



Scottish Diabetes Survey 2014

Scottish Diabetes Survey Monitoring Group

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Foreword

The Scottish Diabetes Survey 2014 describes many aspects of diabetes care across the whole of Scotland.

This information is useful for the Managed Clinical Networks in each NHS Board to help identify what is needed to further improve the quality of diabetes care.

The quality and the completeness of the data included within the Survey continues to improve. Most of the data contained in the Survey is extracted from our national award-winning diabetes IT system SCI-Diabetes. As such it represents a very comprehensive snapshot of diabetes in Scotland at a single point of time. The information however is dynamic as it is constantly being checked and updated as required. It is important to understand this when reading the Survey to avoid over interpretation of some elements of the data.

Data on SCI-Diabetes can also be viewed by GP practices, hospital teams and now, through our “My Diabetes My Way” website (<http://www.mydiabetesmyway.scot.nhs.uk>), people who have registered can review their own data to support them self manage their diabetes. More than 10,000 people have registered for this facility.

We have launched our Diabetes Improvement Plan in 2014 and can use the survey information to monitor progress in achieving the improvements planned.

One aim of the Improvement Plan is to enable more dynamic and local use of the information available within SCI-Diabetes. We have put in place a mechanism to automatically provide quarterly feedback to NHS Boards of important aspects of diabetes care, which will commence in April 2015. This will be supported by plans to enhance and enable local review and audit of information with an aim to support improvement.

As in previous years, the Survey shows an ongoing increase in the prevalence of diabetes without a definite increase in the incidence of Type 2 Diabetes. The Survey also illustrates some significant improvements in diabetes care:

More people than ever before have had an HbA1c measurement and retinopathy screening.

In the 2013 survey foreword I mentioned plans to improve control of Type 1 Diabetes in Scotland. We have held a number of meetings to develop improvements.

In this years survey the percentage of people with poor glucose control has decreased from 37.1 to 35.7 % and the percentage with good control has increased from 21.5 to 23.4%.

Nationally we have also achieved the commitment to increase provision of insulin pump therapy. At the end of December 28.8 % (849) of under 18s and 6.1 % (1632) of adults are now receiving this therapy.

The Survey also identifies a number of ongoing challenges for NHS Scotland:

We need to continue to develop and improve care for those with Type 1 diabetes if we are to achieve outcomes comparable to those of other countries.

The increasing prevalence of diabetes is placing strain on current services.

The improved survival and therefore increased duration of diabetes means that the population has more complications (e.g. high risk feet) requiring management.

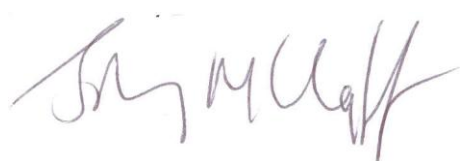
The high prevalence of smoking in the diabetes population that is already at very high risk of cardiovascular disease continues to be of concern.

There continues to be significant variation between different NHS Boards in the collection of Survey data and the outcomes achieved.

NHS Boards will wish to address these issues through their Managed Clinical Networks where appropriate.

The information in SCI-Diabetes is also used to for epidemiological research to help develop and plan services and improve outcomes for people living with diabetes across Scotland and internationally.

The Survey will also assist the Scottish Diabetes Group in understanding progress with the Diabetes Improvement Plan. We therefore expect to build on the messages the Survey gives us to further improve the quality of diabetes care in Scotland and help ensure that people with diabetes in Scotland receive world class, safe, effective and person centred care.



John A McKnight

Chairman

Scottish Diabetes Survey Monitoring Group

Executive Summary

This report presents the results of the 2014 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 diabetes. In this survey, we report separately on those with Type 1 and Type 2 diabetes.

In this Scottish Diabetes Survey 2014, we report that:

- There were 276,430 people diagnosed with diabetes in Scotland recorded on local diabetes registers at the end of 2014. This represents 5.2% of the population;
- Crude prevalence of diabetes ranged from 4.2% to 5.8% across NHS Boards (Table 1);
- 88.3% (244,050) of all people registered with diabetes had Type 2 diabetes (Table 15);
- 10.8% of all registered people had Type 1 diabetes. The number of people registered with Type 1 diabetes increased from 26,294 in 2006 to 29,802 in 2014;
- 0.93% (2,578) were recorded as having “other” types of diabetes, including maturity onset diabetes of the young (MODY) and those with unknown diabetes type (Table 15);
- 37.4% of patients with a recorded BMI and Type 1 diabetes and 31.5% of those with a recorded BMI and Type 2 diabetes were overweight (BMI 25-30kg/m²), while 24.1% of those with Type 1 and 55.5% of those with Type 2 were obese (BMI 30kg/m² or above, Table 22 and Table 23);
- 91.3% (Type 1) and 94.3% (Type 2) had an HbA_{1c} recorded in the previous 15 months. Of these, 23.4% and 61.4% had a result < 58mmol/mol (7.5%), the target reported in previous surveys (Table 25, Table 26 and Table 27);
- 87.9% of those with Type 1 and 94.5% of those with Type 2 diabetes had their blood pressure recorded in the previous 15 months. Of these, 46.8% and 33.8% respectively had a systolic BP measurement of ≤ 130/80 mmHg (Table 35, Table 39 and Table 41; Figure 18 and Figure 20);
- Cholesterol was recorded in 90.7% of patients within the previous 15 months, and the target of ≤ 5 mmol/l was achieved in 70.9% of those with Type 1 and 80.7% of those with Type 2 diabetes (Table 46, Table 47 and Table 48);
- 23.6% (Type 1) and 18.3% (Type 2) were current smokers (Table 51 and Table 52);
- 1,042 (3.5%) of those with Type 1 and 24,054 (9.9%) of those with Type 2 diabetes have had a myocardial infarction and survived, and 2.6% and 7.4% respectively have undergone cardiac revascularisation (Table 54 and Table 56);
- 407 (1.4%) of those with Type 1 and 1365 (0.6%) of those with Type 2 diabetes have a record of having end stage renal failure (Table 63);

- 86.4% of people with diabetes had had eye screening in the previous 15 months (Table 64);
- 63.6% of patients with Type 1 diabetes and 80.4% of those with Type 2 had their foot scores recorded in the previous 15 months (Table 67 and Table 68);
- 354 (1.2%) of those with Type 1 and 1757 (0.7%) of those with Type 2 diabetes have a record of having had a lower limb amputation (Table 71).

Prevalence

At the end of 2014 there were 276,430 people with known diabetes in Scotland recorded on local diabetes registers, which represents a crude prevalence of 5.2% of the population. In the 2013 Scottish Diabetes Survey, 268,154 people (5.05%) 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
- an increase in the incidence of Type 1 diabetes - we know that there has been a steady increase in the incidence of diabetes in Scottish children over the last 40 years.
- better survival partly because of improved control of blood glucose, blood pressure and cholesterol level
- possibly better detection of diabetes in people with Type 2 diabetes, many of whom have no symptoms

Table 1. Crude and age-adjusted prevalence of diabetes (all types), by NHS Board, ranked by age adjusted prevalence.

NHS Board	Population	Number on diabetes register at end of 2014	Crude prevalence	Age adjusted prevalence
Western Isles	27,400	1,332	4.9%	4.2%
Orkney	21,570	1,084	5.0%	4.5%
Highland	321,000	16,207	5.0%	4.5%
Shetland	23,200	1,082	4.7%	4.6%
Borders	113,870	6,284	5.5%	4.7%
Lothian	849,700	37,751	4.4%	4.9%
Grampian	579,220	27,220	4.7%	4.9%
Dumfries and Galloway	150,270	8,968	6.0%	5.0%
Tayside	412,160	22,033	5.3%	5.0%
Forth Valley	299,680	15,766	5.3%	5.3%
Lanarkshire	652,580	34,013	5.2%	5.3%
Fife	366,910	20,590	5.6%	5.4%
Ayrshire and Arran	372,210	22,231	6.0%	5.5%
Greater Glasgow and Clyde	1,137,930	61,869	5.4%	5.8%
Scotland	5,327,700	276,430	5.2%	5.2%

Variation between NHS Boards also depends on deprivation, the age and the ethnic distribution of the population of each Board. However the broad similarity of reported prevalence, compared to some previous years, gives confidence in the completeness of recording. The increased prevalence in recent years is likely to be real rather than because of better reporting.

