218</b>	<b>32.6</b>	<b>28,258</b>	<b>3,189</b>

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

**Table 86 Type 2 diabetes: HbA<sub>1c</sub> category as percentage of people with HbA<sub>1c</sub> recorded in previous 15 months, by NHS board, ranked by descending percentage with HbA<sub>1c</sub> under 58mmol/mol, Scotland 2017.**

NHS board	HbA <sub>1c</sub> (mmol/mol)						Total recorded (n)	Not recorded (n)
	< 58		58 -75		>75			
	n	%	n	%	n	%		
Borders	3,489	63.6	1,334	24.3	665	12.1	5,488	528
Ayrshire and Arran	12,370	63.2	4,446	22.7	2,762	14.1	19,578	1,998
Tayside	12,661	63.1	4,690	23.4	2,707	13.5	20,058	1,252
Shetland	586	61.7	244	25.7	119	12.5	949	42
Dumfries and Galloway	4,848	60.1	2,168	26.9	1,052	13.0	8,068	429
Greater Glasgow and Clyde	30,680	59.4	12,769	24.7	8,219	15.9	51,668	5,186
Lothian	19,363	59.1	8,685	26.5	4,728	14.4	32,776	3,140
Orkney	617	59.0	257	24.6	171	16.4	1,045	39
Fife	10,263	57.9	4,755	26.8	2,704	15.3	17,722	1,713
Highland	8,019	57.0	3,907	27.8	2,140	15.2	14,066	1,068
Lanarkshire	17,519	55.9	8,535	27.2	5,309	16.9	31,363	3,259
Forth Valley	7,704	55.5	3,831	27.6	2,334	16.8	13,869	1,353
Grampian	13,127	55.3	6,445	27.1	4,170	17.6	23,742	1,596
Western Isles	620	50.8	374	30.7	226	18.5	1,220	56
<b>Scotland</b>	<b>141,866</b>	<b>58.7</b>	<b>62,440</b>	<b>25.8</b>	<b>37,306</b>	<b>15.4</b>	<b>241,612</b>	<b>21,659</b>

**Table 87 Type 1 diabetes: HbA<sub>1c</sub> category as percent of all those with HbA<sub>1c</sub> recorded in the previous 15 months (HbA<sub>1c</sub> in mmol/mol), by NHS board, ranked by percentage with HbA<sub>1c</sub> over 75mmol/mol, Scotland 2017.**

NHS board	HbA <sub>1c</sub> (mmol/mol, %)						Total recorded (n)	Not recorded (n)
	< 53	53-57	58-63	64-68	69-75	> 75		
Shetland	11.8	10.2	21.3	18.9	13.4	24.4	127	*
Borders	17.6	13.8	19.1	12.7	10.0	26.8	638	51
Orkney	14.4	12.6	20.7	14.4	10.8	27.0	111	*
Lothian	15.8	12.4	17.4	14.5	12.8	27.1	4,285	486
Dumfries and Galloway	13.9	12.5	18.2	12.6	14.6	28.2	905	46
Highland	13.9	12.8	16.3	13.6	12.9	30.6	1,802	239
Ayrshire and Arran	14.8	11.5	14.5	14.6	13.1	31.5	2,081	259
Greater Glasgow and Clyde	15.5	11.8	15.8	12.1	12.9	32.0	5,701	689
Forth Valley	13.6	10.0	15.7	13.0	13.8	33.8	1,634	205
Fife	12.5	10.7	15.9	13.6	13.1	34.3	1,980	181
Lanarkshire	12.8	10.3	15.8	12.4	13.3	35.3	3,585	636
Tayside	13.9	9.8	14.2	13.7	11.9	36.4	2,017	131
Grampian	11.1	9.7	15.6	12.0	13.2	38.4	3,207	242
Western Isles	8.6	8.6	13.5	16.2	13.0	40.0	185	15
<b>Scotland</b>	<b>14.0</b>	<b>11.2</b>	<b>16.0</b>	<b>13.1</b>	<b>13.0</b>	<b>32.6</b>	<b>28,258</b>	<b>3,189</b>

**Table 88 Type 2 diabetes: HbA<sub>1c</sub> category as percent of all those with HbA<sub>1c</sub> recorded in the previous 15 months (HbA<sub>1c</sub> in mmol/mol), by NHS board, ranked by percentage with HbA<sub>1c</sub> over 75 mmol/mol, Scotland 2017.**

NHS board	HbA <sub>1c</sub> (mmol/mol, %)						Total recorded (n)	Not recorded (n)
	< 53	53-57	58-63	64-68	69-75	> 75		
Borders	49.0	14.6	11.6	7.1	5.5	12.1	5,488	528
Shetland	50.2	11.6	12.5	5.7	7.5	12.5	949	42
Dumfries and Galloway	44.6	15.5	12.8	7.8	6.3	13.0	8,068	429
Tayside	48.8	14.4	11.1	6.8	5.4	13.5	20,058	1,252
Ayrshire and Arran	49.0	14.2	10.6	7.0	5.0	14.1	19,578	1,998
Lothian	44.2	14.9	13.2	7.4	5.9	14.4	32,776	3,140
Highland	41.8	15.2	13.1	7.8	6.9	15.2	14,066	1,068
Fife	42.9	15.1	13.0	7.8	6.1	15.3	17,722	1,713
Greater Glasgow and Clyde	45.7	13.7	11.7	6.9	6.1	15.9	51,668	5,186
Orkney	46.2	12.8	12.1	6.6	5.9	16.4	1,045	39
Forth Valley	40.4	15.2	13.3	7.5	6.8	16.8	13,869	1,353
Lanarkshire	41.1	14.8	12.9	7.7	6.6	16.9	31,363	3,259
Grampian	41.4	13.9	12.6	7.6	7.0	17.6	23,742	1,596
Western Isles	34.9	15.9	14.3	9.2	7.2	18.5	1,220	56
<b>Scotland</b>	<b>44.3</b>	<b>14.5</b>	<b>12.3</b>	<b>7.3</b>	<b>6.2</b>	<b>15.4</b>	<b>241,612</b>	<b>21,659</b>

**Table 89 Mean HbA<sub>1c</sub> (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<sub>1c</sub> for those with type 2 diabetes, Scotland 2017.**

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	
Borders	56	55	57	67	74	70	70	70	68	62	65	56
Shetland	-	69	72	73	82	59	66	71	69	62	-	56
Tayside	57	60	69	73	71	72	69	69	68	67	66	56
Ayrshire and Arran	62	62	64	75	77	73	70	70	68	64	64	57
Dumfries and Galloway	65	62	63	75	71	76	73	67	67	63	69	58
Greater Glasgow and Clyde	59	59	61	71	73	72	69	70	70	67	69	58
Lothian	65	61	63	75	72	68	68	67	68	65	65	58
Fife	63	64	67	79	77	72	70	70	70	67	70	59
Highland	55	58	59	74	80	71	70	70	70	66	67	59
Orkney	78	63	74	68	82	64	67	62	68	62	68	59
Forth Valley	61	64	64	79	75	76	70	71	70	66	67	60
Grampian	57	63	66	80	78	72	71	72	70	69	79	60
Lanarkshire	64	59	64	74	77	75	71	72	70	68	71	60
Western Isles	75	71	67	64	78	76	76	74	67	70	75	61

## Cardiovascular Risk National and Regional Detail

### Blood Pressure

84.3% of people with type 1 and 89.8% of people with type 2 diabetes had their BP recorded within the previous 15 months (Table 90).

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 90** Number and percentage of people with type 1 or type 2 diabetes with a recorded BP within the previous 15 months, Scotland 2009-2017.

Year	Type 1 diabetes			Type 2 diabetes		
	BP Recorded		Population (n)	BP Recorded		Population (n)
	n	%		n	%	
2017	26,524	84.3	31,447	236,329	89.8	263,271
2016	26,248	84.9	30,899	236,721	91.8	263,271
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
2010	23,977	85.9	27,910	196,638	94.4	208,279
2009	23,568	86.1	27,367	189,289	95.0	199,264

Note: This table is limited to years since 2009 due to the absence of data prior to that.

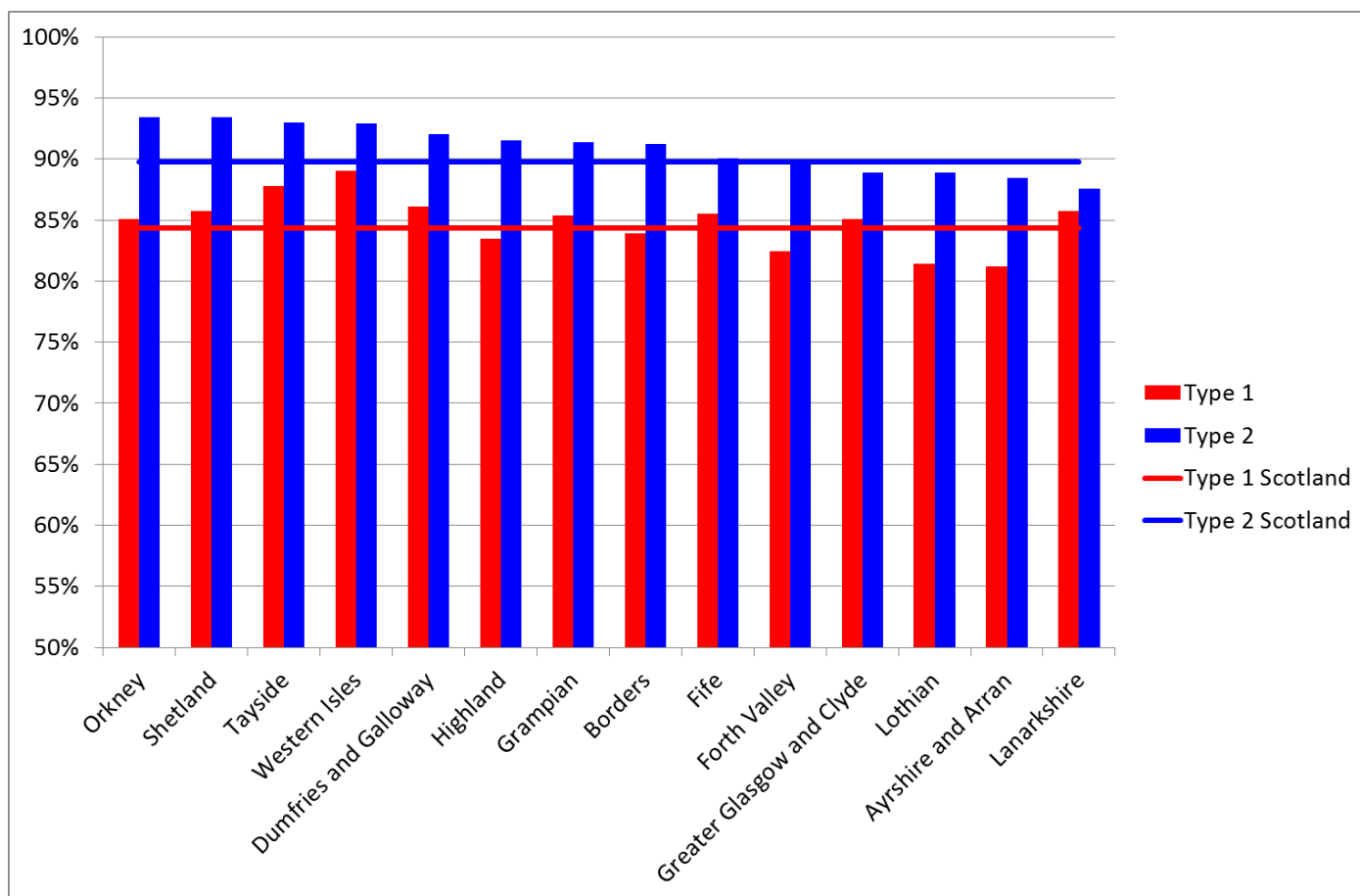
See the [Type 1 Diabetes Blood Pressure](#) section for information on people with type 1 diabetes.

### Blood Pressure Regional Detail

Overall 89.2% of people with type 1 or type 2 diabetes had their BP recorded within the previous 15 months (Table 91). Of those, 74.9% had a systolic BP less than or equal to 140 mmHg (Table 92 and Table 94), 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 92 and Table 93) and for people with type 2 diabetes in Figure 64, Figure 65 and Figure 66 (Table 94 and Table 95).

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 2017.**



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

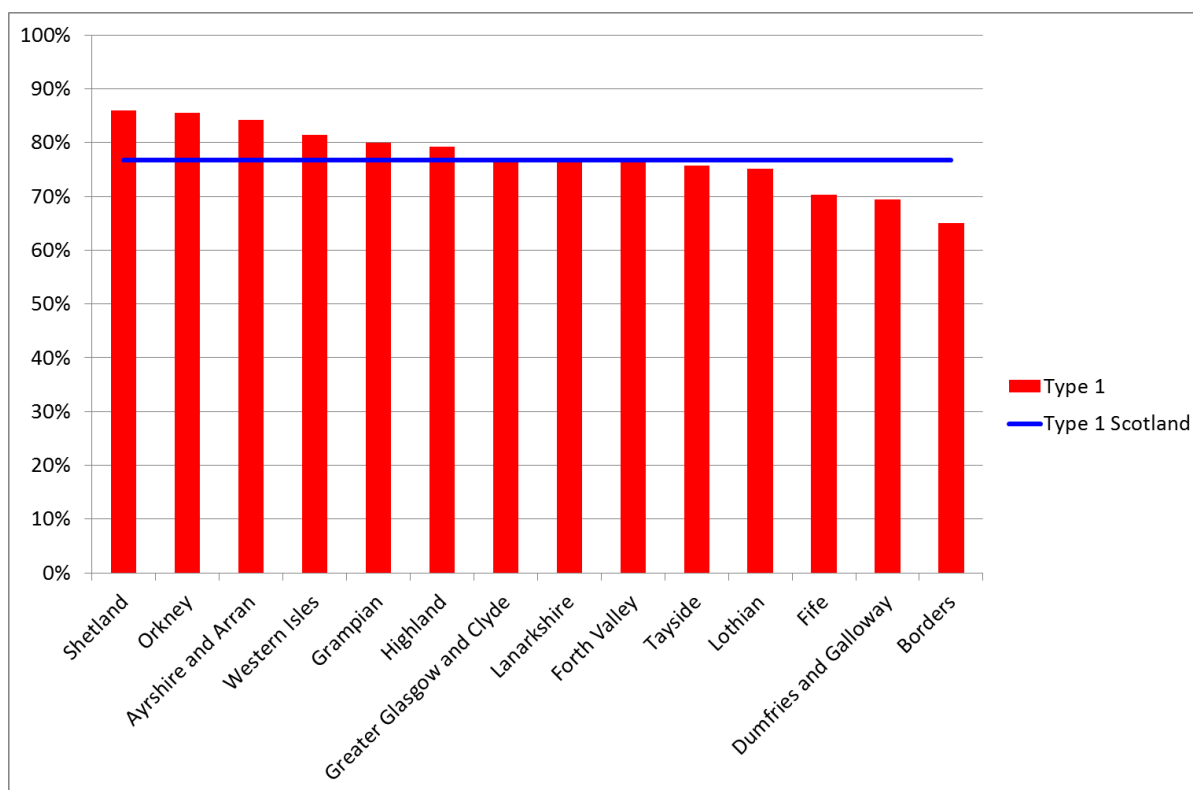
**Table 91** Number and percentage of people with type 1 and type 2 diabetes with a recording of BP in the previous 15 months, by NHS board and diabetes type, ranked by figures for type 2 diabetes, Scotland 2017.