Table 2. Crude prevalence of diabetes for patients aged 65 and over (all types), by NHS Board, ranked by prevalence.

NHS Board	Aged ≥ 65 (n)	Aged ≥ 65 with Diabetes	Prevalence in those aged ≥ 65
Western Isles	6,266	752	12.0%
Highland	67,161	9,047	13.5%
Shetland	4,103	558	13.6%
Orkney	4,560	635	13.9%
Borders	25,702	3,701	14.4%
Lothian	132,703	19,150	14.4%
Dumfries and Galloway	35,030	5,138	14.7%
Grampian	96,574	14,382	14.9%
Tayside	82,138	12,486	15.2%
Lanarkshire	109,902	16,959	15.4%
Ayrshire and Arran	76,434	11,857	15.5%
Forth Valley	52,795	8,302	15.7%
Fife	69,016	11,104	16.1%
Greater Glasgow and Clyde	184,478	30,248	16.4%
Scotland	946,862	144,319	15.2%

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 (formerly GRO(S)). Because of publication dates surveys have in each case used population figures for the previous year - so that the 2014 survey uses diabetes data from 2014 but mid-year population estimates from 2013. 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 1. Crude diabetes prevalence (all types) by NHS Health Board. Vertical capped lines show 95% confidence intervals.

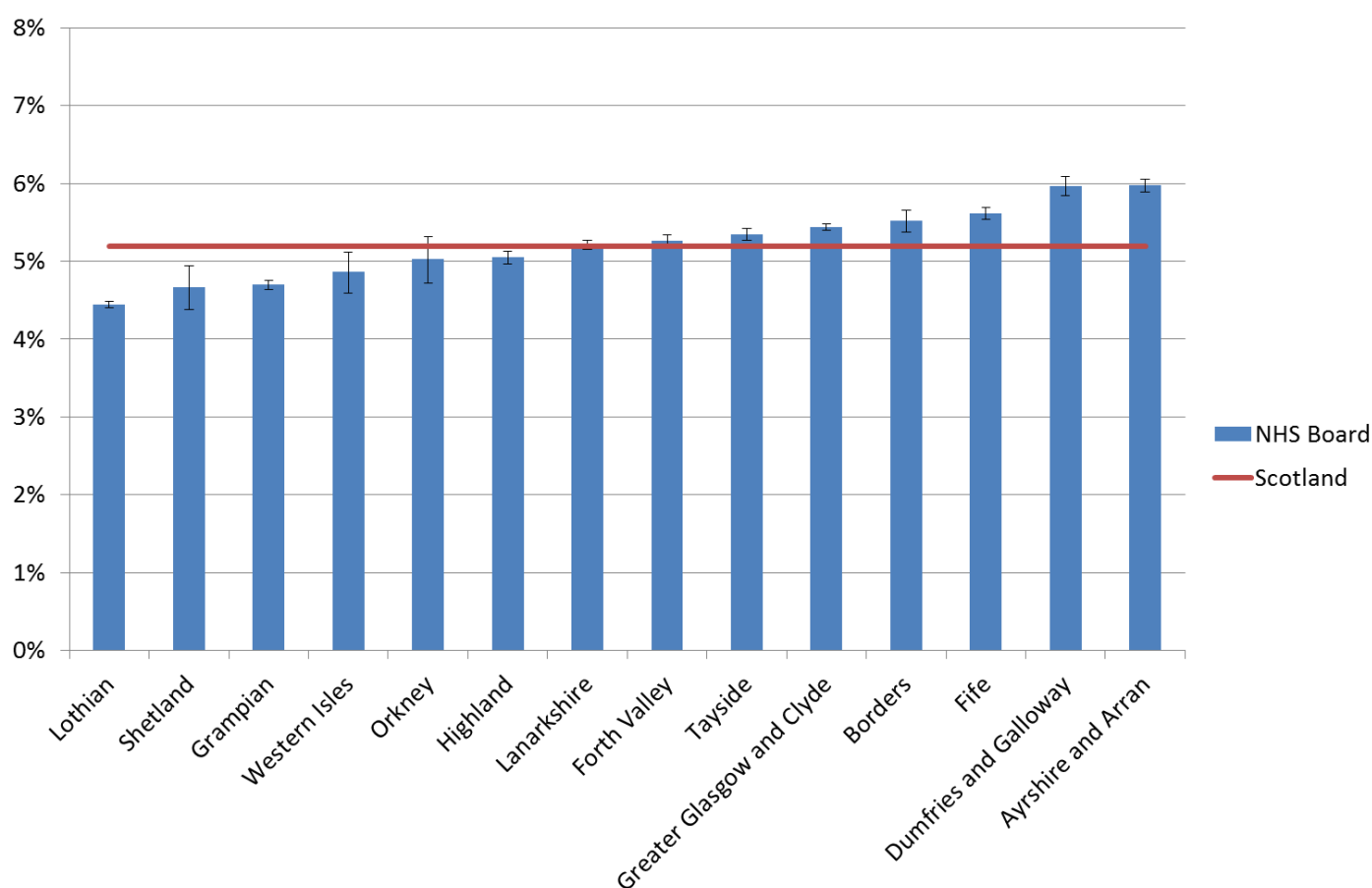


Figure 2. Age-adjusted diabetes prevalence (all types) by NHS Health Board, ranked by prevalence. Vertical lines show 95% confidence intervals.

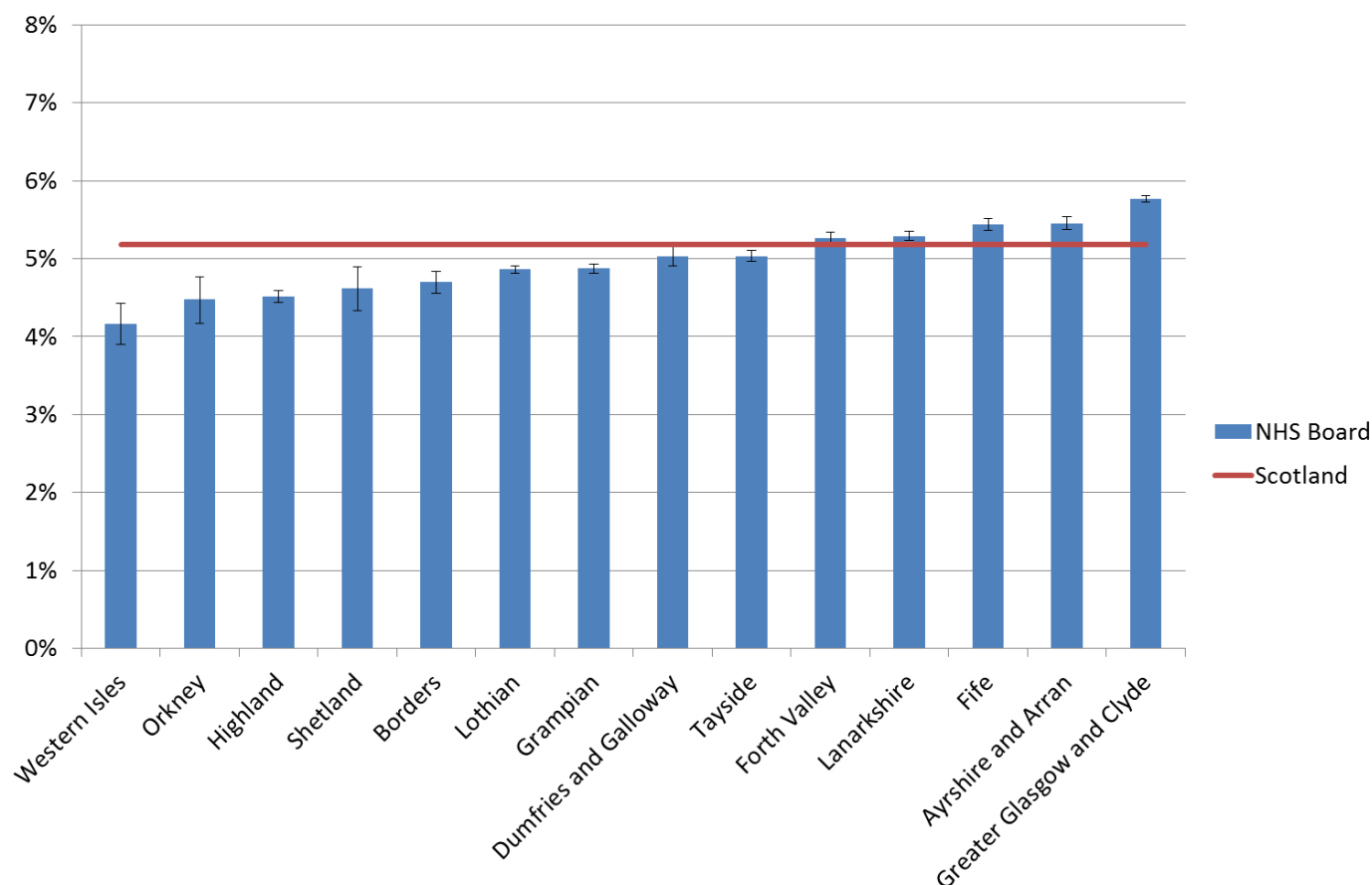


Table 1 and Figures 1 and 2 show both crude and age-adjusted figures for the prevalence of diabetes of all types in 2014. The age-adjusted figures take account of the fact that the average age differs between boards and that older populations have higher diabetes prevalence. Table 2 shows that the prevalence of diabetes is particularly high among those aged 65 and over.

Note: These are crude incidence figures that have been calculated retrospectively using SCI-Diabetes data and therefore may be slightly affected by factors such as post-survey patient migration and on-going validation of diabetes classification.

Figure 3. Number of people with all types of diabetes in each NHS Health Board.

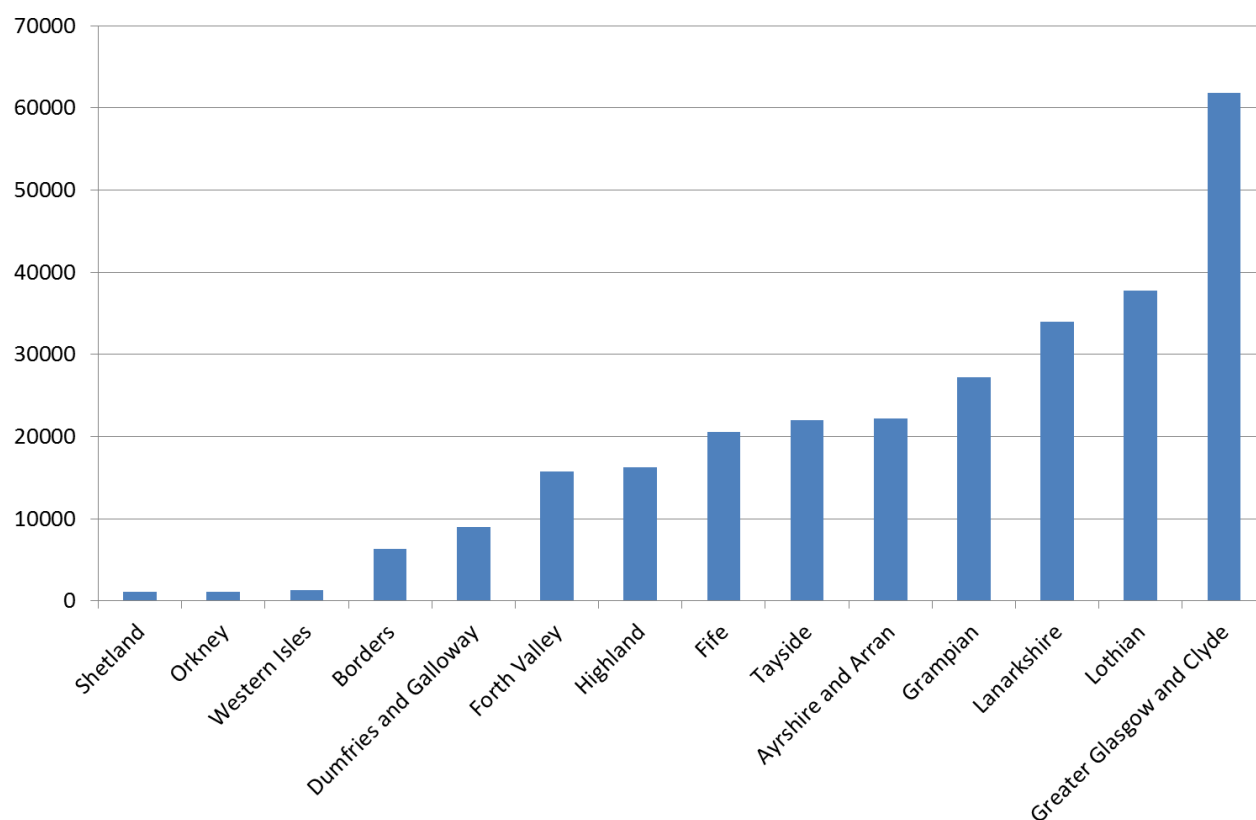


Figure 4. Number of people recorded with diabetes (all types).