NHS board	Recorded within previous 15 months			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Orkney	97	85.1	1,013	93.5
Shetland	114	85.7	926	93.4
Tayside	1,885	87.8	19,819	93.0
Western Isles	178	89.0	1,186	92.9
Dumfries and Galloway	819	86.1	7,819	92.0
Highland	1,704	83.5	13,855	91.5
Grampian	2,944	85.4	23,161	91.4
Borders	578	83.9	5,490	91.3
Fife	1,848	85.5	17,502	90.1
Forth Valley	1,516	82.4	13,681	89.9
Greater Glasgow and Clyde	5,438	85.1	50,550	88.9
Lothian	3,884	81.4	31,919	88.9
Ayrshire and Arran	1,900	81.2	19,079	88.4
Lanarkshire	3,619	85.7	30,329	87.6
<b>Scotland</b>	<b>26,524</b>	<b>84.3</b>	<b>236,329</b>	<b>89.8</b>

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 2017.**



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

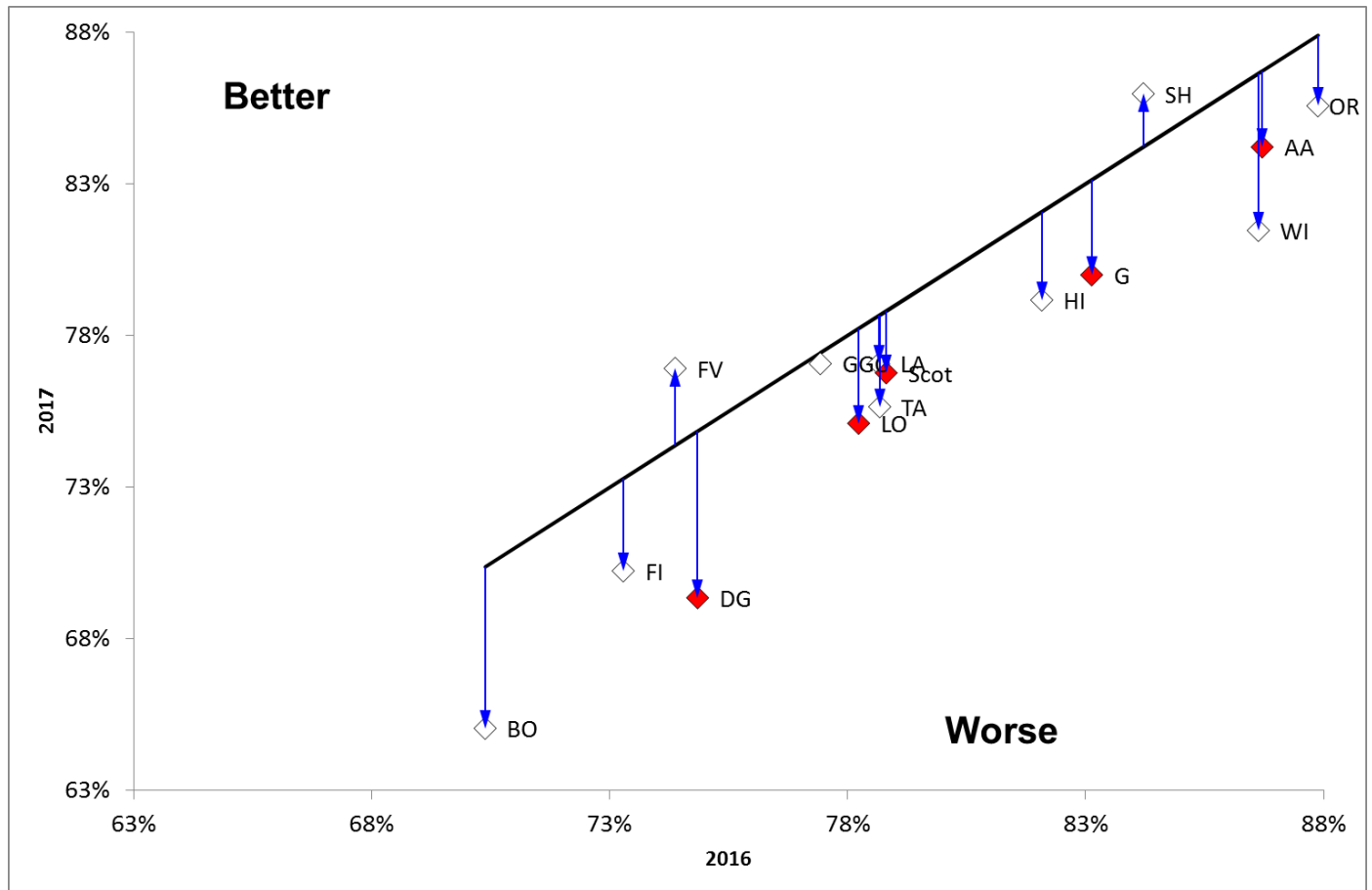
**Table 92 Type 1 diabetes: Number and percentage of people with systolic blood pressure (SBP) ≤ 140 mmHg by NHS board, ranked by percentage > 140 mmHg, Scotland 2017.**

NHS board	Systolic BP ≤ 140		Systolic BP > 140		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Shetland	98	86.0	16	14.0	114	19	14.3
Orkney	83	85.6	14	14.4	97	17	14.9
Ayrshire and Arran	1,600	84.2	300	15.8	1,900	440	18.8
Western Isles	145	81.5	33	18.5	178	22	11.0
Grampian	2,355	80.0	589	20.0	2,944	505	14.6
Highland	1,349	79.2	355	20.8	1,704	337	16.5
Greater Glasgow and Clyde	4,191	77.1	1,247	22.9	5,438	952	14.9
Lanarkshire	2,789	77.1	830	22.9	3,619	602	14.3
Forth Valley	1,166	76.9	350	23.1	1,516	323	17.6
Tayside	1,426	75.6	459	24.4	1,885	263	12.2
Lothian	2,917	75.1	967	24.9	3,884	887	18.6
Fife	1,298	70.2	550	29.8	1,848	313	14.5
Dumfries and Galloway	568	69.4	251	30.6	819	132	13.9
Borders	376	65.1	202	34.9	578	111	16.1
<b>Scotland</b>	<b>20,361</b>	<b>76.8</b>	<b>6,163</b>	<b>23.2</b>	<b>26,524</b>	<b>4,923</b>	<b>15.7</b>

Note: Restricted to most recent value recorded in the previous 15 months – those with only older results are classed

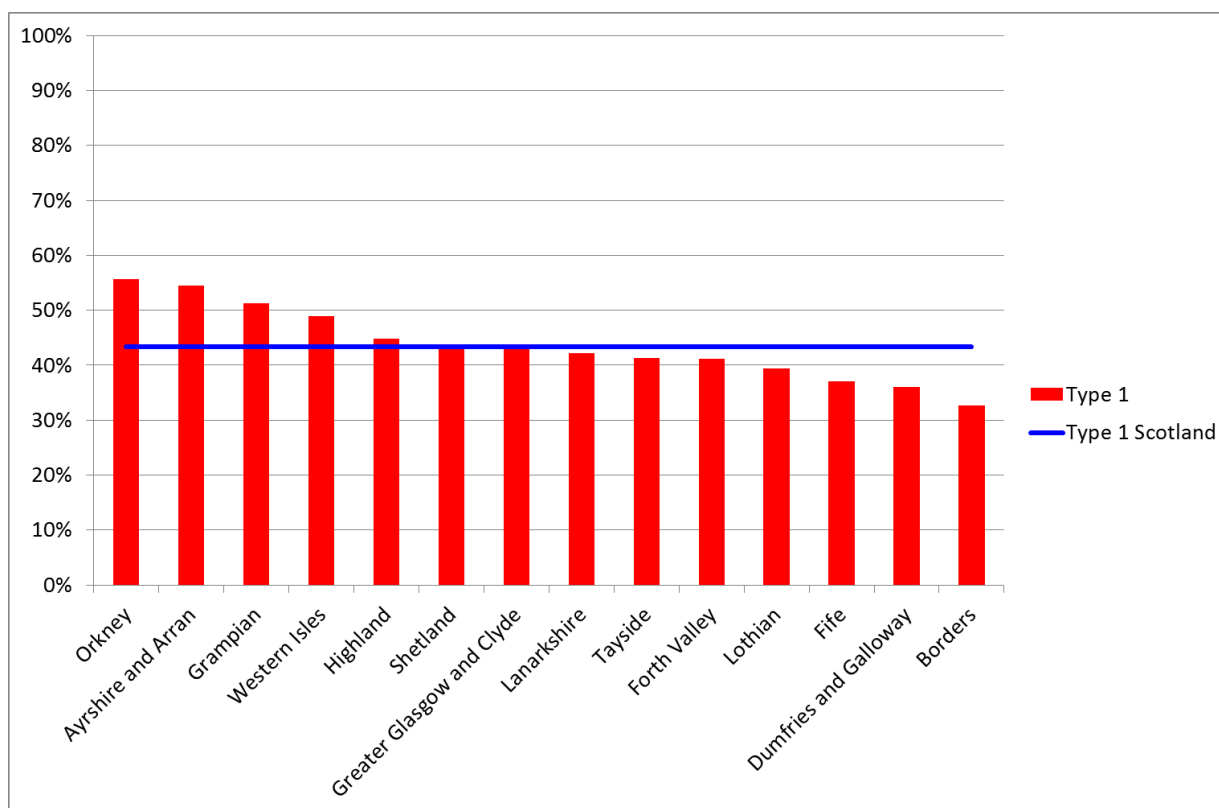
as missing (not recorded).

**Figure 62 Type 1 diabetes: Percentage of people with SBP  $\leq$  140 mmHg, Scotland, from 2016 to 2017.**



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 2016 and 2017.

**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 2017.**



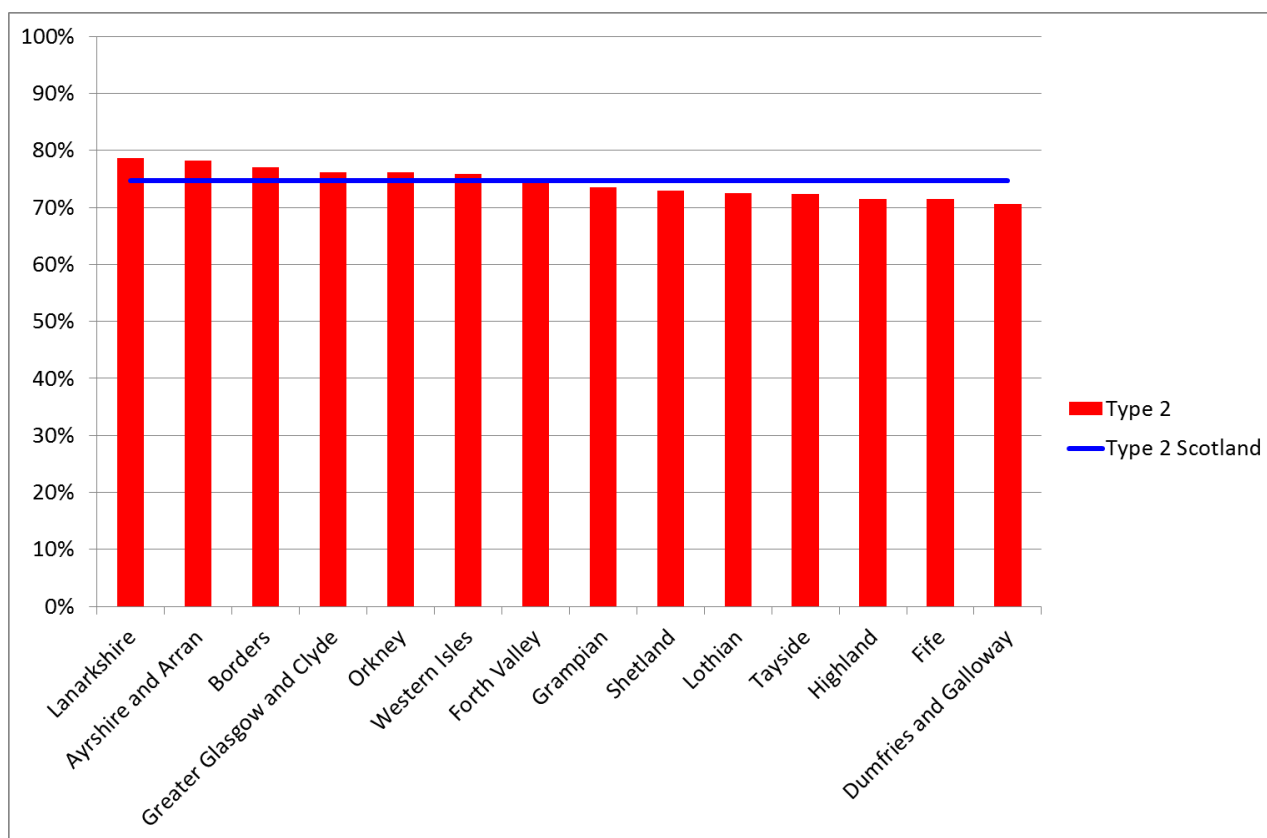
Note: Horizontal line indicates mean level for Scotland as a whole.

**Table 93 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 2017.**

NHS board	Met BP target		Did not meet BP target		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Orkney	54	55.7	43	44.3	97	17	14.9
Ayrshire and Arran	1,034	54.4	866	45.6	1,900	440	18.8
Grampian	1,511	51.3	1,433	48.7	2,944	505	14.6
Western Isles	87	48.9	91	51.1	178	22	11.0
Highland	763	44.8	941	55.2	1,704	337	16.5
Shetland	50	43.9	64	56.1	114	19	14.3
Greater Glasgow and Clyde	2,362	43.4	3,076	56.6	5,438	952	14.9
Lanarkshire	1,524	42.1	2,095	57.9	3,619	602	14.3
Tayside	779	41.3	1,106	58.7	1,885	263	12.2
Forth Valley	623	41.1	893	58.9	1,516	323	17.6
Lothian	1,532	39.4	2,352	60.6	3,884	887	18.6
Fife	686	37.1	1,162	62.9	1,848	313	14.5
Dumfries and Galloway	295	36.0	524	64.0	819	132	13.9
Borders	189	32.7	389	67.3	578	111	16.1
<b>Scotland</b>	<b>11,489</b>	<b>43.3</b>	<b>15,035</b>	<b>56.7</b>	<b>26,524</b>	<b>4,923</b>	<b>15.7</b>

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 2017.**



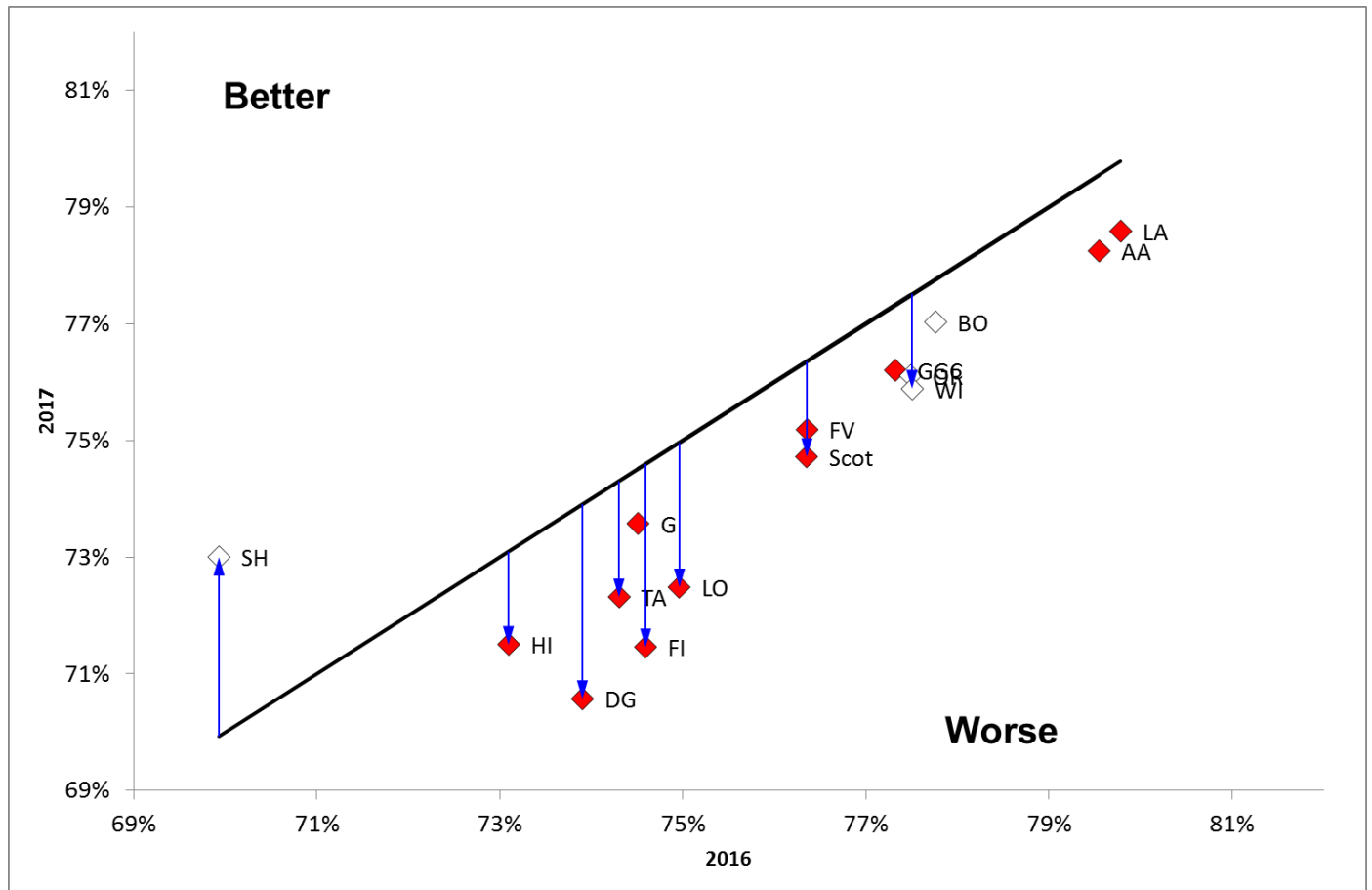
Horizontal line indicates mean level for Scotland as a whole

**Table 94 Type 2 diabetes: Number and percentage of people with systolic blood pressure (SBP) ≤ 140 mmHg by NHS board, ranked by percentage > 140 mmHg, Scotland 2017.**

NHS board	BP ≤ 140		BP > 140		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Lanarkshire	23,835	78.6	6,494	21.4	30,329	4,293	12.4
Ayrshire and Arran	14,929	78.2	4,150	21.8	19,079	2,497	11.6
Borders	4,229	77.0	1,261	23.0	5,490	526	8.7
Greater Glasgow and Clyde	38,521	76.2	12,029	23.8	50,550	6,304	11.1
Orkney	771	76.1	242	23.9	1,013	71	6.5
Western Isles	900	75.9	286	24.1	1,186	90	7.1
Forth Valley	10,286	75.2	3,395	24.8	13,681	1,541	10.1
Grampian	17,041	73.6	6,120	26.4	23,161	2,177	8.6
Shetland	676	73.0	250	27.0	926	65	6.6
Lothian	23,137	72.5	8,782	27.5	31,919	3,997	11.1
Tayside	14,333	72.3	5,486	27.7	19,819	1,491	7.0
Highland	9,907	71.5	3,948	28.5	13,855	1,279	8.5
Fife	12,507	71.5	4,995	28.5	17,502	1,933	9.9
Dumfries and Galloway	5,518	70.6	2,301	29.4	7,819	678	8.0
<b>Scotland</b>	<b>176,590</b>	<b>74.7</b>	<b>59,739</b>	<b>25.3</b>	<b>236,329</b>	<b>26,942</b>	<b>10.2</b>