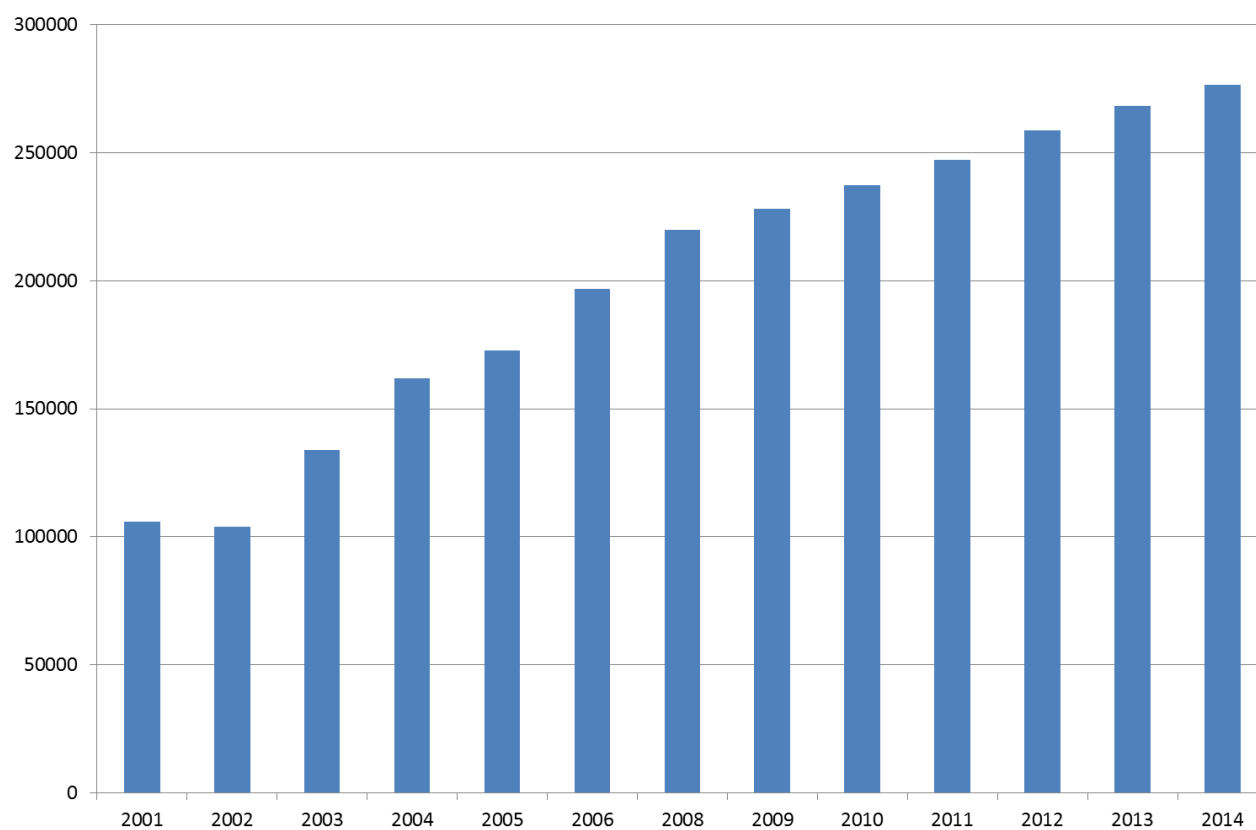


Table 3. Number of people with diabetes, crude prevalence of diabetes and changes in numbers/proportions, compared to previous years.

Survey	Diabetes register	Crude prevalence	Increase	(%) Increase	Absolute increase
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%
2007	209,706	4.10%	12,905	6.56%	0.24%

Table 4. Type 1 diabetes: number of new cases and incidence rate (per 100,000 population per year) of by age.

Age	2009		2010		2011		2012		2013		2014		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
0 to 4	148	27	145	26	166	29	66	22	51	17	294,281	56	19
5 to 9							137	50	88	32	282,604	105	37
10 to 14	258	41	268	43	244	40	152	54	125	44	275,120	140	51
15 to 19							110	35	104	33	315,594	116	37
20 to 29	168	24	177	25	205	29	172	24	159	22	720,281	159	22
30 to 39	145	22	127	20	129	20	118	18	111	17	654,753	110	17
40 to 49	92	12	93	12	114	14	96	12	82	10	782,053	86	11
50 to 59	71	11	69	10	63	9	66	9	74	10	738,825	58	8
60 to 69	44	8	50	9	37	6	43	7	36	6	614,663	26	4
Over 69	28	5	29	5	15	2	18	3	18	3	649,526	27	4
Total	954	18	958	18	973	19	978	19	848	16	5,327,700	883	17

Table 5. Type 1 diabetes: incidence rate (per 100,000 population per year) of by age.

Age range	2007	2008	2009	2010	2011	2012	2013	2014
<10	22	24	27	26	29	36	24	28
10-19	44	42	41	43	40	44	38	43
20-29	26	24	24	25	29	24	22	22
30-39	24	21	22	20	20	18	17	17
40-49	19	16	12	12	14	12	10	11
50-59	10	8	11	10	9	9	10	8
60-69	6	10	8	9	6	7	6	4
>=70	6	4	5	5	2	3	3	4
Total	20	19	18	18	19	19	16	17

Table 6. Type 2 diabetes: number of new cases and incidence rate (per 100,000 population per year) by age.

Age	2009		2010		2011		2012		2013		2014		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
Under 10	2	0	0	0	0	0	0	0	1	0	576,885	0	0
10 to 19	22	4	18	3	10	2	21	3	8	1	590,714	19	3
20 to 29	164	24	166	24	163	23	208	29	178	25	720,281	197	27
30 to 39	797	120	755	116	730	113	939	146	810	124	654,753	756	115
40 to 49	2,667	335	2555	321	2552	322	2733	347	2570	323	782,053	2,467	315
50 to 59	4411	653	4787	629	4106	595	4567	650	4387	606	738,825	4,210	570
60 to 69	5286	944	4870	851	4741	814	4943	833	5013	826	614,663	4,513	734
Over 69	5286	867	4925	799	4667	747	4596	729	4876	762	649,526	4,217	649
Total	18627	360	17576	338	16969	325	18007	343	17853	336	5,327,700	16,379	307

Table 7. Type 2 diabetes: incidence rate (per 100,000 population per year) of by age.

Age range	2007	2008	2009	2010	2011	2012	2013	2014
<10	0	0	0	0	0	0	0	0
10-19	4	3	4	3	2	3	1	3
20-29	23	24	24	24	23	29	25	27
30-39	101	127	120	116	113	146	124	115
40-49	304	310	335	321	322	347	323	315
50-59	608	628	653	629	595	650	606	570
60-69	955	917	944	851	814	833	826	734
>=70	835	874	867	799	747	729	762	649
Total	339	350	360	338	325	343	336	307

Table 8. Type 1 diabetes: number of new cases of and crude incidence rate for all ages (cases per 100,000 population per year) by NHS Board, ranked by rate in 2014.

NHS Board	2009		2010		2011		2012		2013		2014	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Orkney	2	10	4	20	5	25	3	15	0	0	0	0
Borders	16	14	20	18	17	15	20	18	16	14	12	11
Dumfries and Galloway	29	20	26	18	20	13	20	14	21	14	20	13
Fife	56	16	53	15	80	22	63	17	47	13	52	14
Tayside	57	14	71	18	58	14	73	18	65	16	59	14
Greater Glasgow and Clyde	218	18	205	17	221	18	228	19	187	15	193	16
Lanarkshire	127	23	103	18	110	20	110	20	88	15	93	16
Highland	69	22	53	17	74	24	49	16	62	19	54	17
Lothian	136	17	155	19	136	16	153	18	152	18	147	17
Forth Valley	50	17	64	22	61	21	70	24	52	17	56	19
Grampian	115	21	123	23	117	21	90	17	88	15	111	19
Ayrshire and Arran	70	19	69	19	68	19	79	22	64	17	73	20
Shetland	5	23	6	27	3	13	4	18	1	4	5	22
Western Isles	4	15	6	23	3	11	9	35	5	18	8	29
Scotland	954	18	958	18	973	19	978	19	848	16	883	17

Table 9. 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 2014.

NHS Board	2007	2008	2009	2010	2011	2012	2013	2014
Orkney	15	30	10	20	25	15	0	0
Borders	19	17	14	18	15	18	14	11
Dumfries and Galloway	18	19	14	18	14	18	16	13
Fife	16	16	20	18	13	14	14	14
Tayside	22	17	15	15	22	17	13	14
Greater Glasgow and Clyde	21	18	18	17	18	19	15	16
Lanarkshire	25	19	23	18	20	20	15	16
Highland	23	18	17	19	16	18	18	17
Lothian	14	21	22	17	24	16	19	17
Forth Valley	17	21	17	22	21	24	17	19
Grampian	15	19	21	23	21	17	15	19
Ayrshire and Arran	21	20	19	19	19	22	17	20
Shetland	14	18	23	27	13	18	4	22
Western Isles	15	19	15	23	11	35	18	29
Scotland	20	19	18	18	19	19	16	17

Table 10. 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 2014.

NHS Board	2009		2010		2011		2012		2013		2014	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Lothian	2,211	270	1,988	241	2,191	262	2,271	268	2,303	273	2,096	247
Highland	1,136	367	1,122	361	1,010	325	1,035	332	1,023	320	826	257
Forth Valley	970	334	973	334	876	299	1,051	356	981	328	844	282
Western Isles	96	366	101	386	71	271	75	288	90	327	80	292
Grampian	2,063	382	1,721	316	1,596	290	1,866	336	1,995	348	1,710	295
Orkney	67	337	59	296	85	423	61	303	91	423	67	311
Greater Glasgow and Clyde	4,039	338	3,952	330	3,801	316	4,131	341	4,159	342	3,807	313
Tayside	1,614	407	1,670	418	1,544	383	1,440	355	1,352	328	1,314	319
Dumfries and Galloway	669	450	589	397	573	387	563	380	514	341	482	321
Shetland	74	337	75	338	82	366	51	227	51	220	76	328
Borders	411	366	428	380	384	340	448	396	385	339	382	335
Ayrshire and Arran	1,660	425	1,521	414	1,545	421	1,570	428	1,315	352	1,287	335
Lanarkshire	2,302	410	2,081	370	1,976	351	2,083	370	2,197	384	2,041	346
Fife	1,315	363	1,296	357	1,235	338	1,363	371	1,397	381	1,367	373
Scotland	18,627	360	17,576	338	16,969	325	18,008	343	17,853	336	16,379	307

Table 11. Type 2 diabetes: crude incidence rate for all ages (cases per 100,000 population per year) by NHS Board.

NHS Board	2007	2008	2009	2010	2011	2012	2013	2014
Lothian	310	281	270	241	262	268	273	247
Highland	335	348	367	361	325	332	320	257
Forth Valley	320	330	334	334	299	356	328	282
Western Isles	323	327	366	386	271	288	327	292
Grampian	329	336	382	316	290	336	348	295
Orkney	369	388	337	296	423	303	423	311
Greater Glasgow and Clyde	322	348	338	330	316	341	342	313
Tayside	350	380	407	418	383	355	328	319
Dumfries and Galloway	359	378	450	397	387	380	341	321
Shetland	238	287	337	338	366	227	220	328
Borders	380	384	366	380	340	396	339	335
Ayrshire and Arran	390	445	452	414	421	428	352	335
Lanarkshire	382	371	410	370	351	370	384	346
Fife	352	363	363	357	338	371	381	373
Scotland	339	350	360	338	325	343	336	307

Undiagnosed diabetes

Estimates of undiagnosed diabetes in Scotland were included in the 2011 Scottish Diabetes Survey. These were based on the Association of Public Health Observatories (APHO) prevalence model. However the model does not provide updated figures for 2013/14, so the previously published estimates shown in the 2011 survey report should be used. More details are available at:

<http://www.scotpho.org.uk/health-wellbeing-and-disease/diabetes/data/undiagnosed-diabetes>

Duration of Diabetes

The date of diagnosis was recorded for almost 100% of patients, of which 7% have had diabetes for less than one year and 9.6% have a record of having had diabetes for 20 years or more (although it should be noted that not all dates of diagnosis are accurate especially for those with long standing diabetes).

Table 12. Duration of diabetes (years since diagnosis) by type of diabetes.

Duration (Years)	Type 1 diabetes		Type 2 diabetes		T1 and T2 diabetes	
	Number of patients	Percentage	Number of patients	Percentage	Total numbers	Total percentage
< 1	880	3.0%	16,187	6.6%	17,067	6.2%
1-4	3,714	12.5%	67,624	27.7%	71,338	26.1%
5-9	4,342	14.6%	69,858	28.6%	74,200	27.1%
10-14	4,443	14.9%	51,161	21.0%	55,604	20.3%
15-19	3,789	12.7%	21,799	8.9%	25,588	9.3%
20-24	3,277	11.0%	9,566	3.9%	12,843	4.7%
25-29	2,613	8.8%	3,720	1.5%	6,333	2.3%
30-34	2,145	7.2%	1,394	0.6%	3,539	1.3%
35-39	1,728	5.8%	490	0.2%	2,218	0.8%
40-44	1,121	3.8%	248	0.1%	1,369	0.5%
45-49	687	2.3%	126	0.1%	813	0.3%
≥50	1,048	3.5%	1,787	0.7%	2,835	1.0%
Total	29,787	100.0%	243,960	100.0%	273,747	100.0%

Note: Excludes patients where date of diagnosis not known (Type 1 = 15; Type 2 =90).

Sex

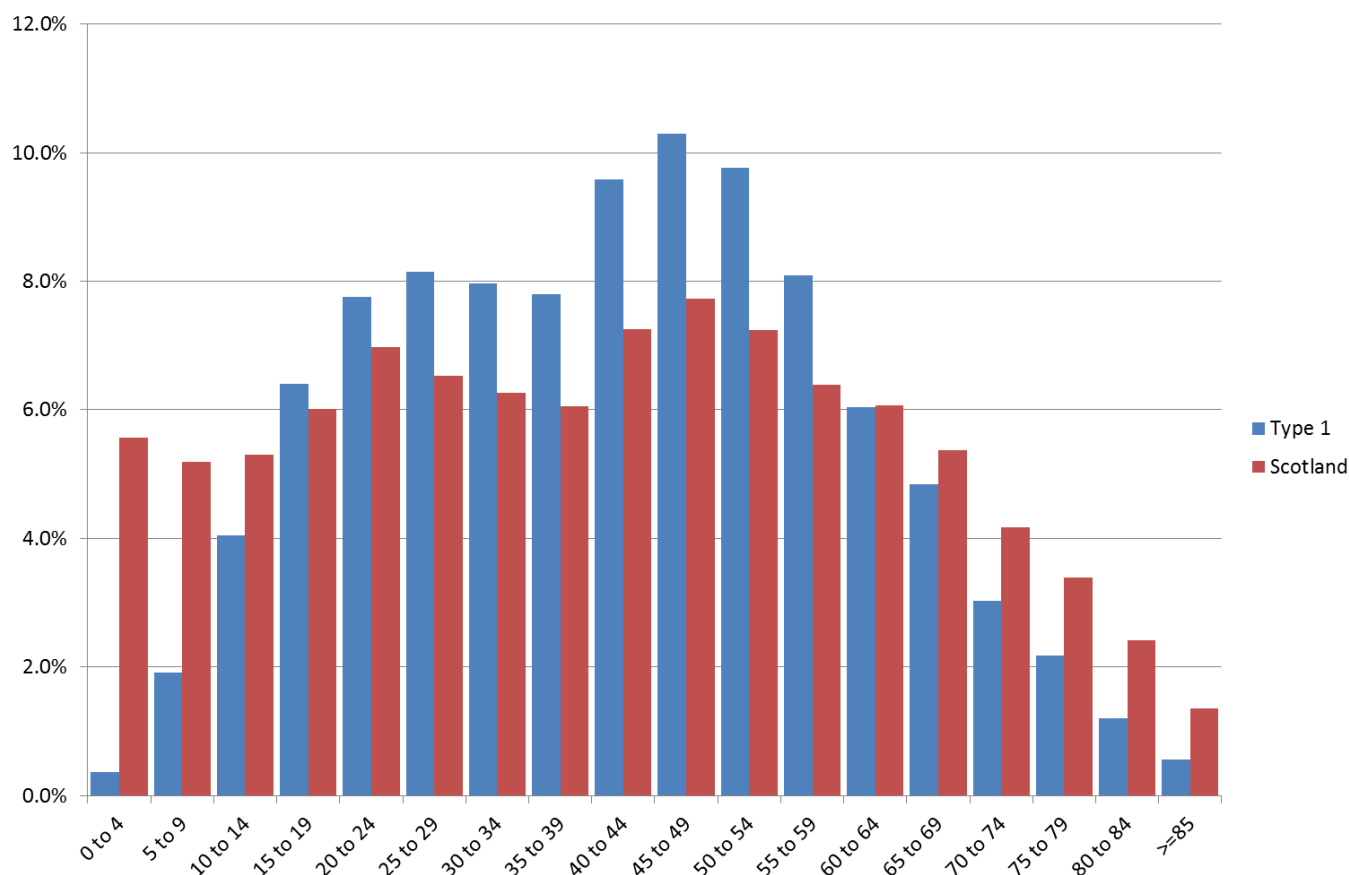
A greater proportion of those with diagnosed diabetes are male; 56.1% of those with Type 1 diabetes and 55.7% of those with Type 2 diabetes. This proportion has remained approximately stable since the survey started in 2001.

Age

Type 2 diabetes is more common in older people; 140,182 (57.40%) of all the people whose data are recorded in the survey are aged 65 years or older. Figures 5 and 6 show the age distribution of people with diabetes compared with that of the general population; the

possibility that Type 2 diabetes is developing in people at a younger age is currently under investigation. This may have long-term implications for the NHS, because they will have diabetes for long enough to develop complications such as renal failure.