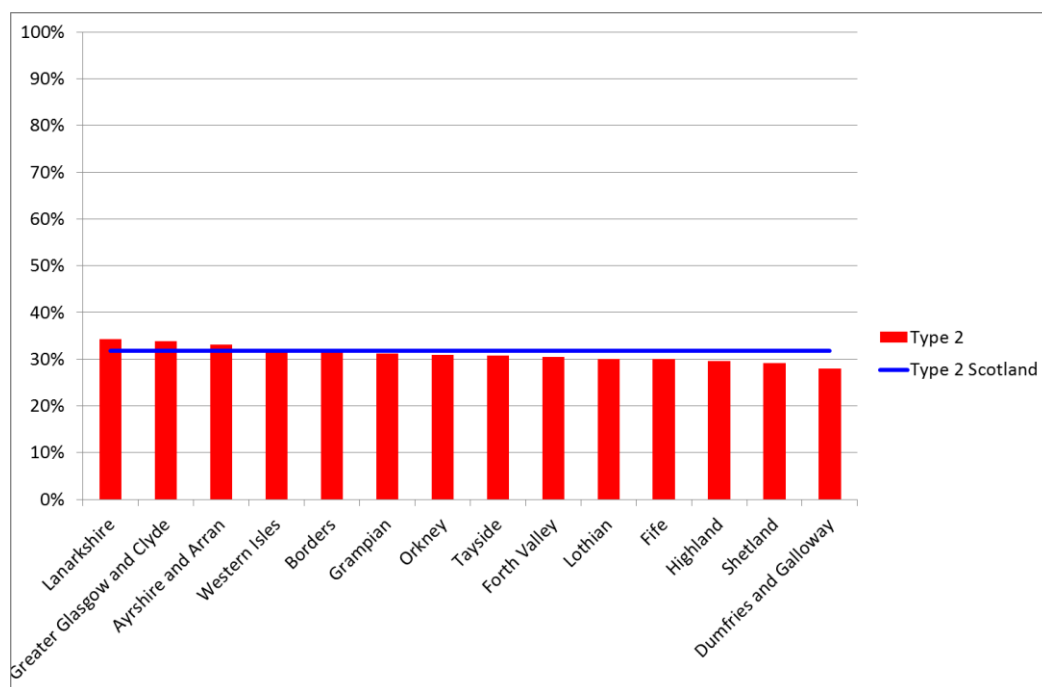
Note: Those with only results older than 15 months are classed as missing (not recorded).

Figure 65 Type 2 diabetes: Percentage of people with SBP  $\leq$  140 mmHg, Scotland, from 2016 to 2017.



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 2016 and 2017.

**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 2017.**



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

**Table 95 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 2017.**

NHS board	Met BP target		Did not meet BP target		Total recorded (n)	Not recorded	
	n	%	n	%		n	%
Lanarkshire	10,379	34.2	19,950	65.8	30,329	4,293	12.4
Greater Glasgow and Clyde	17,075	33.8	33,475	66.2	50,550	6,304	11.1
Ayrshire and Arran	6,324	33.1	12,755	66.9	19,079	2,497	11.6
Western Isles	383	32.3	803	67.7	1,186	90	7.1
Borders	1,771	32.3	3,719	67.7	5,490	526	8.7
Grampian	7,214	31.1	15,947	68.9	23,161	2,177	8.6
Orkney	313	30.9	700	69.1	1,013	71	6.5
Tayside	6,082	30.7	13,737	69.3	19,819	1,491	7.0
Forth Valley	4,169	30.5	9,512	69.5	13,681	1,541	10.1
Lothian	9,597	30.1	22,322	69.9	31,919	3,997	11.1
Fife	5,255	30.0	12,247	70.0	17,502	1,933	9.9
Highland	4,093	29.5	9,762	70.5	13,855	1,279	8.5
Shetland	270	29.2	656	70.8	926	65	6.6
Dumfries and Galloway	2,188	28.0	5,631	72.0	7,819	678	8.0
<b>Scotland</b>	<b>75,113</b>	<b>31.8</b>	<b>161,216</b>	<b>68.2</b>	<b>236,329</b>	<b>26,942</b>	<b>10.2</b>

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

**Table 96** Percentage of people with diabetes (type 1 and type 2 combined) with systolic blood pressure (SBP)  $\leq$  140 mmHg by year, Scotland 2008-2017.

Year	Total	Systolic BP $\leq$ 140 (%)	Systolic BP $>$ 140 (%)	Not recorded (%)
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
2010	220,615	74.9	25.1	6.1
2009	212,857	75.1	24.9	9.2
2008	199,650	73.3	26.7	9.2

**Table 97** 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 2017.

NHS board	Mean systolic BP (mmHg)	Mean diastolic BP (mmHg)
Orkney	115	71
Ayrshire and Arran	119	73
Grampian	121	73
Western Isles	121	75
Highland	122	74
Shetland	123	75
Greater Glasgow and Clyde	124	75
Lanarkshire	124	75
Lothian	124	77
Dumfries and Galloway	125	77
Tayside	125	75
Fife	126	77
Forth Valley	127	75
Borders	130	73

**Table 98 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 2017.**

NHS board	Mean systolic BP (mmHg)	Mean diastolic BP (mmHg)
Ayrshire and Arran	132	78
Greater Glasgow and Clyde	132	79
Lanarkshire	132	78
Borders	133	79
Forth Valley	133	79
Grampian	133	79
Highland	133	79
Lothian	133	80
Orkney	133	80
Tayside	133	80
Western Isles	133	79
Dumfries and Galloway	134	80
Fife	134	80
Shetland	134	80



## Total Cholesterol Summary

Cholesterol level was recorded in 84.8% of people with type 1 or type 2 diabetes within the previous 15 months (Table 99).

**Table 99 Number and percentage of people with diabetes (type 1 and type 2 combined) with cholesterol < 5mmol/l, by year (denominator those with recording of cholesterol within the previous 15 months) by year, Scotland 2008-2017.**

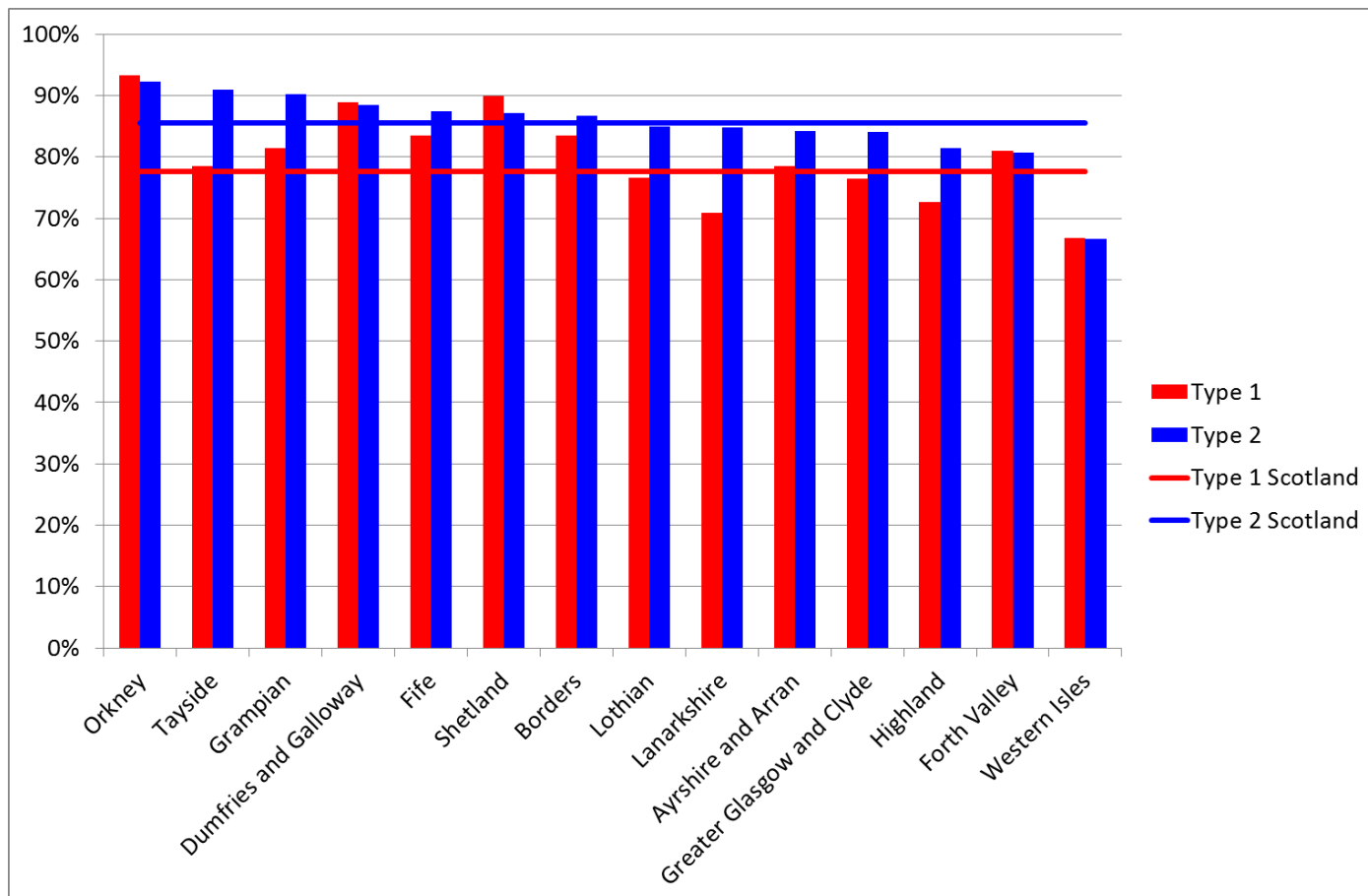
Year	Cholesterol ≤ 5		Cholesterol > 5		Not recorded		Recorded (%)	Total Eligible Population (n)
	Number	%	Number	%	Number	%		
2017	188,985	76.5	58,131	23.5	44,446	15.2	84.8	291,562
2016	191,365	77.6	55,287	22.4	38,805	13.6	86.4	285,457
2015	194,520	78.9	52,093	21.1	31,512	11.3	88.7	278,125
2014	196,091	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	89.2	245,786
2010	169,367	80.4	41,391	19.6	24,440	10.4	89.6	235,198
2009	157,434	80.7	37,650	19.3	30,551	13.5	86.5	225,635
2008	157,938	80.1	39,107	19.9	21,858	10.0	90.1	218,903

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 3156).

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

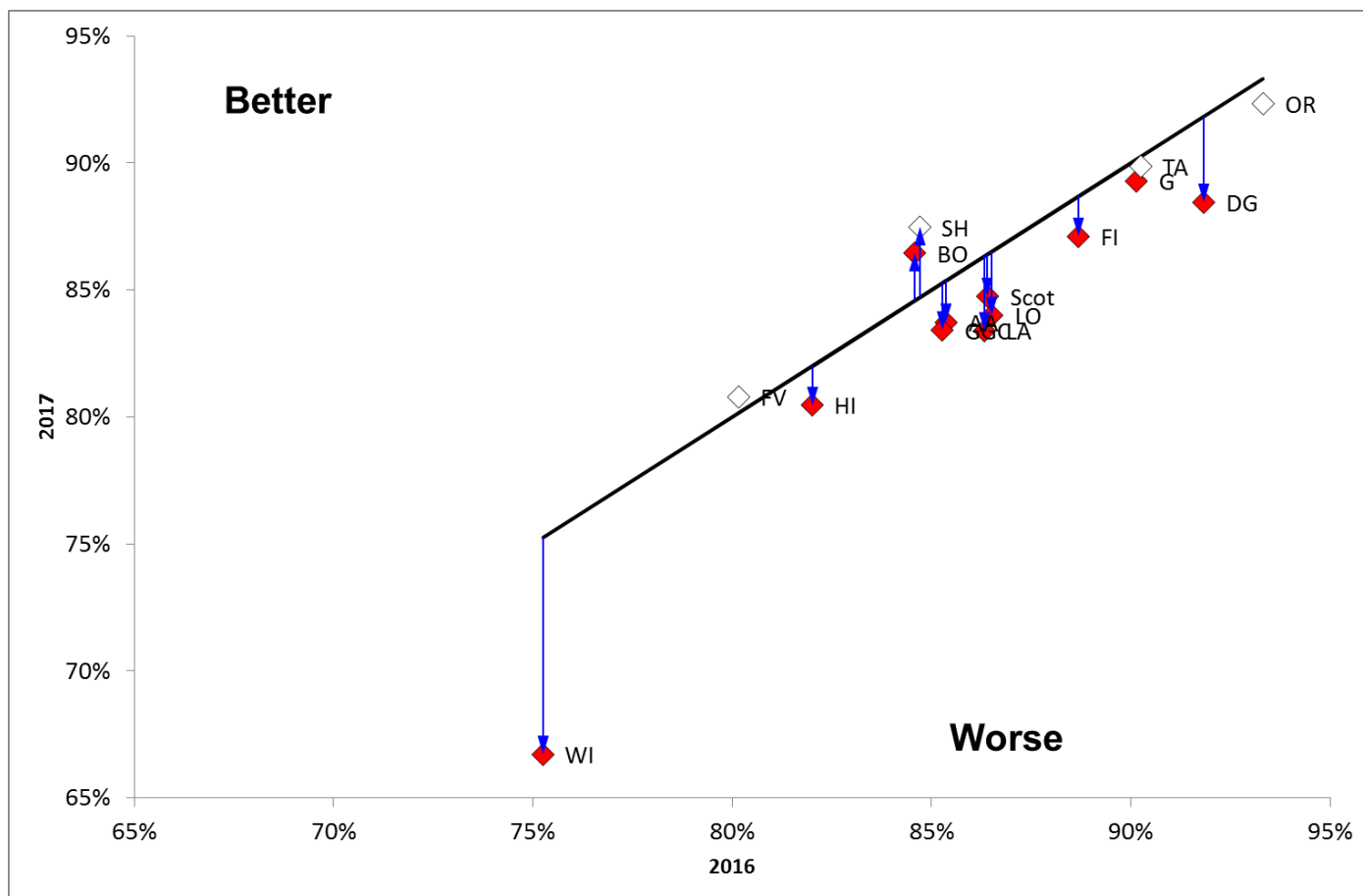
### Total Cholesterol Regional Detail

**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 2017.



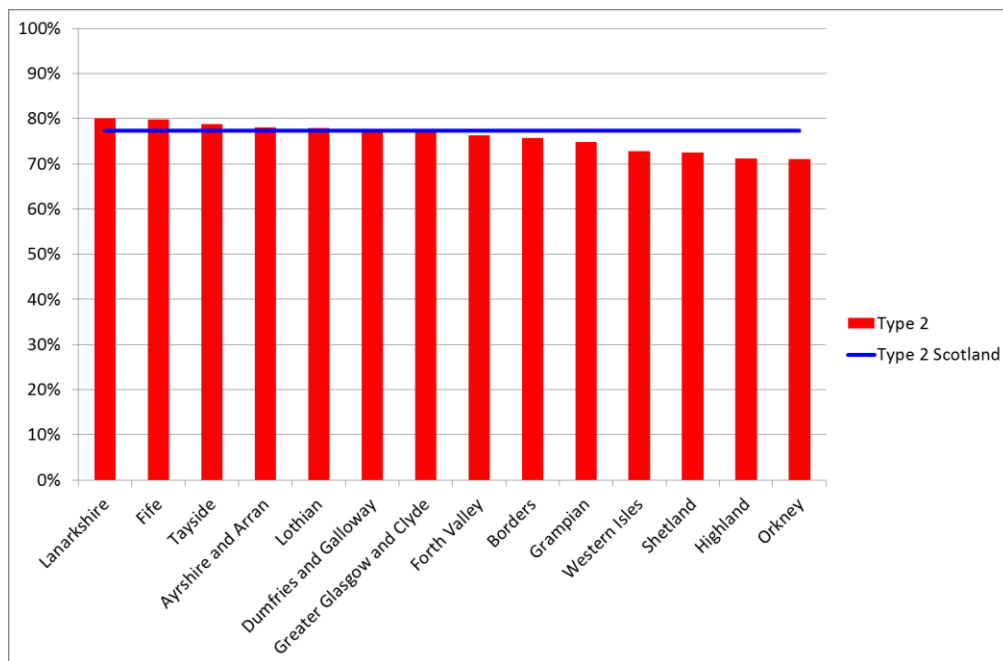
Note: Horizontal lines indicate figures for Scotland as a whole. Excludes children under 18 years or who have no recorded date of birth (type 1 n = 3026, type 2 n = 130).

**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 2016 to 2017.



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 2016 and 2017.

**Figure 69 Type 2 diabetes: Percentage of people with cholesterol  $\leq 5\text{mmol/l}$ , by NHS board (denominator those with recording of cholesterol within the previous 15 months) , Scotland 2017.**



Note: Excludes children under 18 years or who have no recorded date of birth (n= 130); Horizontal line indicates mean level for Scotland as a whole.

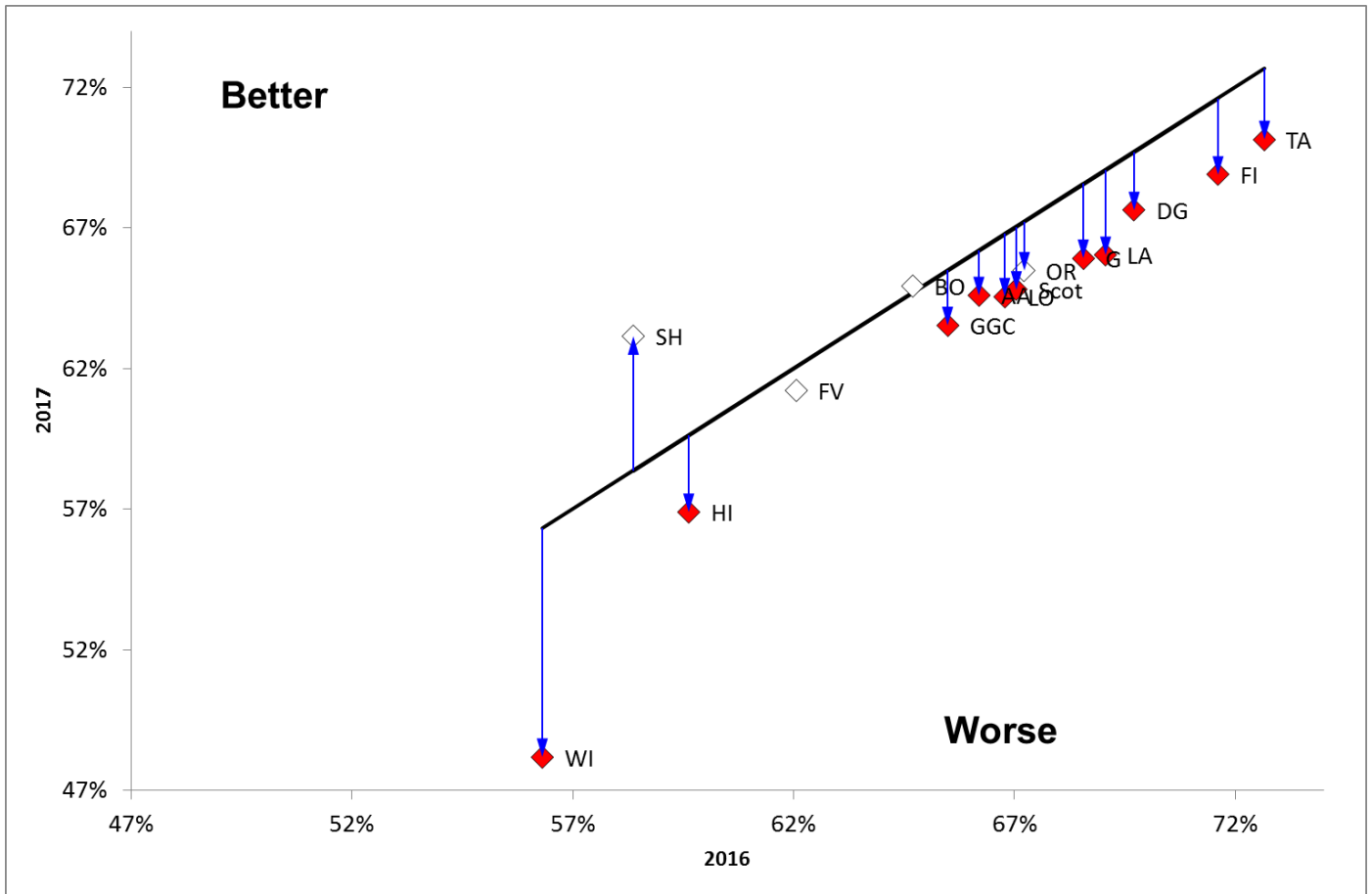
Total cholesterol was less than or equal to 5.0mmol/l in 76.5% of people with a recorded result (Table 11 and Table 100).

**Table 100 Type 2 diabetes: Number and percentage of people with cholesterol  $\leq 5\text{mmol/l}$ , by NHS board (denominator those with recording of cholesterol within the previous 15 months), ranked by percentage of people with cholesterol  $\leq 5\text{mmol/l}$ , Scotland 2017.**

NHS board	Total cholesterol $\leq 5$ (%)	Total recorded (n)	Not recorded (%)
Lanarkshire	80.1	29,283	15.2
Fife	79.8	16,993	12.5
Tayside	78.8	19,373	9.1
Ayrshire and Arran	78.0	18,173	15.8
Lothian	78.0	30,484	15.1
Dumfries and Galloway	77.2	7,507	11.6
Greater Glasgow and Clyde	77.1	47,821	15.9
Forth Valley	76.4	12,291	19.2
Borders	75.7	5,218	13.2
Grampian	74.8	22,865	9.7
Western Isles	72.8	851	33.3
Shetland	72.6	864	12.8
Highland	71.2	12,320	18.6
Orkney	71.1	1,000	7.7
<b>Scotland</b>	<b>77.4</b>	<b>225,043</b>	<b>14.5</b>

Note: Excludes people under 18 years of age and people whose date of birth has not been recorded (n = 130).

**Figure 70** Percentage of people with diabetes (type 1 and type 2 combined) with cholesterol  $\leq 5$  mmol/l within the previous 15 months, Scotland, from 2016 to 2017.



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 2016 and 2017.

**Table 101 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 2017.**

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

## Smoking Status National and Regional Detail

Smoking status was recorded for 75.3% of the diabetic population (Table 102). Overall, 16.9% reported that they currently smoke. Note: Data from people of all ages are included in these smoking figures.

**Table 102 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 2008-2017.**

Year	Current smoker (%)	Ex-smoker (%)	Never smoked (%)	Not recorded (%)
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
2013 (a)	18.7	34.9	46.5	1.5
2012	19.3	35.2	45.5	4.7
2011 (b)	19.3	34.4	46.4	0.8
2010	19.3	35.1	45.7	1.0
2009	19.5	35.5	45.0	1.1
2008	19.6	35.6	44.8	1.8

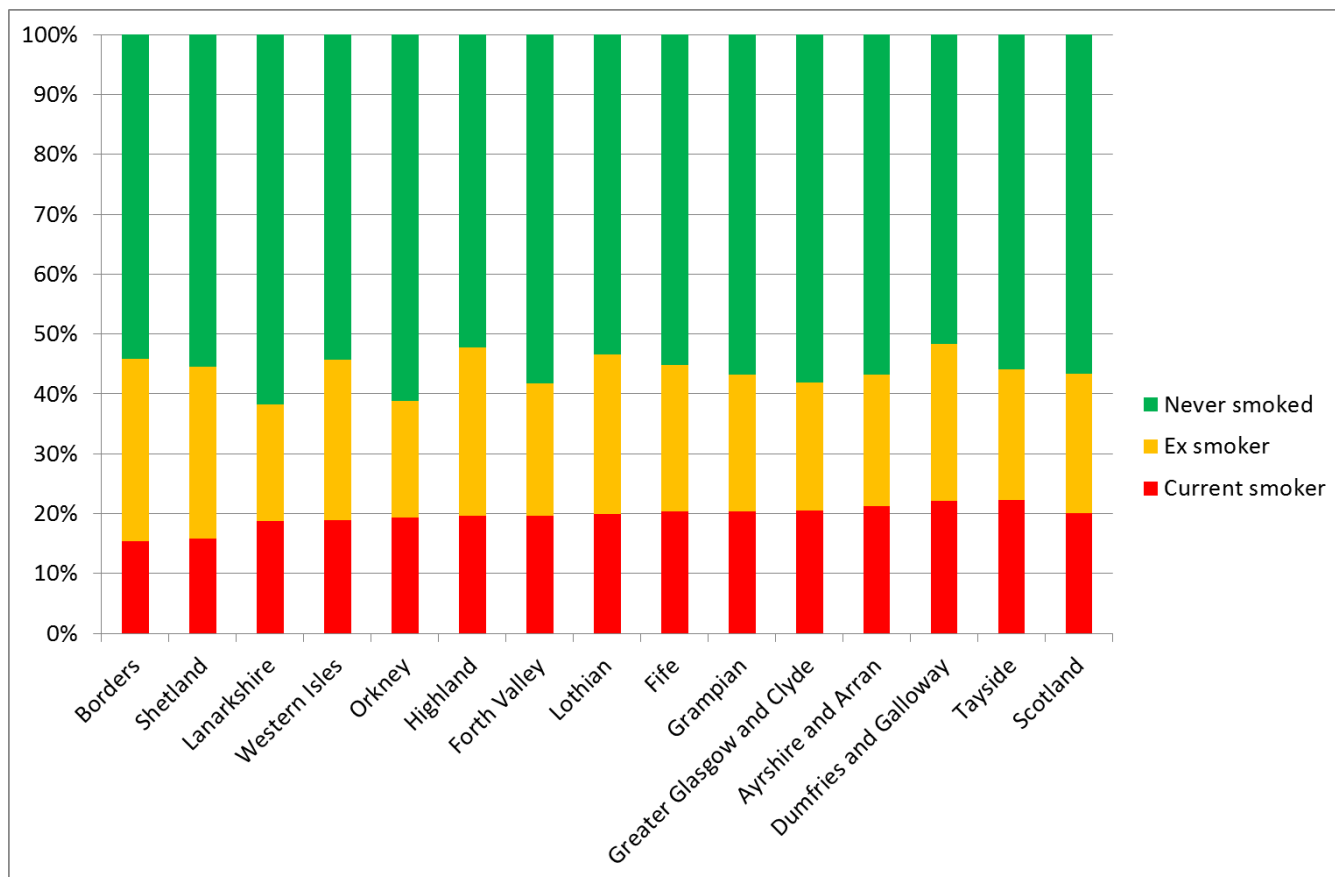
Note: (a) Data for years prior to 2014 are calculated based on whether smoking status has ever been recorded, whereas data from 2014 onwards is calculated based on whether smoking status was recorded in the last 15 months. (b) Data for years prior to 2012 are calculated as a percentage of all registered people with recorded smoking status.

Table 102 and Table 103 show those with a recorded smoking status in the last 15 months. Overall, 16.9% reported that they currently smoke (20.1% type 1 and 16.6% type 2). Figure 71 and Figure 72 graphically show the percentages of the smoking status, including those without a recording, using the diabetic population 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 type 1 diabetes, by NHS Health Board, ordered by current smoker percentage, Scotland 2017.**

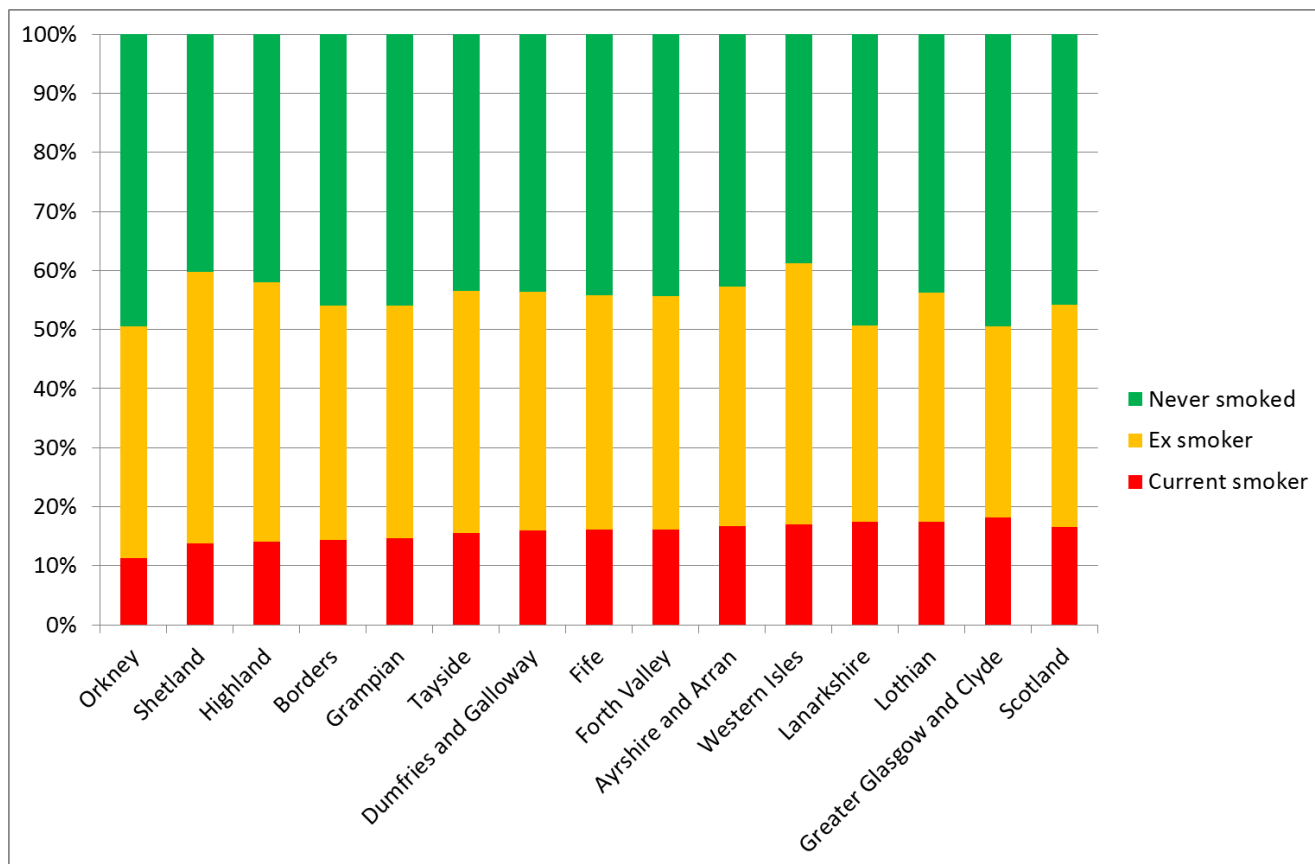


**Table 103 Type 1 diabetes: Percentage of people who were recorded as current, ex- or never-smokers, by NHS board (denominator those with a record of smoking status); ordered by current smoker percentage, Scotland 2017.**

NHS board	No. with known status	Current smoker (%)	Ex-smoker (%)	Never smoked (%)	Recorded (%)
Borders	410	15.4	30.5	54.1	59.5
Shetland	101	15.8	28.7	55.4	75.9
Lanarkshire	2,555	18.7	19.5	61.8	60.5
Western Isles	138	18.8	26.8	54.3	69.0
Orkney	98	19.4	19.4	61.2	86.0
Highland	1,453	19.7	28.0	52.3	71.2
Forth Valley	1,412	19.7	22.0	58.3	76.8
Lothian	2,959	19.9	26.6	53.5	62.0
Fife	1,655	20.3	24.5	55.2	76.6
Grampian	2,075	20.4	22.8	56.8	60.2
Greater Glasgow and Clyde	4,040	20.5	21.4	58.1	63.2
Ayrshire and Arran	1,459	21.2	22.1	56.8	62.4
Dumfries and Galloway	635	22.0	26.3	51.7	66.8
Tayside	1,328	22.3	21.8	55.9	61.8
<b>Scotland</b>	<b>20,318</b>	<b>20.1</b>	<b>23.3</b>	<b>56.6</b>	<b>64.6</b>



**Figure 72 Type 2 diabetes: Smoking status as a percentage of all those with type 2 diabetes, by NHS Health Board, ordered by current smoker percentage, Scotland 2017.**



**Table 104 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); ranked by percentage who are current smokers, Scotland 2017.**

NHS board	No. with known status	Current smoker (%)	Ex smoker (%)	Never smoked (%)	Recorded (%)
Orkney	911	11.3	39.3	49.4	84.0
Shetland	774	13.8	45.9	40.3	78.1
Highland	12,252	14.1	43.9	42.0	81.0
Borders	4,218	14.3	39.8	45.9	70.1
Grampian	19,548	14.6	39.5	45.9	77.1
Tayside	17,221	15.5	41.1	43.4	80.8
Dumfries and Galloway	6,267	16.0	40.4	43.6	73.8
Fife	14,983	16.1	39.7	44.1	77.1
Forth Valley	12,057	16.2	39.5	44.3	79.2
Ayrshire and Arran	16,778	16.7	40.6	42.7	77.8
Western Isles	968	17.0	44.2	38.7	75.9
Lanarkshire	25,955	17.4	33.3	49.3	75.0
Lothian	25,248	17.5	38.7	43.8	70.3
Greater Glasgow and Clyde	44,532	18.1	32.4	49.5	78.3
<b>Scotland</b>	<b>201,712</b>	<b>16.6</b>	<b>37.6</b>	<b>45.8</b>	<b>76.6</b>

## Complications of Diabetes Regional Detail

### Myocardial Infarction and Cardiac Revascularisation Summary

26,607 (9.0%) of registered people have a record of a previous MI (Table 105). 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. 20,659 (7.0%) people included in the survey have a record of having undergone cardiac revascularisation (Table 105), 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 105 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 2008-2017.**

Year	Myocardial infarction (%)	Cardiac Revascularisation (%)
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
2010	9.1	6.4
2009	9.5	6.3
2008	9.5	6.1

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 106** 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 2017.