Figure 5. Type 1 diabetes: age distribution of people recorded compared with age distribution of general population).



The difference distributions of age distribution is likely to relate to two factors. The first is the increasing incidence of Type 1 diabetes in young people (need to check if this is the case from our own data recently) 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 has shown that life expectancy, while reduced is improved compared to older studies.

Figure 6. Type 2 diabetes: age distribution of people recorded compared with age distribution of general population.

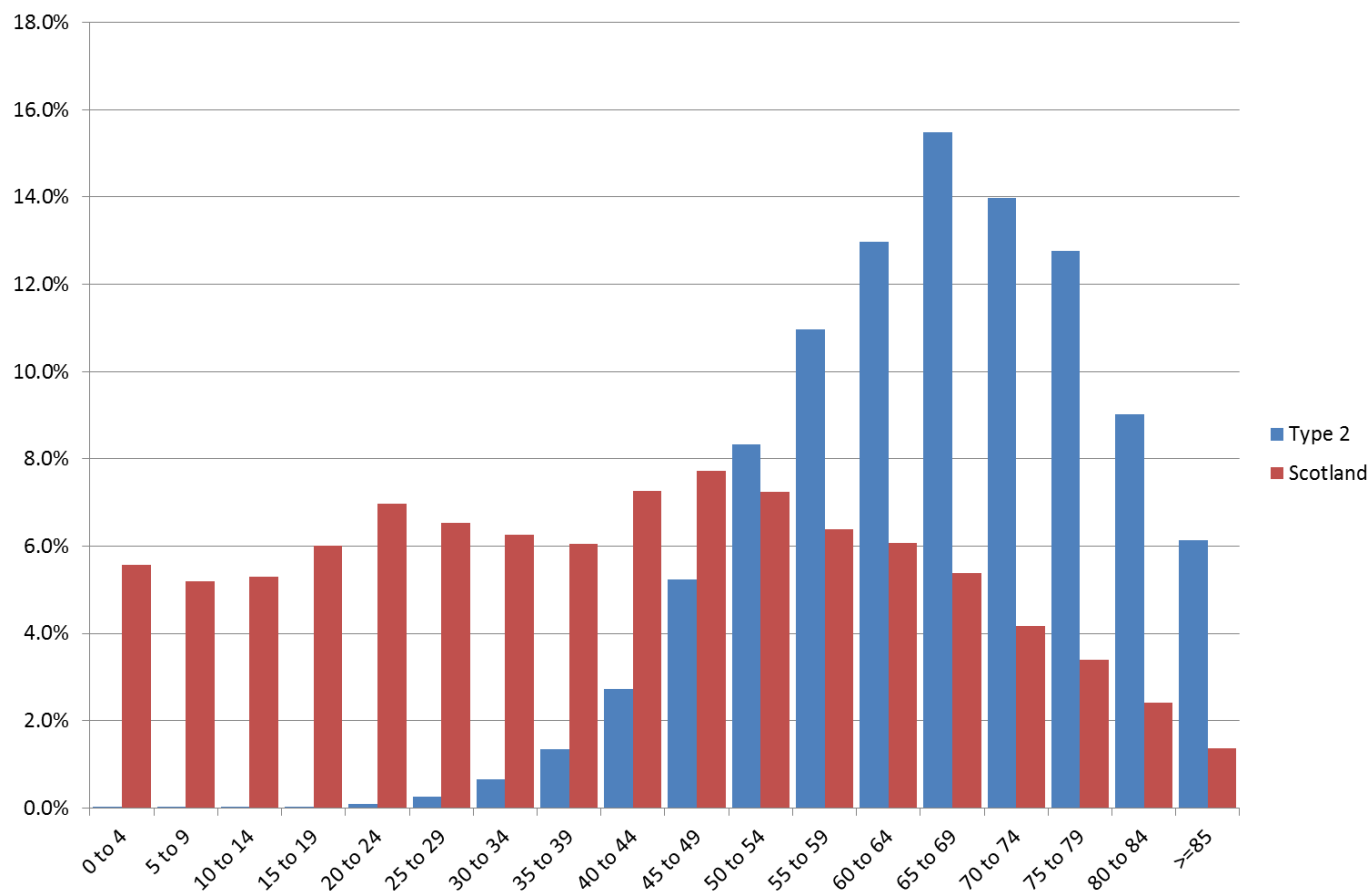


Table 13. Age group of people recorded with Type 1 or Type 2 diabetes, percentage in each age group and cumulative percentage in each age group, by diabetes type.

Age	Type 1 diabetes			Type 2 diabetes		
	Number	Percentage	Cumulative Percentage	Number	Percentage	Cumulative Percentage
0-4	110	0.4%	0.4%	1	0.0%	0.0%
5-9	571	1.9%	2.3%	1	0.0%	0.0%
10-14	1,204	4.0%	6.3%	8	0.0%	0.0%
15-19	1,908	6.4%	12.7%	54	0.0%	0.0%
20-24	2,309	7.8%	20.5%	229	0.1%	0.1%
25-29	2,425	8.1%	28.6%	644	0.3%	0.4%
30-34	2,371	8.0%	36.6%	1,619	0.7%	1.0%
35-39	2,320	7.8%	44.4%	3,296	1.4%	2.4%
40-44	2,854	9.6%	54.0%	6,623	2.7%	5.1%
45-49	3,066	10.3%	64.3%	12,765	5.2%	10.3%
50-54	2,909	9.8%	74.0%	20,332	8.3%	18.7%
55-59	2,411	8.1%	82.1%	26,760	11.0%	29.7%
60-64	1,798	6.0%	88.2%	31,636	13.0%	42.6%
65-69	1,442	4.8%	93.0%	37,766	15.5%	58.1%
70-74	901	3.0%	96.1%	34,103	14.0%	72.1%
75-79	649	2.2%	98.2%	31,150	12.8%	84.9%
80-84	358	1.2%	99.4%	22,009	9.0%	93.9%
≥85	168	0.6%	100.0%	14,947	6.1%	100.0%
Scotland	29,774	100.0%	100.0%	243,943	100.0%	100.0%

Mortality

Table 14. The number and crude percentage of the diabetes population (all diabetes types) who have died within the last year, by NHS Board, ranked by mortality.

NHS Board	Deaths	
	Total	% of population
Orkney	27	2.4%
Shetland	34	3.1%
Fife	699	3.3%
Lanarkshire	1,156	3.3%
Lothian	1,292	3.3%
Forth Valley	549	3.4%
Grampian	993	3.5%
Greater Glasgow and Clyde	2,255	3.5%
Highland	591	3.5%
Borders	233	3.6%
Dumfries and Galloway	339	3.7%
Tayside	842	3.7%
Ayrshire and Arran	858	3.7%
Western Isles	57	4.1%
Scotland	9,925	3.5%

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. 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

The majority of registered patients had Type 2 diabetes (244,050 or 88.3%). The proportion of people with diabetes who have a record of Type 1 diabetes has fallen from 18.2% in 2002 to 10.8% in 2014, 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 patients with Type 1 diabetes continues to increase (22,597 in 2003; 29,261 in 2013 and 29,802 in 2014). This reflects the rising incidence of Type 1 diabetes in children and better survival over the last 40 years. We know from a series of studies of incidence that it has been rising by 2-3% a year since 1968.

Other types of diabetes include Maturity Onset Diabetes of the Young (MODY), gestational diabetes and secondary diabetes. The remainder of this report focuses on Type 1 and Type 2 diabetes and excludes other types.