NHS board	Recorded as having had an MI			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Shetland	*	*	79	8.0
Orkney	*	*	89	8.2
Dumfries and Galloway	39	4.1	751	8.8
Grampian	116	3.4	2,281	9.0
Fife	70	3.2	1,778	9.1
Western Isles	5	2.5	118	9.2
Borders	38	5.5	568	9.4
Forth Valley	54	2.9	1,438	9.4
Lothian	137	2.9	3,396	9.5
Tayside	69	3.2	2,017	9.5
Ayrshire and Arran	94	4.0	2,163	10.0
Highland	77	3.8	1,529	10.1
Lanarkshire	161	3.8	3,509	10.1
Greater Glasgow and Clyde	235	3.7	5,787	10.2
<b>Scotland</b>	<b>1,104</b>	<b>3.5</b>	<b>25,503</b>	<b>9.7</b>

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

## Cardiac Revascularisation Regional Detail

**Table 107** 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 2017.

NHS board	Recorded as having undergone cardiac revascularisation			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Shetland	*	*	61	6.2
Fife	50	2.3	1,226	6.3
Orkney	*	*	70	6.5
Forth Valley	43	2.3	1,021	6.7
Dumfries and Galloway	29	3.0	591	7.0
Western Isles	5	2.5	90	7.1
Borders	21	3.0	439	7.3
Tayside	59	2.7	1,558	7.3
Ayrshire and Arran	60	2.6	1,615	7.5
Lanarkshire	125	3.0	2,630	7.6
Lothian	119	2.5	2,733	7.6
Greater Glasgow and Clyde	162	2.5	4,433	7.8
Highland	53	2.6	1,248	8.2
Grampian	106	3.1	2,105	8.3
<b>Scotland</b>	<b>839</b>	<b>2.7</b>	<b>19,820</b>	<b>7.5</b>

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

## Stroke

14,959 (5.1%) 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 (5.0% in 2016 and 2015, 4.9% in 2014, 5.0% in 2013, 4.9% in 2012 and 2011, 5.0% in 2010 and 5.1% in each year between 2008 and 2011).

**Table 108** 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 2017.

NHS board	Recorded as having had a stroke			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Orkney	*	*	34	3.1
Grampian	64	1.9	1,191	4.7
Dumfries and Galloway	19	2.0	406	4.8
Western Isles	8	4.0	62	4.9
Tayside	47	2.2	1,070	5.0
Lanarkshire	85	2.0	1,769	5.1
Forth Valley	37	2.0	799	5.2
Highland	45	2.2	801	5.3
Fife	53	2.5	1,053	5.4
Shetland	*	*	54	5.4
Greater Glasgow and Clyde	140	2.2	3,292	5.8
Ayrshire and Arran	68	2.9	1,250	5.8
Lothian	104	2.2	2,099	5.8
Borders	20	2.9	387	6.4
<b>Scotland</b>	<b>692</b>	<b>2.2</b>	<b>14,267</b>	<b>5.4</b>

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 92.1% (270,208) of people aged over 11 years of age (Table 110).

**Table 109 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 2008-2017.**

Year	Record of serum creatinine within previous 15 months %	Total eligible population (n)
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
2010	90.8	235,198
2009	90.0	225,635
2008	90.3	218,903

Note: Excludes children under 12 years of age or people who have no date of birth recorded (n=1307). The data for 2008 reports on those with all types of diabetes mellitus. The data for 2009 and onwards report only on those with type 1 and type 2 diabetes.

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

***Serum Creatinine Regional Detail*****Table 110** 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 2017.

NHS board	Serum creatinine recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	People (n)	%	People (n)	%	
Orkney	109	98.2	1,054	97.2	1,163
Dumfries and Galloway	844	92.1	8,167	96.2	9,011
Shetland	118	92.2	951	96.0	1,069
Grampian	2,929	88.7	24,136	95.3	27,065
Borders	611	91.7	5,728	95.2	6,339
Tayside	1,866	89.4	20,257	95.1	22,123
Western Isles	169	88.9	1,208	94.7	1,377
Fife	1,847	89.4	18,232	93.8	20,079
Greater Glasgow and Clyde	5,400	87.6	53,114	93.4	58,514
Lothian	4,035	87.5	33,511	93.3	37,546
Lanarkshire	3,382	83.8	32,223	93.3	35,605
Forth Valley	1,564	89.3	14,125	92.8	15,689
Ayrshire and Arran	1,773	79.3	19,170	88.8	20,943
Highland	1,366	69.4	12,319	81.4	13,685
<b>Scotland</b>	<b>26,013</b>	<b>86.0</b>	<b>244,195</b>	<b>92.8</b>	<b>270,208</b>

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1204, type 2 n = 103).

## Urinary Microalbuminuria

**Table 111** Number and percentage of people with type 1 or type 2 diabetes who have a record of estimated urinary microalbumin value available on SCI-Diabetes within the previous 15 months, by diabetes type by year, Scotland 2012-2017.

Year	Urinary microalbumin recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	Number	%	Number	%	
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 = 1204, type 2 n = 103). In some cases, urinary microalbumin was estimated from albumin/creatinine ratio (ACR). This table is limited to years since 2012 due to the absence of data prior to that.

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



**Table 112** Number and percentage of people with type 1 or type 2 diabetes with a record of estimated urinary microalbumin 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 2017.

NHS board	Urinary microalbumin recorded within previous 15 months				
	Type 1 diabetes		Type 2 diabetes		Total (n)
	People (n)	%	People (n)	%	
Orkney	83	74.8	867	80.0	950
Tayside	1,407	67.4	16,895	79.3	18,302
Grampian	2,221	67.3	18,631	73.5	20,852
Lothian	3,327	72.1	25,403	70.7	28,730
Forth Valley	1,188	67.8	10,587	69.6	11,775
Fife	1,535	74.3	13,467	69.3	15,002
Ayrshire and Arran	1,248	55.8	14,938	69.2	16,186
Highland	1,111	56.5	10,464	69.2	11,575
Dumfries and Galloway	592	64.6	5,853	68.9	6,445
Shetland	104	81.3	669	67.5	773
Greater Glasgow and Clyde	3,723	60.4	37,677	66.3	41,400
Western Isles	112	58.9	832	65.2	944
Lanarkshire	2,107	52.2	21,347	61.8	23,454
Borders	170	25.5	238	4.0	408
<b>Scotland</b>	<b>18,928</b>	<b>62.6</b>	<b>177,868</b>	<b>67.6</b>	<b>196,796</b>

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1204, type 2 n = 103). In some cases, urinary microalbumin was estimated from albumin/creatinine ratio (ACR).

**Table 113** 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 2017.

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	102	98.1	1,054	97.2	1,156
Dumfries and Galloway	816	94.9	8,165	96.1	8,981
Shetland	112	94.1	951	96.0	1,063
Grampian	2,793	90.0	24,141	95.3	26,934
Tayside	1,726	88.2	20,250	95.0	21,976
Western Isles	155	85.6	1,197	93.8	1,352
Fife	1,739	88.8	18,171	93.5	19,910
Greater Glasgow and Clyde	5,097	87.5	53,105	93.4	58,202
Forth Valley	1,475	89.4	14,126	92.8	15,601
Ayrshire and Arran	1,855	88.7	19,963	92.5	21,818
Lothian	3,841	87.8	33,002	91.9	36,843
Lanarkshire	3,139	83.8	31,698	91.7	34,837
Highland	1,526	83.5	13,827	91.4	15,353
Borders	534	85.4	5,246	87.2	5,780
<b>Scotland</b>	<b>24,910</b>	<b>87.6</b>	<b>244,896</b>	<b>93.1</b>	<b>269,806</b>

## End Stage Renal Failure

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

**Table 114 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 2017.**

NHS board	Recorded as having end stage renal failure			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Shetland	0	0.0	*	*
Ayrshire and Arran	33	1.4	89	0.4
Orkney	*	*	*	*
Borders	14	2.0	28	0.5
Lanarkshire	65	1.5	166	0.5
Forth Valley	24	1.3	73	0.5
Highland	33	1.6	81	0.5
Dumfries and Galloway	17	1.8	46	0.5
Fife	19	0.9	108	0.6
Grampian	62	1.8	143	0.6
Tayside	36	1.7	130	0.6
Lothian	50	1.0	240	0.7
Greater Glasgow and Clyde	98	1.5	403	0.7
Western Isles	*	*	13	1.0
<b>Scotland</b>	<b>455</b>	<b>1.4</b>	<b>1,529</b>	<b>0.6</b>

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

82.4% of people eligible for screening had a record of eye screening through the retinal screening service recorded on SCI-Diabetes in the previous 15 months, including those attending ophthalmology services (Table 115).

Table 115 shows the proportion of people aged 12 years or older 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.

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

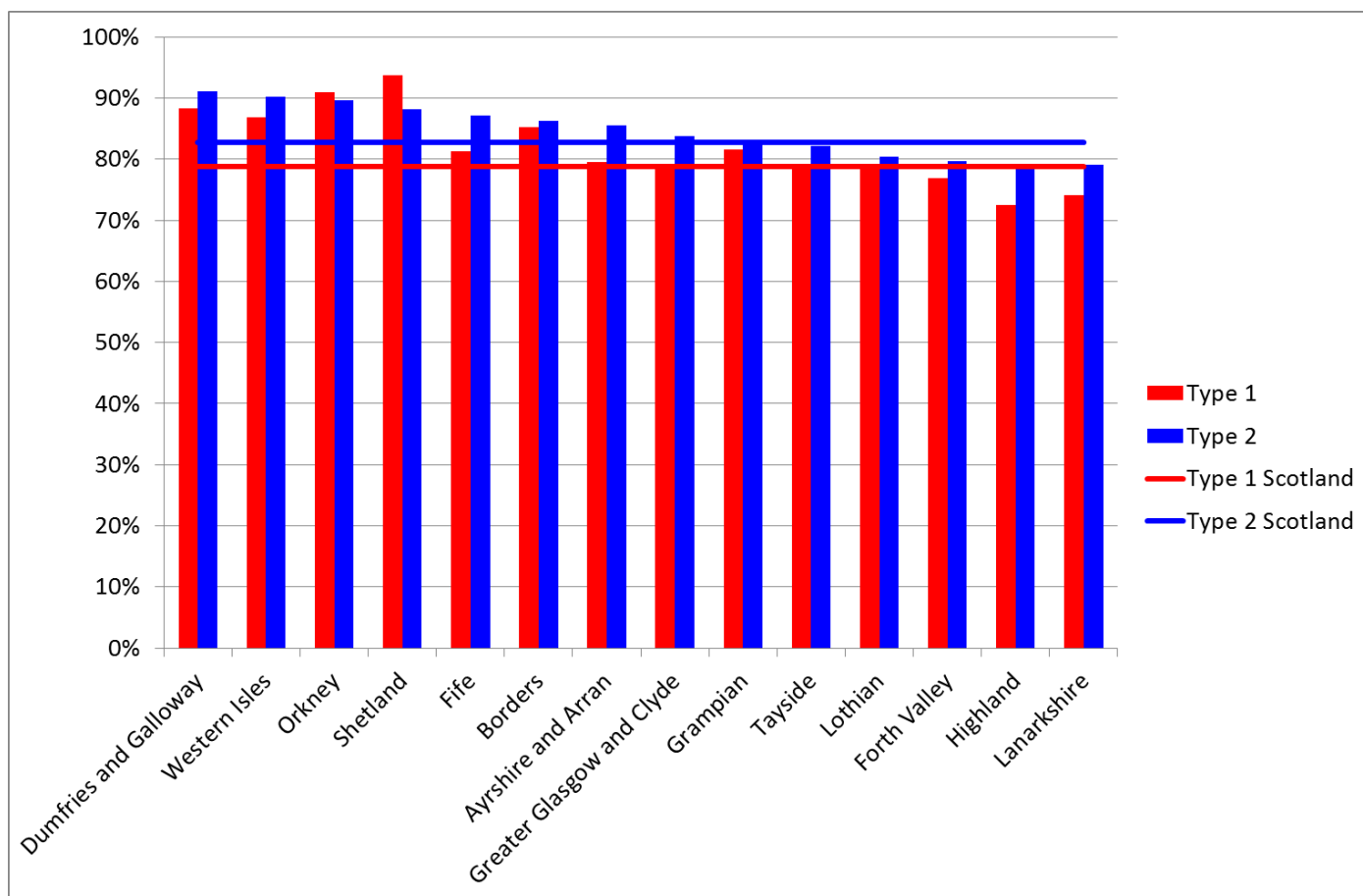
**Table 115 Percentage of people with diabetes (type 1 and type 2 combined) who were recorded as having had eye-screening, ophthalmology care or an appropriate suspension from screening (depending on methodology at the time of the report) by year, Scotland 2012-201**

Year	Recorded within previous 15 months (%)
2017	82.4
2016	85.4
2015	85.7
2014	86.4
2013	86.7
2012	86.1
2011	85.6
2010	85.1
2009	80.6
2008	71.9

Note: Excludes children under 12 years or people who have no date of birth recorded (type 1 n = 1204, type 2 n = 103). Data since 2012 in this table have been revised (years 2013-2015 are 0.1% lower than reported in the 2016 Scottish Diabetes Survey).

## 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 2017.



Note: Excludes people under 12 years of age and people whose date of birth has not been recorded (type 1 n = 3026, type 2 n = 130).

Table 116 and Table 117 show the number and proportion of people of appropriate age ( $\geq 12$  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 116** 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 2017.

NHS board	Type 1 diabetes		Type 2 diabetes		All (Type 1 and Type 2)		Not recorded (n)
	People (n)	%	People (n)	%	People (n)	%	
Dumfries and Galloway	809	88.3	7,741	91.1	8,550	90.9	859
Western Isles	165	86.8	1,151	90.2	1,316	89.8	150
Orkney	101	91.0	971	89.6	1,072	89.7	123
Shetland	120	93.8	874	88.2	994	88.8	125
Fife	1,679	81.2	16,931	87.1	18,610	86.6	2,885
Borders	568	85.3	5,190	86.3	5,758	86.2	922
Ayrshire and Arran	1,778	79.5	18,446	85.5	20,224	84.9	3,588
Greater Glasgow and Clyde	4,864	78.9	47,640	83.8	52,504	83.3	10,507
Grampian	2,695	81.6	21,081	83.2	23,776	83.0	4,863
Tayside	1,644	78.7	17,515	82.2	19,159	81.9	4,239
Lothian	3,634	78.8	28,850	80.3	32,484	80.2	8,040
Forth Valley	1,347	76.9	12,126	79.7	13,473	79.4	3,498
Highland	1,428	72.6	11,976	79.1	13,404	78.4	3,695
Lanarkshire	2,991	74.1	27,328	79.1	30,319	78.6	8,274
<b>Scotland</b>	<b>23,823</b>	<b>78.8</b>	<b>217,820</b>	<b>82.8</b>	<b>241,643</b>	<b>82.4</b>	<b>51,768</b>

Note: Excludes children under 12 years of age or people who have no date of birth recorded (type 1 n = 1204, type 2 n = 103)

**Table 117 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 2017.**

NHS board	Eligible for screening (n)	Screened	
		People (n)	%
Dumfries and Galloway	8,489	7,630	89.9
Orkney	1,115	992	89.0
Western Isles	1,345	1,195	88.8
Shetland	1,048	923	88.1
Fife	19,794	16,909	85.4
Borders	5,988	5,066	84.6
Ayrshire and Arran	22,108	18,520	83.8
Greater Glasgow and Clyde	59,350	48,843	82.3
Grampian	27,279	22,416	82.2
Tayside	21,404	17,165	80.2
Forth Valley	16,377	12,879	78.6
Lothian	37,556	29,516	78.6
Highland	16,058	12,363	77.0
Lanarkshire	35,153	26,879	76.5
<b>Scotland</b>	<b>273,064</b>	<b>221,296</b>	<b>81.0</b>

**Table 118** 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 2017.

NHS board	Diabetic cause		Non-diabetic cause		Not specified		Total Recorded		Total on register (n)
	n	Prevalence	n	Prevalence	n	Prevalence	n	Prevalence	
Borders	0	0.00	0	0.00	*	*	*		689
Grampian	0	0.00	0	0.00	23	66.69	23	66.69	3,449
Highland	0	0.00	0	0.00	12	58.79	12	58.79	2,041
Lothian	0	0.00	0	0.00	14	29.34	14	29.34	4,771
Orkney	0	0.00	0	0.00	0	0.00	0	0.00	114
Shetland	0	0.00	0	0.00	0	0.00	0	0.00	133
Western Isles	0	0.00	0	0.00	0	0.00	0	0.00	200
Lanarkshire	*	*	0	0.00	33	78.18	34	80.55	4,221
Ayrshire and Arran	*	*	0	0.00	14	59.83	15	64.10	2,340
Greater Glasgow and Clyde	*	*	0	0.00	24	37.56	27	42.25	6,390
Forth Valley	*	*	0	0.00	7	38.06	8	43.50	1,839
Dumfries and Galloway	*	*	0	0.00	*	*	*	*	951
Tayside	*	*	0	0.00	10	46.55	14	65.18	2,148
Fife	5	23.14	0	0.00	8	37.02	13	60.16	2,161
<b>Scotland</b>	<b>16</b>	<b>5.09</b>	<b>0</b>	<b>0.00</b>	<b>152</b>	<b>48.34</b>	<b>168</b>	<b>53.42</b>	<b>31,447</b>