Figure 7 Proportions of diabetes population by type

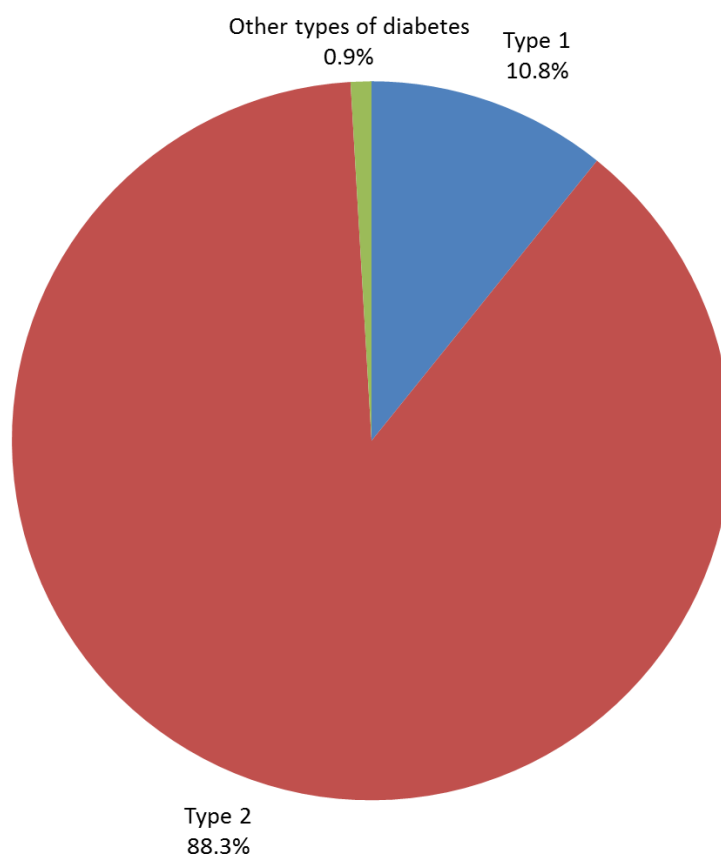


Table 15. Numbers of people with diabetes and the distribution of diabetes type, by NHS board, ranked in increasing order by the percentage with Type 2 diabetes.

NHS Board	Type 1		Type 2		Other types of diabetes	Total
	Number	Percentage	Number	Percentage		
Western Isles	184	13.8%	1,142	85.7%	6	1,332
Lothian	4,492	11.9%	32,725	86.7%	534	37,751
Highland	1,896	11.7%	14,089	86.9%	222	16,207
Grampian	3,243	11.9%	23,829	87.5%	148	27,220
Lanarkshire	3,758	11.0%	29,925	88.0%	330	34,013
Forth Valley	1,737	11.0%	13,928	88.3%	101	15,766
Shetland	123	11.4%	956	88.4%	3	1,082
Greater Glasgow and Clyde	6,404	10.4%	54,757	88.5%	708	61,869
Borders	656	10.4%	5,565	88.6%	63	6,284
Orkney	115	10.6%	964	88.9%	5	1,084
Dumfries and Galloway	919	10.2%	7,981	89.0%	68	8,968
Ayrshire and Arran	2,238	10.1%	19,913	89.6%	80	22,231
Fife	2,048	9.9%	18,445	89.6%	97	20,590
Tayside	1,989	9.0%	19,831	90.0%	213	22,033
Scotland	29,802	10.8%	244,050	88.3%	2,578	276,430

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

Ethnicity

Information on ethnic group was available for 81.1% of the registered population with diabetes. The completeness of this information fell from 37% in 2002 to 24.4% in 2006, increased to 33.3% in 2007, 77.7% in 2012 and to 81.1% in 2014. Type 2 diabetes is much more common in South Asian than White ethnic groups and tends to present at an earlier age.

Table 16. Type 1 diabetes: completeness of recording of ethnic group by NHS Board, ranked in decreasing order of completeness.

NHS Board	Ethnic group identified	
	Number	Percentage
Dumfries and Galloway	882	96.0%
Forth Valley	1,628	93.7%
Lothian	4,168	92.8%
Shetland	114	92.7%
Greater Glasgow and Clyde	5,884	91.9%
Borders	601	91.6%
Fife	1,840	89.8%
Lanarkshire	3,247	86.4%
Tayside	1,598	80.3%
Orkney	91	79.1%
Highland	1,498	79.0%
Western Isles	124	67.4%
Grampian	2,166	66.8%
Ayrshire and Arran	1,455	65.0%
Scotland	25,296	84.9%

Table 17. Type 2 diabetes: completeness of recording of ethnic group by NHS board, ranked in decreasing order of completeness.

NHS Board	Ethnic group identified	
	Number	Percentage
Dumfries and Galloway	7,706	96.6%
Shetland	920	96.2%
Greater Glasgow and Clyde	51,563	94.2%
Borders	4,930	88.6%
Lanarkshire	25,992	86.9%
Forth Valley	12,033	86.4%
Lothian	27,704	84.7%
Fife	14,893	80.7%
Highland	11,002	78.1%
Orkney	710	73.7%
Tayside	14,295	72.1%
Grampian	14,531	61.0%
Ayrshire and Arran	9,940	49.9%
Western Isles	526	46.1%
Scotland	196,745	80.6%

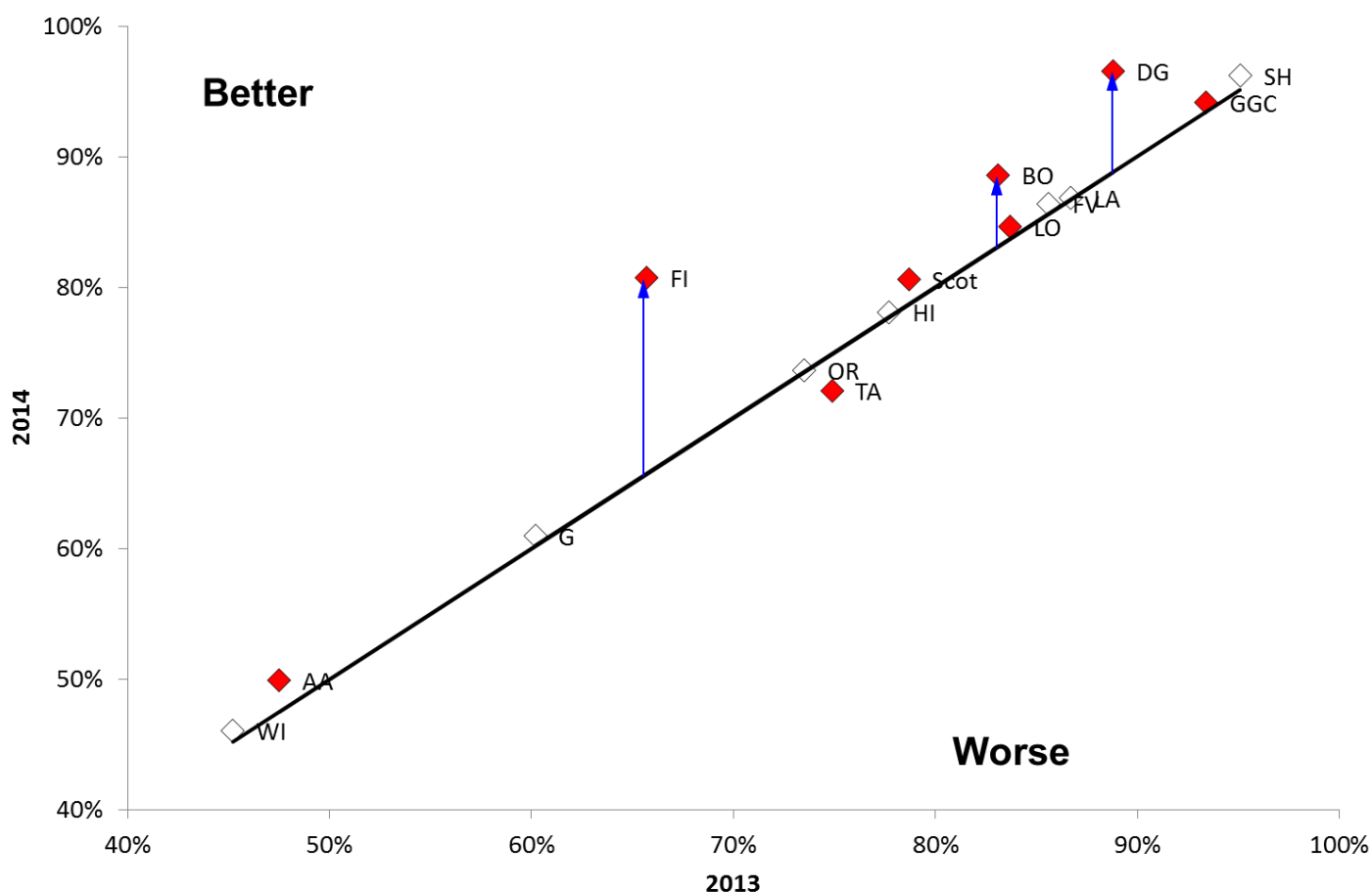
Table 18. Recorded ethnic group for Type 1, Type 2 and combined.