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



**Table 119 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 2017.**

NHS board	Diabetic cause		Non-diabetic cause		Not specified		Total Recorded		Total on register (n)
	n	Prevalence	n	Prevalence	n	Prevalence	n	Prevalence	
Borders	0	0.00	0	0.00	37	61.50	37	61.50	6,016
Dumfries and Galloway	0	0.00	0	0.00	47	55.31	47	55.31	8,497
Grampian	0	0.00	*	*	205	80.91	206	81.30	25,338
Lanarkshire	0	0.00	0	0.00	267	77.12	267	77.12	34,622
Lothian	0	0.00	0	0.00	214	59.58	214	59.58	35,916
Orkney	0	0.00	0	0.00	9	83.03	9	83.03	1,084
Shetland	0	0.00	0	0.00	*	*	*	*	991
Western Isles	0	0.00	0	0.00	*	*	*	*	1,276
Greater Glasgow and Clyde	*	*	7	1.23	334	58.75	343	60.33	56,854
Ayrshire and Arran	*	*	*	*	102	47.27	104	48.20	21,576
Forth Valley	*	*	*	*	75	49.27	80	52.56	15,222
Tayside	*	*	9	4.22	120	56.31	131	61.47	21,310
Highland	*	*	0	0.00	103	68.06	105	69.38	15,134
Fife	*	*	0	0.00	108	55.57	111	57.11	19,435
<b>Scotland</b>	<b>11</b>	<b>0.42</b>	<b>22</b>	<b>0.84</b>	<b>1,629</b>	<b>61.88</b>	<b>1,662</b>	<b>63.13</b>	<b>263,271</b>

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

## Foot Complications National and Regional Detail

**Table 120 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 2017.**

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	*	*	6	5.1	109	92.4	118	88.7
Orkney	*	*	*	*	8	10.1	66	83.5	79	69.3
Western Isles	*	*	25	18.5	25	18.5	83	61.5	135	67.5
Highland	20	1.5	123	9.0	113	8.2	1,117	81.4	1,373	67.3
Dumfries and Galloway	24	3.8	52	8.3	50	7.9	503	80.0	629	66.1
Forth Valley	25	2.1	107	8.9	118	9.8	948	79.1	1,198	65.1
Tayside	34	2.5	111	8.3	117	8.7	1,076	80.4	1,338	62.3
Ayrshire and Arran	38	2.7	75	5.4	63	4.5	1,217	87.4	1,393	59.5
Borders	11	2.7	48	11.9	39	9.6	307	75.8	405	58.8
Greater Glasgow and Clyde	122	3.4	307	8.6	257	7.2	2,894	80.8	3,580	56.0
Lothian	63	2.4	183	6.9	201	7.5	2,223	83.3	2,670	56.0
Lanarkshire	72	3.2	170	7.4	175	7.7	1,866	81.7	2,283	54.1
Grampian	15	0.9	86	5.1	117	6.9	1,472	87.1	1,690	49.0
Fife	30	3.0	88	8.7	134	13.2	763	75.2	1,015	47.0
<b>Scotland</b>	<b>457</b>	<b>2.6</b>	<b>1,382</b>	<b>7.7</b>	<b>1,423</b>	<b>7.9</b>	<b>14,644</b>	<b>81.8</b>	<b>17,906</b>	<b>56.9</b>

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

**Table 121 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 2017.**

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	8	1.0	31	3.7	93	11.1	709	84.3	841	84.9
Tayside	185	1.1	1,389	8.2	2,894	17.1	12,467	73.6	16,935	79.5
Orkney	12	1.4	145	17.2	205	24.4	479	57.0	841	77.6
Highland	142	1.2	924	8.0	1,669	14.4	8,817	76.3	11,552	76.3
Dumfries and Galloway	71	1.1	375	5.9	778	12.3	5,103	80.7	6,327	74.5
Western Isles	17	1.8	264	28.6	244	26.4	398	43.1	923	72.3
Forth Valley	60	0.6	417	3.9	1,642	15.3	8,612	80.3	10,731	70.5
Lothian	297	1.2	1,492	6.0	3,776	15.1	19,416	77.7	24,981	69.6
Ayrshire and Arran	167	1.1	455	3.1	1,328	8.9	12,931	86.9	14,881	69.0
Borders	30	0.7	220	5.4	446	11.0	3,341	82.8	4,037	67.1
Greater Glasgow and Clyde	753	2.0	2,750	7.3	5,255	14.0	28,871	76.7	37,629	66.2
Grampian	99	0.6	664	4.0	2,333	14.0	13,617	81.5	16,713	66.0
Fife	178	1.5	1,114	9.3	2,613	21.9	8,043	67.3	11,948	61.5
Lanarkshire	373	1.8	1,164	5.5	2,503	11.9	16,946	80.7	20,986	60.6
<b>Scotland</b>	<b>2,392</b>	<b>1.3</b>	<b>11,404</b>	<b>6.4</b>	<b>25,779</b>	<b>14.4</b>	<b>139,750</b>	<b>77.9</b>	<b>179,325</b>	<b>68.1</b>

## Foot Ulceration National and Regional Detail

### *Foot Ulceration*

**Table 122 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 2008-2017.**

Year	Recorded as ever having had a foot ulcer (%)
2017	4.7
2016	4.7
2015	4.8
2014	4.9
2013	5.2
2012 (a)	5.1
2011	4.3
2010	4.4
2009	4.3
2008	4.6

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.

13,773 (4.7%) people with type 1 or type 2 diabetes were reported to have had a foot ulcer (Table 123).

**Table 123** 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 2017.

NHS board	Recorded as ever having had a foot ulcer			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Grampian	113	3.3	417	1.6
Ayrshire and Arran	127	5.4	507	2.3
Borders	51	7.4	153	2.5
Forth Valley	175	9.5	428	2.8
Shetland	*	*	28	2.8
Dumfries and Galloway	62	6.5	266	3.1
Tayside	154	7.2	736	3.5
Orkney	*	*	40	3.7
Highland	123	6.0	578	3.8
Fife	148	6.8	776	4.0
Lothian	335	7.0	1,737	4.8
Greater Glasgow and Clyde	591	9.2	2,817	5.0
Western Isles	10	5.0	88	6.9
Lanarkshire	693	16.4	2,615	7.6
<b>Scotland</b>	<b>2,587</b>	<b>8.2</b>	<b>11,186</b>	<b>4.2</b>

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 2,000 (0.7%) people recorded as having a major lower limb amputation (Table 124).

**Table 124 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 2008-2017.**

Year	Lower limb amputation	
	People (n)	%
2017	2,000	0.7
2016	2,055	0.7
2015	2,092	0.7
2014	2,111	0.8
2013	2,064	0.8
2012	1,854	0.7
2011	1,359	0.6
2010	1,250	0.5
2009	1,132	0.5
2008	1,051	0.5

**Table 125** 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 2017.

NHS board	Recorded as ever having had a lower limb amputation			
	Type 1 diabetes		Type 2 diabetes	
	People (n)	%	People (n)	%
Borders	7	1.0	25	0.4
Lanarkshire	37	0.9	178	0.5
Lothian	29	0.6	190	0.5
Forth Valley	18	1.0	85	0.6
Grampian	34	1.0	153	0.6
Ayrshire and Arran	31	1.3	140	0.6
Greater Glasgow and Clyde	72	1.1	383	0.7
Tayside	28	1.3	148	0.7
Shetland	*	*	7	0.7
Orkney	*	*	8	0.7
Fife	26	1.2	144	0.7
Highland	35	1.7	113	0.7
Dumfries and Galloway	24	2.5	69	0.8
Western Isles	*	*	12	0.9
<b>Scotland</b>	<b>345</b>	<b>1.1</b>	<b>1,655</b>	<b>0.6</b>

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](http://www.mydiabetesmyway.scot.nhs.uk)) is the NHS Scotland interactive diabetes website that helps to support people who have diabetes and their carers.

**Table 126 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 2013-2017.**

Year	Type 1 diabetes	Type 2	Total	Yearly change in registered users (%)	Active users	Yearly change in active users (%)
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: \* - the Yearly Change in registered and active users (%) for 2013 are absent due to Scottish Diabetes Survey reporting on My Diabetes My Way commencing in that year.

At the end of 2017, 16,536 people had accessed their results using “My Diabetes My Way” (Table 126). During the final 3 months of 2017, a total of 5,666 (34.3% of all active users) had logged in, showing good levels of continued engagement. 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 in order 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](mailto: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 2017. Records access is a key objective of the Scottish Diabetes Improvement Plan.

**Table 127 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 2017.**

NHS board	Type 1 diabetes			Type 2 diabetes			Total		
	n	Pop.	%	n	Pop.	%	n	Pop.	%
Greater Glasgow and Clyde	2,408	6,390	37.7	6,098	56,854	10.7	8,506	63,244	13.4
Shetland	37	133	27.8	108	991	10.9	145	1,124	12.9
Lothian	1,981	4,771	41.5	3,242	35,916	9.0	5,223	40,687	12.8
Tayside	573	2,148	26.7	2,322	21,310	10.9	2,895	23,458	12.3
Forth Valley	842	1,839	45.8	1,175	15,222	7.7	2,017	17,061	11.8
Lanarkshire	1,536	4,221	36.4	2,528	34,622	7.3	4,064	38,843	10.5
Fife	535	2,161	24.8	1,671	19,435	8.6	2,206	21,596	10.2
Western Isles	41	200	20.5	106	1,276	8.3	147	1,476	10.0
Borders	181	689	26.3	486	6,016	8.1	667	6,705	9.9
Ayrshire and Arran	507	2,340	21.7	1,393	21,576	6.5	1,900	23,916	7.9
Dumfries and Galloway	211	951	22.2	536	8,497	6.3	747	9,448	7.9
Highland	430	2,041	21.1	719	15,134	4.8	1,149	17,175	6.7
Orkney	39	114	34.2	40	1,084	3.7	79	1,198	6.6
Grampian	651	3,449	18.9	913	25,338	3.6	1,564	28,787	5.4
<b>Scotland</b>	<b>9,972</b>	<b>31,447</b>	<b>31.7</b>	<b>21,337</b>	<b>263,271</b>	<b>8.1</b>	<b>31,309</b>	<b>294,718</b>	<b>10.6</b>

Note: The above figures show the number of people who had registered to access their diabetes data at the end of 2017. 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 2017.

**Table 128 Numbers of people with type 1 and type 2 diabetes who had joined the NRS Diabetes Register by the end of 2017, by NHS board, Scotland 2017.**

NHS board	People on the NRN 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	14	28	42	1,593	0.2
Borders	17	25	42	649	0.6
Dumfries and Galloway	130	564	694	926	7.3
Fife	196	329	525	1,979	2.4
Forth Valley	79	154	233	1,727	1.4
Grampian	184	627	811	2,427	2.8
Greater Glasgow and Clyde	537	869	1,406	5,959	2.2
Highland	464	803	1,267	1,667	7.4
Lanarkshire	213	607	820	3,660	2.1
Lothian	916	1,637	2,553	4,415	6.3
Orkney	0	*	*	92	*
Shetland	5	*	*	129	*
Tayside	372	1,749	2,121	1,676	9.0
Western Isles	5	*	*	146	*
<b>Scotland</b>	<b>3,132</b>	<b>7,396</b>	<b>10,528</b>	<b>27,045</b>	<b>3.6</b>

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

# Acknowledgements

The data for this survey were provided by the Diabetes Managed Clinical Networks in each health board, and collated by the SCI-Diabetes Team (Andrew Taylor and Erwin Oosterhoorn), and Ritchie McAlpine (Tayside Diabetes MCN team). Michael Bluett produced the tables and graphs and edited the report. The draft report was considered and approved by Scottish Diabetes Data Group, the members of which are:

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- Dr Louise Bath
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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. Diabetes Managed Clinical Networks have been set up in all NHS Scotland health boards and they have the responsibility for managing access to SCI-Diabetes.

## Data Sources

SCI-Diabetes is used directly by many professionals, but it also receives data from a variety of data sources in order to maintain its shared electronic record for diabetes. A breakdown of the main sources at February 2017 is as follows:

- Community Health Index (master patient index)
- All ~1,000 general practices across Scotland (EMIS, Vision)
- 42 hospitals (direct data entry on SCI-Diabetes)
- 13/14 NHS boards linking to local laboratory data (SCI Store – see below)
- National Diabetic Retinopathy Screening (DRS - Vector) System
- Inpatient Management: 7 NHS boards linking to local patient administration system for admission, discharge and transfer data (TrakCare)
- Connected Ward Meters: 1 NHS board linking ward-based blood glucose measurements. Priority implementation area for national diabetes inpatient management programme

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 129 Progress towards links from SCI Store to SCI-Diabetes, Scotland 2017.**

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	Scheduled	Argyll & Bute data obtained from GG&C SCI-Store. Highland SCI-Store linkage during 2018.
Lanarkshire	Yes	Live	
Lothian	Yes	Live	
Orkney	Yes	Live	
Shetland	Yes	Live	
Tayside	Yes	Live	
Western Isles	Yes	Live	

**Table 130 Progress towards links from Patient Administration Systems to SCI-Diabetes, Scotland 2017.**

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

The SCI-Diabetes team are currently addressing several strategic objectives, of which will begin implementation in 2018. These include the enhanced management and collaborations with:

- Scottish Ambulance Service
- SCI-Guide: Best practice recommendations for SCI-Diabetes
- Electronic Document Transfer Systems: supporting paperless working
- Clinical Portals: allowing access to diabetes data for wider clinical teams

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: Comparison with England / Wales

This section provides a comparison of the results of this survey with the 2016-17 National Diabetes Audit (NDA) in England and Wales<sup>1</sup>. Please note that the definitions and cut-off values for blood pressure are not exactly the same so the figures may not be directly comparable.

1 2016-2017 National Diabetes Audit for England and Wales is available from <https://digital.nhs.uk/catalogue/PUB30247>

### Diabetes Prevalence

The 2017 Scottish Diabetes Survey (Table 1) reports that 5.5% of the whole population had diabetes (298,504 people), compared to 6.4% (approximately 2.7 million people) identified from 82% of general practices and specialist services in England and Wales that participated in the NDA).

**Table 131 Comparison of distribution of key risk factors between Scotland and England/Wales (E&W) by type of diabetes, 2017.**

Risk Factor	Range	Type 1		Type 2	
		Scotland (%)	E&W (%)	Scotland (%)	E&W (%)
HbA <sub>1c</sub>	< 58 mmol/mol	25.3		58.7	
	≤ 58 mmol/mol		30.2		66.8
BP	<130/80 mmHg	43.3		31.8	
	≤140/80 mmHg		75.8		74.2
Cholesterol	≤ 5 mmol/l	67.5		77.4	
	< 5 mmol/l		69.3		76

# Appendix 3: Health Board Performance

Diabetes Health Board Spine Chart (Ayrshire and Arran) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	2340	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	21576	5.2	sr2	4.9			
	Crude prevalence of T1 diabetes	2340	0.6	%	0.6			
	Crude prevalence of T2 diabetes	21576	5.8	%	4.9			
	Crude mortality rate for all people with diabetes	951	3.8	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	18631	78.7	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	2081	88.9	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	19578	90.7	%	91.8			
	% of diabetes pop (T1) with recorded BP	1900	81.2	%	84.3			
	% of diabetes pop (T2) with recorded BP	19079	88.4	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	1642	78.5	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	18173	84.2	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	1459	62.4	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	16778	77.8	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	1773	79.3	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	19170	88.8	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	1248	55.8	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	14938	69.2	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	1855	88.7	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	19963	92.5	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	1765	79.4	%	78.6			
% of diabetes pop (T2) with recorded eye screen	18112	85.3	%	82.5				
% of diabetes pop (T1) with recorded foot risk	1393	59.5	%	56.9				
% of diabetes pop (T2) with recorded foot risk	14881	69.0	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	309	13.2	%	13.0			
	% of diabetes pop (T2) current smokers	2797	13.0	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	479	22.9	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	9456	43.8	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	1600	68.4	%	64.7			
	% of diabetes pop (T2) with SBP <= 140mmHg	14929	69.2	%	67.1			
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	655	28.0	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	2762	12.8	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	535	25.6	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	3990	18.5	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	33	1.4	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	89	0.4	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	1340	59.9	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	6117	28.4	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	94	4.0	%	3.5			
	% of diabetes pop (T2) with previous MI	2163	10.0	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	60	2.6	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	1615	7.5	%	7.5			
	% of diabetes pop (T1) with previous stroke	68	2.9	%	2.2			
	% of diabetes pop (T2) with previous stroke	1250	5.8	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	127	5.4	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	507	2.3	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	31	1.3	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	140	0.6	%	0.6				

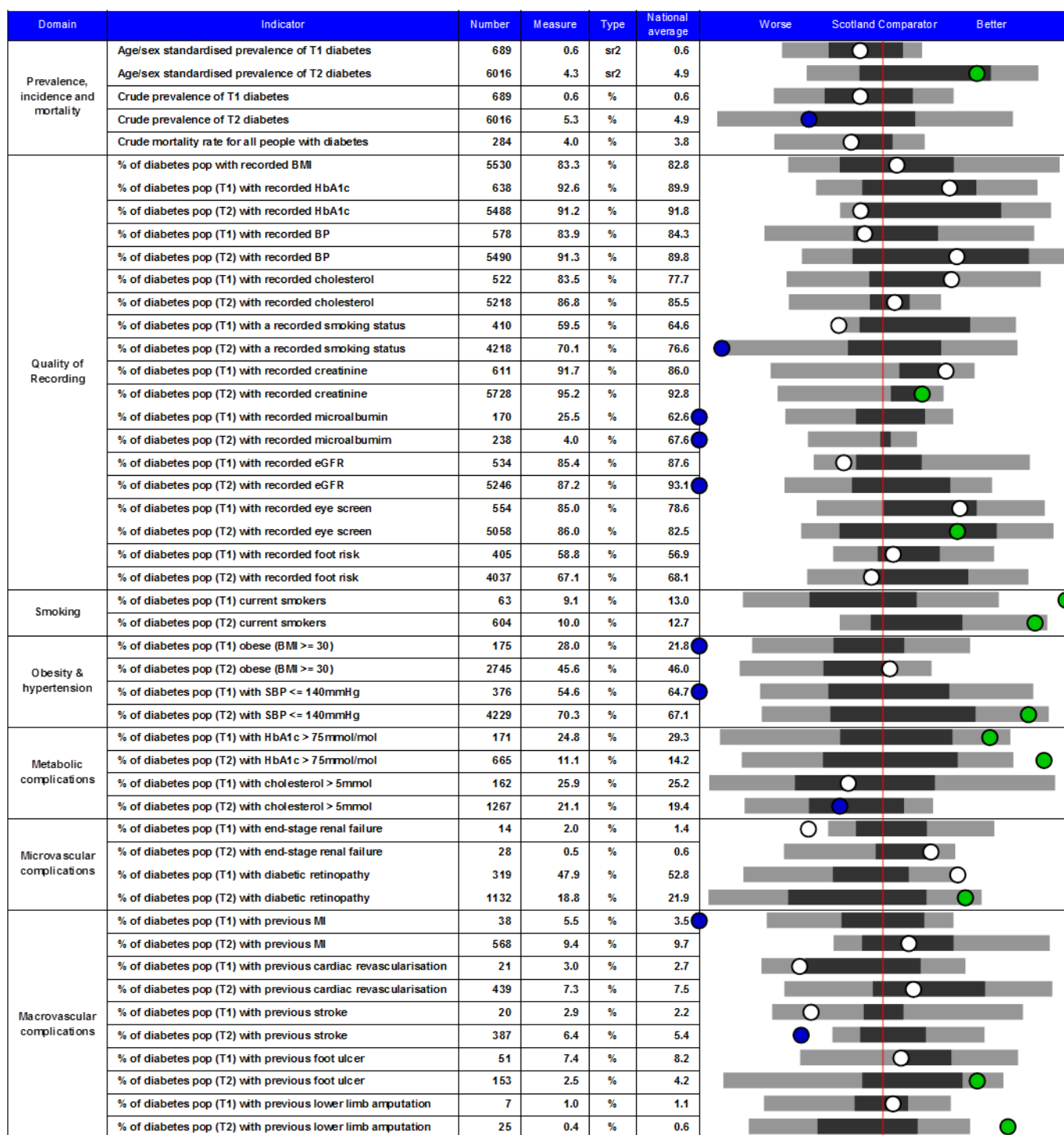
Spine chart key: % percent  
sr2=age-sex standardised rate per 100 population

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) 2017



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) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	951	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	8497	4.6	sr2	4.9			
	Crude prevalence of T1 diabetes	951	0.6	%	0.6			
	Crude prevalence of T2 diabetes	8497	5.7	%	4.9			
	Crude mortality rate for all people with diabetes	421	4.2	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	7916	84.6	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	905	95.2	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	8068	95.0	%	91.8			
	% of diabetes pop (T1) with recorded BP	819	86.1	%	84.3			
	% of diabetes pop (T2) with recorded BP	7819	92.0	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	765	89.0	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	7507	88.4	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	635	66.8	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	6267	73.8	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	844	92.1	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	8167	96.2	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	592	64.6	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	5853	68.9	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	816	94.9	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	8165	96.1	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	801	88.2	%	78.6			
	% of diabetes pop (T2) with recorded eye screen	7625	91.0	%	82.5			
% of diabetes pop (T1) with recorded foot risk	629	66.1	%	56.9				
% of diabetes pop (T2) with recorded foot risk	6327	74.5	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	140	14.7	%	13.0			
	% of diabetes pop (T2) current smokers	1002	11.8	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	209	24.3	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	4057	47.8	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	568	59.7	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	5518	64.9	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	255	26.8	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	1052	12.4	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	235	27.3	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	1711	20.1	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	17	1.8	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	46	0.5	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	593	64.7	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	2451	28.9	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	39	4.1	%	3.5			
	% of diabetes pop (T2) with previous MI	751	8.8	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	29	3.0	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	591	7.0	%	7.5			
	% of diabetes pop (T1) with previous stroke	19	2.0	%	2.2			
	% of diabetes pop (T2) with previous stroke	406	4.8	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	62	6.5	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	266	3.1	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	24	2.5	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	69	0.8	%	0.6				

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) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	2161	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	19435	5.0	sr2	4.9			
	Crude prevalence of T1 diabetes	2161	0.6	%	0.6			
	Crude prevalence of T2 diabetes	19435	5.2	%	4.9			
	Crude mortality rate for all people with diabetes	893	3.9	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	17798	83.2	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	1980	91.6	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	17722	91.2	%	91.8			
	% of diabetes pop (T1) with recorded BP	1848	85.5	%	84.3			
	% of diabetes pop (T2) with recorded BP	17502	90.1	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	1635	83.5	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	16993	87.5	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	1655	76.6	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	14983	77.1	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	1847	89.4	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	18232	93.8	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	1535	74.3	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	13467	69.3	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	1739	88.8	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	18171	93.5	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	1669	81.1	%	78.6			
	% of diabetes pop (T2) with recorded eye screen	16603	86.9	%	82.5			
% of diabetes pop (T1) with recorded foot risk	1015	47.0	%	56.9				
% of diabetes pop (T2) with recorded foot risk	11948	61.5	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	336	15.5	%	13.0			
	% of diabetes pop (T2) current smokers	2416	12.4	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	495	25.3	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	9571	49.3	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	1298	60.1	%	64.7			
	% of diabetes pop (T2) with SBP <= 140mmHg	12507	64.4	%	67.1			
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	680	31.5	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	2704	13.9	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	458	23.4	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	3434	17.7	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	19	0.9	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	108	0.6	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	1146	55.4	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	3986	20.5	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	70	3.2	%	3.5			
	% of diabetes pop (T2) with previous MI	1778	9.1	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	50	2.3	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	1226	6.3	%	7.5			
	% of diabetes pop (T1) with previous stroke	53	2.5	%	2.2			
	% of diabetes pop (T2) with previous stroke	1053	5.4	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	148	6.8	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	776	4.0	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	26	1.2	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	144	0.7	%	0.6				

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) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	1839	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	15222	5.0	sr2	4.9			
	Crude prevalence of T1 diabetes	1839	0.6	%	0.6			
	Crude prevalence of T2 diabetes	15222	5.0	%	4.9			
	Crude mortality rate for all people with diabetes	673	3.8	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	13941	82.6	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	1634	88.9	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	13869	91.1	%	91.8			
	% of diabetes pop (T1) with recorded BP	1516	82.4	%	84.3			
	% of diabetes pop (T2) with recorded BP	13681	89.9	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	1337	81.0	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	12291	80.8	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	1412	76.8	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	12057	79.2	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	1564	89.3	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	14125	92.8	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	1188	67.8	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	10587	69.6	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	1475	89.4	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	14126	92.8	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	1341	76.8	%	78.6			
% of diabetes pop (T2) with recorded eye screen	12095	79.6	%	82.5				
% of diabetes pop (T1) with recorded foot risk	1198	65.1	%	56.9				
% of diabetes pop (T2) with recorded foot risk	10731	70.5	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	278	15.1	%	13.0			
	% of diabetes pop (T2) current smokers	1949	12.8	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	347	21.0	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	7238	47.6	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	1166	63.4	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	10286	67.6	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	553	30.1	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	2334	15.3	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	397	24.1	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	2904	19.1	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	24	1.3	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	73	0.5	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	986	56.3	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	3663	24.1	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	54	2.9	%	3.5			
	% of diabetes pop (T2) with previous MI	1438	9.4	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	43	2.3	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	1021	6.7	%	7.5			
	% of diabetes pop (T1) with previous stroke	37	2.0	%	2.2			
	% of diabetes pop (T2) with previous stroke	799	5.2	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	175	9.5	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	428	2.8	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	18	1.0	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	85	0.6	%	0.6				

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) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	3449	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	25338	4.5	sr2	4.9			
	Crude prevalence of T1 diabetes	3449	0.6	%	0.6			
	Crude prevalence of T2 diabetes	25338	4.3	%	4.9			
	Crude mortality rate for all people with diabetes	1139	3.8	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	24518	86.2	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	3207	93.0	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	23742	93.7	%	91.8			
	% of diabetes pop (T1) with recorded BP	2944	85.4	%	84.3			
	% of diabetes pop (T2) with recorded BP	23161	91.4	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	2526	81.4	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	22865	90.3	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	2075	60.2	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	19548	77.1	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	2929	88.7	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	24136	95.3	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	2221	67.3	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	18631	73.5	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	2793	90.0	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	24141	95.3	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	2679	81.5	%	78.6			
% of diabetes pop (T2) with recorded eye screen	20805	83.0	%	82.5				
% of diabetes pop (T1) with recorded foot risk	1690	49.0	%	56.9				
% of diabetes pop (T2) with recorded foot risk	16713	66.0	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	423	12.3	%	13.0			
	% of diabetes pop (T2) current smokers	2855	11.3	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	697	22.5	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	12095	47.7	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	2355	68.3	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	17041	67.3	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	1231	35.7	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	4170	16.5	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	889	28.7	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	5758	22.7	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	62	1.8	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	143	0.6	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	1747	52.9	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	5296	20.9	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	116	3.4	%	3.5			
	% of diabetes pop (T2) with previous MI	2281	9.0	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	106	3.1	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	2105	8.3	%	7.5			
	% of diabetes pop (T1) with previous stroke	64	1.9	%	2.2			
	% of diabetes pop (T2) with previous stroke	1191	4.7	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	113	3.3	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	417	1.6	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	34	1.0	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	153	0.6	%	0.6				

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) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	6390	0.5	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	56854	5.3	sr2	4.9			
	Crude prevalence of T1 diabetes	6390	0.6	%	0.6			
	Crude prevalence of T2 diabetes	56854	4.9	%	4.9			
	Crude mortality rate for all people with diabetes	2498	3.8	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	51671	82.5	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	5701	89.2	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	51668	90.9	%	91.8			
	% of diabetes pop (T1) with recorded BP	5438	85.1	%	84.3			
	% of diabetes pop (T2) with recorded BP	50550	88.9	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	4452	76.5	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	47821	84.1	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	4040	63.2	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	44532	78.3	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	5400	87.6	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	53114	93.4	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	3723	60.4	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	37677	66.3	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	5097	87.5	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	53105	93.4	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	4839	78.8	%	78.6			
% of diabetes pop (T2) with recorded eye screen	47427	83.7	%	82.5				
% of diabetes pop (T1) with recorded foot risk	3580	56.0	%	56.9				
% of diabetes pop (T2) with recorded foot risk	37629	66.2	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	827	12.9	%	13.0			
	% of diabetes pop (T2) current smokers	8068	14.2	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	1139	19.6	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	24748	43.5	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	4191	65.6	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	38521	67.8	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	1826	28.6	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	8219	14.5	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	1516	26.0	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	10947	19.3	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	98	1.5	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	403	0.7	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	3273	53.1	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	13030	22.9	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	235	3.7	%	3.5			
	% of diabetes pop (T2) with previous MI	5787	10.2	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	162	2.5	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	4433	7.8	%	7.5			
	% of diabetes pop (T1) with previous stroke	140	2.2	%	2.2			
	% of diabetes pop (T2) with previous stroke	3292	5.8	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	591	9.2	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	2817	5.0	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	72	1.1	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	383	0.7	%	0.6				

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) 2017

Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	2041	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	15134	4.1	sr2	4.9			
	Crude prevalence of T1 diabetes	2041	0.6	%	0.6			
	Crude prevalence of T2 diabetes	15134	4.7	%	4.9			
	Crude mortality rate for all people with diabetes	740	4.0	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	14490	85.4	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	1802	88.3	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	14066	92.9	%	91.8			
	% of diabetes pop (T1) with recorded BP	1704	83.5	%	84.3			
	% of diabetes pop (T2) with recorded BP	13855	91.5	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	1327	72.6	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	12320	81.4	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	1453	71.2	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	12252	81.0	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	1366	69.4	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	12319	81.4	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	1111	56.5	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	10464	69.2	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	1526	83.5	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	13827	91.4	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	1415	72.4	%	78.6			
% of diabetes pop (T2) with recorded eye screen	11799	78.9	%	82.5				
% of diabetes pop (T1) with recorded foot risk	1373	67.3	%	56.9				
% of diabetes pop (T2) with recorded foot risk	11552	76.3	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	286	14.0	%	13.0			
	% of diabetes pop (T2) current smokers	1730	11.4	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	389	21.3	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	7252	47.9	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	1349	66.1	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	9907	65.5	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	551	27.0	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	2140	14.1	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	456	25.0	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	3542	23.4	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	33	1.6	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	81	0.5	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	978	49.7	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	3039	20.1	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	77	3.8	%	3.5			
	% of diabetes pop (T2) with previous MI	1529	10.1	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	53	2.6	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	1248	8.2	%	7.5			
	% of diabetes pop (T1) with previous stroke	45	2.2	%	2.2			
	% of diabetes pop (T2) with previous stroke	801	5.3	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	123	6.0	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	578	3.8	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	35	1.7	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	113	0.7	%	0.6				

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) 2017

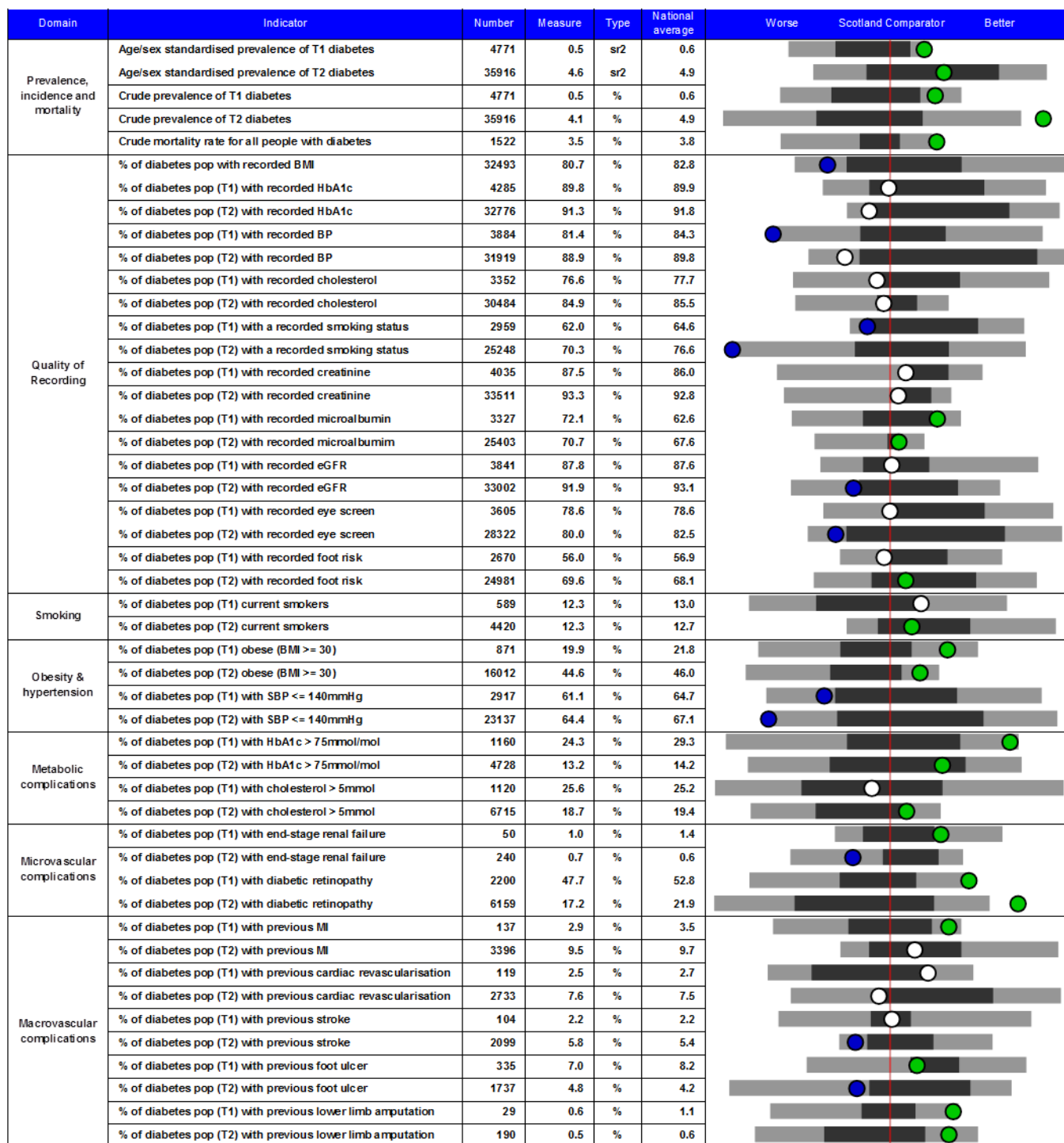
Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	4221	0.6	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	34622	5.3	sr2	4.9			
	Crude prevalence of T1 diabetes	4221	0.6	%	0.6			
	Crude prevalence of T2 diabetes	34622	5.3	%	4.9			
	Crude mortality rate for all people with diabetes	1560	3.8	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	30621	80.0	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	3585	84.9	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	31363	90.6	%	91.8			
	% of diabetes pop (T1) with recorded BP	3619	85.7	%	84.3			
	% of diabetes pop (T2) with recorded BP	30329	87.6	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	2654	70.8	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	29283	84.8	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	2555	60.5	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	25955	75.0	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	3382	83.8	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	32223	93.3	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	2107	52.2	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	21347	61.8	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	3139	83.8	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	31698	91.7	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	2911	73.5	%	78.6			
% of diabetes pop (T2) with recorded eye screen	26256	78.4	%	82.5				
% of diabetes pop (T1) with recorded foot risk	2283	54.1	%	56.9				
% of diabetes pop (T2) with recorded foot risk	20986	60.6	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	479	11.3	%	13.0			
	% of diabetes pop (T2) current smokers	4513	13.0	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	860	23.0	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	15664	45.3	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	2789	66.1	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	23835	68.8	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75mmol/mol	1267	30.0	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75mmol/mol	5309	15.3	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	820	21.9	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	5825	16.9	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	65	1.5	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	166	0.5	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	2051	50.8	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	7289	21.1	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	161	3.8	%	3.5			
	% of diabetes pop (T2) with previous MI	3509	10.1	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	125	3.0	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	2630	7.6	%	7.5			
	% of diabetes pop (T1) with previous stroke	85	2.0	%	2.2			
	% of diabetes pop (T2) with previous stroke	1769	5.1	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	693	16.4	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	2615	7.6	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	37	0.9	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	178	0.5	%	0.6				

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) 2017



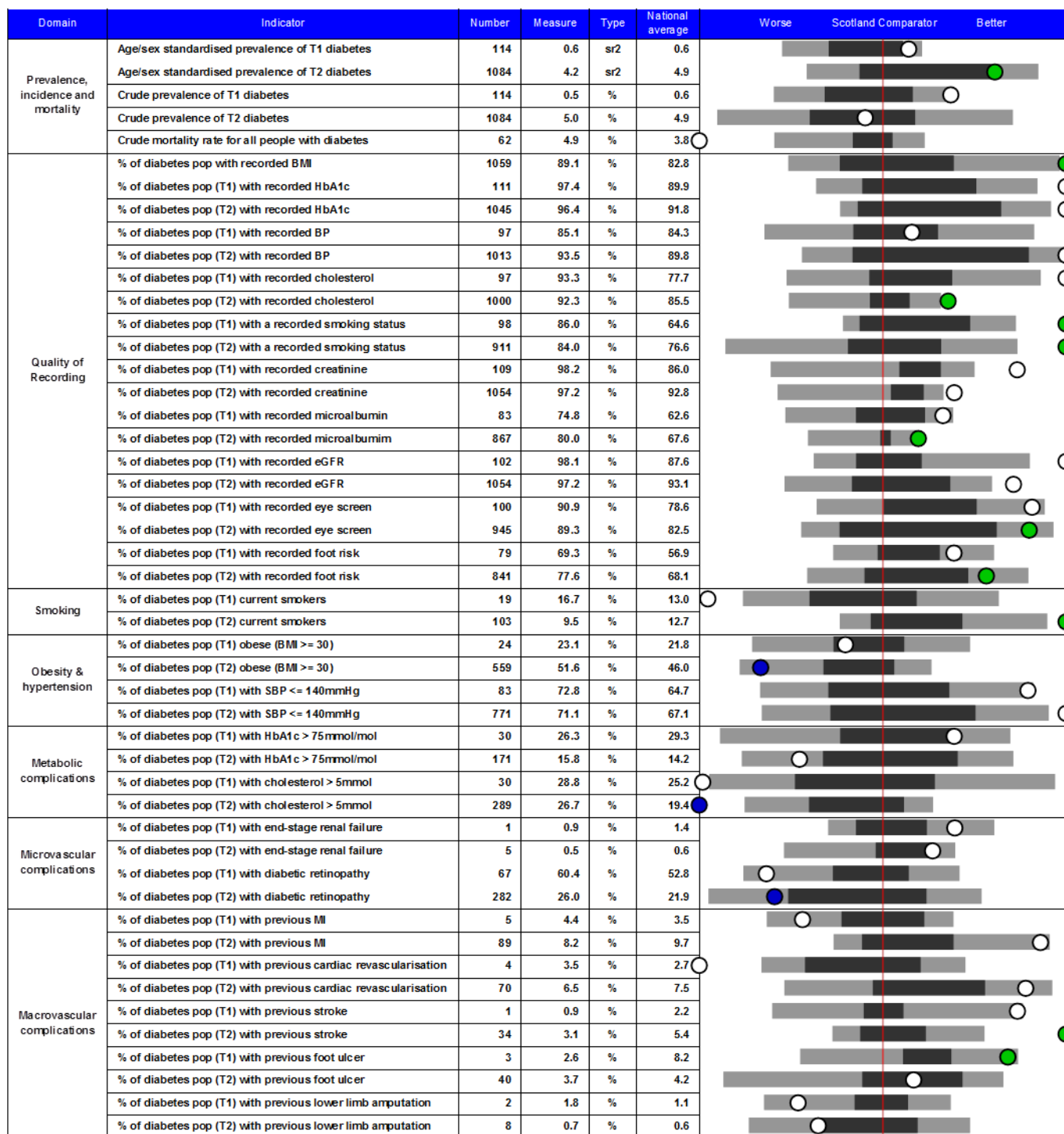
Spine chart key: % percent  
sr2=age-sex standardised rate per 100 population

Spine chart key: ● Statistically significantly 'worse' than National average  
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'Worse' Area ← Scotland Average → 'Better' Area  
5th percentile 25th percentile 75th percentile 95th percentile



Diabetes Health Board Spine Chart (Orkney) 2017

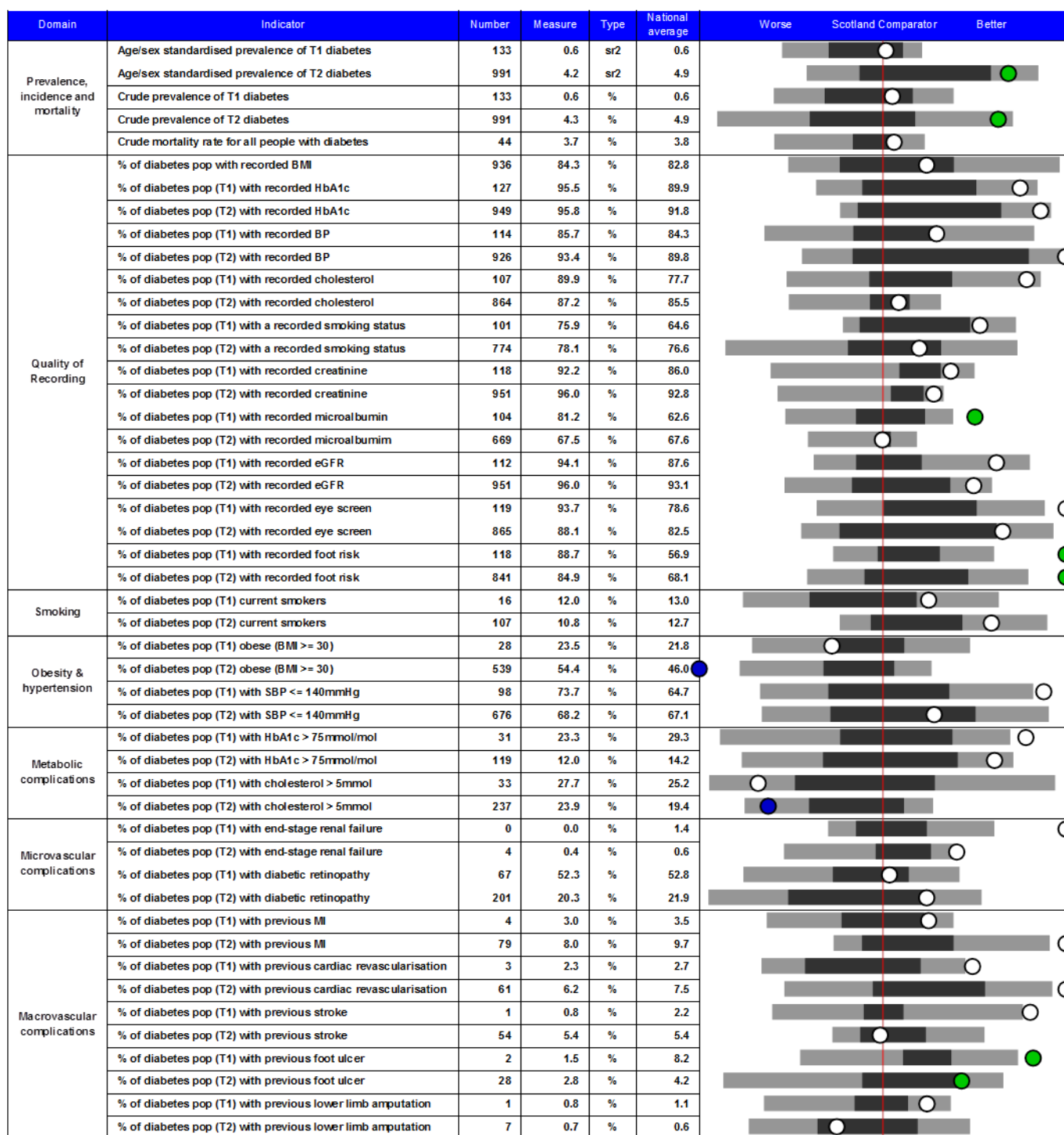


Spine chart key: % percent  
sr2=age-sex standardised rate per 100 population

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) 2017



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) 2017

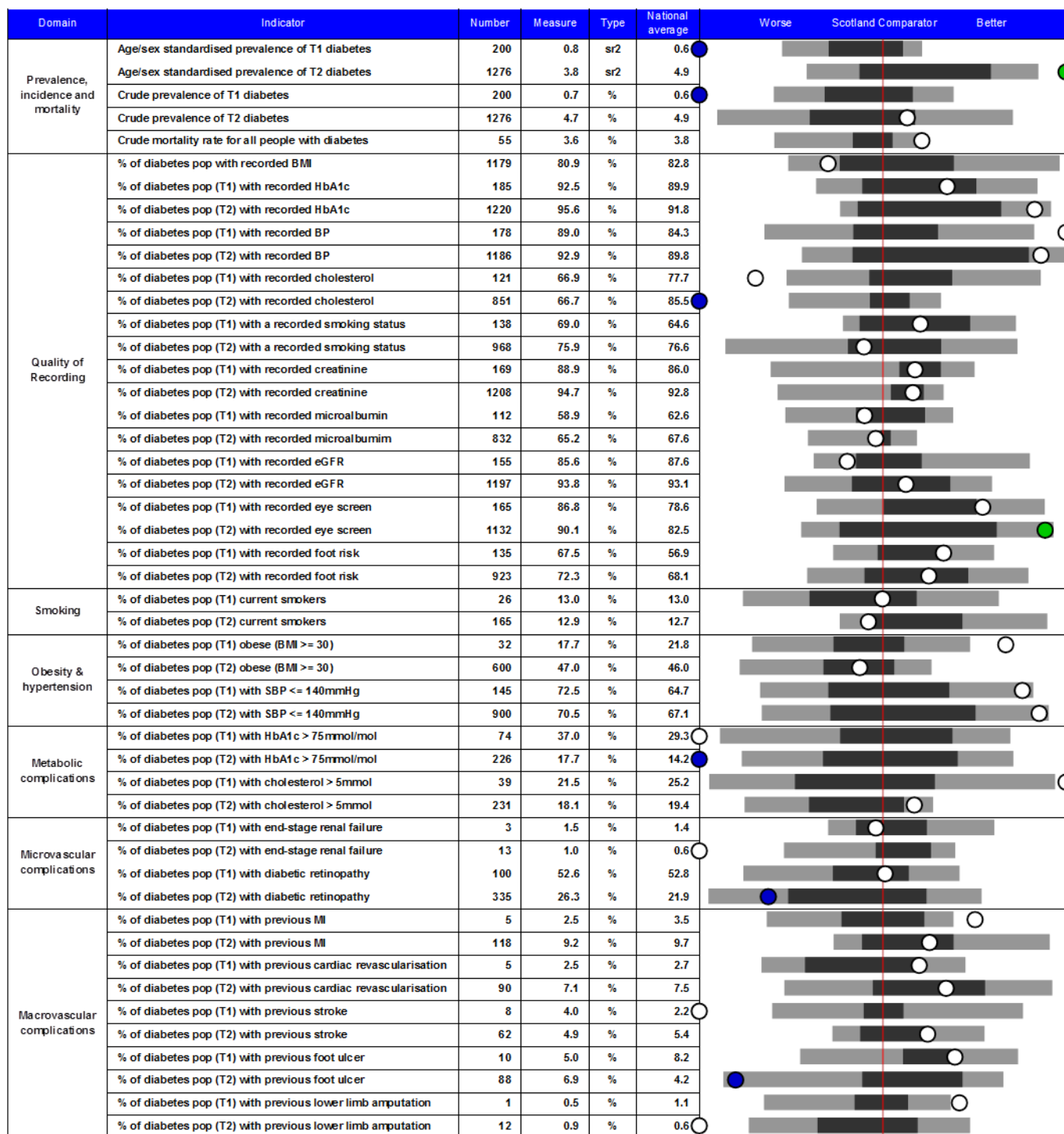
Domain	Indicator	Number	Measure	Type	National average	Worse	Scotland Comparator	Better
Prevalence, incidence and mortality	Age/sex standardised prevalence of T1 diabetes	2148	0.5	sr2	0.6			
	Age/sex standardised prevalence of T2 diabetes	21310	4.8	sr2	4.9			
	Crude prevalence of T1 diabetes	2148	0.5	%	0.6			
	Crude prevalence of T2 diabetes	21310	5.1	%	4.9			
	Crude mortality rate for all people with diabetes	981	4.0	%	3.8			
Quality of Recording	% of diabetes pop with recorded BMI	20643	88.7	%	82.8			
	% of diabetes pop (T1) with recorded HbA1c	2017	93.9	%	89.9			
	% of diabetes pop (T2) with recorded HbA1c	20058	94.1	%	91.8			
	% of diabetes pop (T1) with recorded BP	1885	87.8	%	84.3			
	% of diabetes pop (T2) with recorded BP	19819	93.0	%	89.8			
	% of diabetes pop (T1) with recorded cholesterol	1536	78.5	%	77.7			
	% of diabetes pop (T2) with recorded cholesterol	19373	90.9	%	85.5			
	% of diabetes pop (T1) with a recorded smoking status	1328	61.8	%	64.6			
	% of diabetes pop (T2) with a recorded smoking status	17221	80.8	%	76.6			
	% of diabetes pop (T1) with recorded creatinine	1866	89.4	%	86.0			
	% of diabetes pop (T2) with recorded creatinine	20257	95.1	%	92.8			
	% of diabetes pop (T1) with recorded microalbumin	1407	67.4	%	62.6			
	% of diabetes pop (T2) with recorded microalbumin	16895	79.3	%	67.6			
	% of diabetes pop (T1) with recorded eGFR	1726	88.2	%	87.6			
	% of diabetes pop (T2) with recorded eGFR	20250	95.0	%	93.1			
	% of diabetes pop (T1) with recorded eye screen	1637	78.7	%	78.6			
% of diabetes pop (T2) with recorded eye screen	17171	81.9	%	82.5				
% of diabetes pop (T1) with recorded foot risk	1338	62.3	%	56.9				
% of diabetes pop (T2) with recorded foot risk	16935	79.5	%	68.1				
Smoking	% of diabetes pop (T1) current smokers	296	13.8	%	13.0			
	% of diabetes pop (T2) current smokers	2668	12.5	%	12.7			
Obesity & hypertension	% of diabetes pop (T1) obese (BMI >= 30)	458	23.4	%	21.8			
	% of diabetes pop (T2) obese (BMI >= 30)	10436	49.0	%	46.0			
	% of diabetes pop (T1) with SBP <= 140mmHg	1426	66.4	%	64.7			
% of diabetes pop (T2) with SBP <= 140mmHg	14333	67.3	%	67.1				
Metabolic complications	% of diabetes pop (T1) with HbA1c > 75nmol/mol	734	34.2	%	29.3			
	% of diabetes pop (T2) with HbA1c > 75nmol/mol	2707	12.7	%	14.2			
	% of diabetes pop (T1) with cholesterol > 5mmol	481	24.6	%	25.2			
	% of diabetes pop (T2) with cholesterol > 5mmol	4110	19.3	%	19.4			
Microvascular complications	% of diabetes pop (T1) with end-stage renal failure	36	1.7	%	1.4			
	% of diabetes pop (T2) with end-stage renal failure	130	0.6	%	0.6			
	% of diabetes pop (T1) with diabetic retinopathy	1099	52.6	%	52.8			
	% of diabetes pop (T2) with diabetic retinopathy	4774	22.4	%	21.9			
Macrovascular complications	% of diabetes pop (T1) with previous MI	69	3.2	%	3.5			
	% of diabetes pop (T2) with previous MI	2017	9.5	%	9.7			
	% of diabetes pop (T1) with previous cardiac revascularisation	59	2.7	%	2.7			
	% of diabetes pop (T2) with previous cardiac revascularisation	1558	7.3	%	7.5			
	% of diabetes pop (T1) with previous stroke	47	2.2	%	2.2			
	% of diabetes pop (T2) with previous stroke	1070	5.0	%	5.4			
	% of diabetes pop (T1) with previous foot ulcer	154	7.2	%	8.2			
	% of diabetes pop (T2) with previous foot ulcer	736	3.5	%	4.2			
	% of diabetes pop (T1) with previous lower limb amputation	28	1.3	%	1.1			
% of diabetes pop (T2) with previous lower limb amputation	148	0.7	%	0.6				

Spine chart key: % percent  
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'Worse' Area ← Scotland Average → 'Better' Area  
5th percentile 25th percentile 75th percentile 95th percentile

Diabetes Health Board Spine Chart (Western Isles) 2017



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