Ethnic group	Type 1		Type 2		Type 1 and 2	
	Number	Percent	Number	Percent	Number	Percent
A - White	24,178	81.1%	180,919	74.1%	205,097	74.9%
B - Mixed or multiple ethnic groups	566	1.9%	6,065	2.5%	6,631	2.4%
C - Asian, Asian Scottish or Asian British	333	1.1%	7,783	3.2%	8,116	3.0%
D - African, Caribbean or Black	100	0.3%	820	0.3%	920	0.3%
E - Other ethnic group	119	0.4%	1,158	0.5%	1,277	0.5%
Not recorded / Not known	4,506	15.1%	47,305	19.4%	51,811	18.9%

Table 19. Completeness of recording of ethnic group for Scotland, (Type 1 and Type 2 combined).

Year	Number identified	Percentage identified
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%
2007	69,875	33.3%
2006	48,035	24.4%
2005	42,164	25.0%
2004	44,695	30.6%
2003	49,614	37.0%
2002	32,036	30.9%

Figure 8. Completeness of recording of ethnic group from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 4% change between 2013 and 2014.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Body Mass Index

Body Mass Index (BMI) was recorded for 87.7% of patients with Type 1 or Type 2 diabetes in the previous 15 months. This is a slight decrease from 88.7% from 2013 and 89.2% recorded in 2012. Of those with a record of BMI, 32.1% were overweight (BMI 25-29.9kg/m²) and 52.5% were obese (BMI 30kg/m² or over).

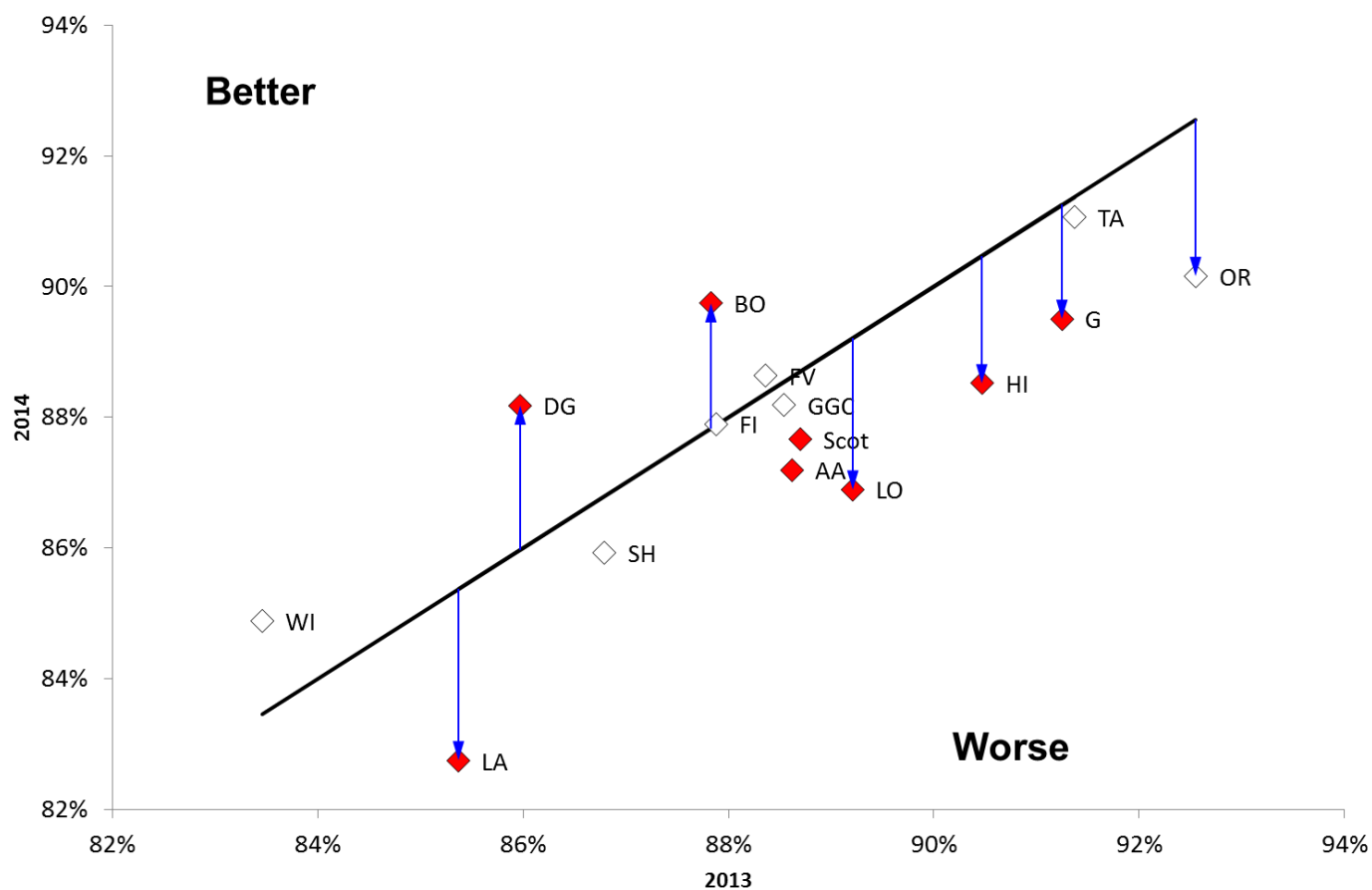
Despite Type 2 diabetes being more prevalent in obese patients, 13.0% of those with Type 2 diabetes had normal weight (BMI 18.5-24.9kg/m²), 31.5% were overweight (BMI 25-29.9 kg/m²) and 55.5% were obese (BMI 30kg/m² or over).

Table 20. Proportion of people with diabetes who had a record of BMI within the previous 15 months, by NHS Board and diabetes type, ranked by decreasing completeness for Type 2.

NHS Board	Type 1 diabetes BMI percentage recorded	Type 2 diabetes BMI percentage recorded	Total recorded	Total not recorded
Tayside	90.1%	91.1%	19,702	1,933
Orkney	83.5%	90.9%	962	105
Grampian	88.8%	89.6%	23,932	2,807
Borders	91.8%	89.5%	5,516	630
Highland	85.2%	88.9%	13,950	1,808
Forth Valley	89.1%	88.6%	13,702	1,756
Greater Glasgow and Clyde	85.0%	88.5%	53,402	7,151
Fife	88.6%	87.8%	17,826	2,455
Dumfries and Galloway	92.1%	87.8%	7,772	1,042
Ayrshire and Arran	84.2%	87.5%	19,075	2,802
Shetland	80.9%	86.5%	916	150
Lothian	90.3%	86.5%	32,017	4,829
Western Isles	81.5%	85.4%	1,112	198
Lanarkshire	80.3%	83.0%	27,452	5,723
Scotland	86.8%	87.8%	237,336	33,389

Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (Type 1 n = 2993, Type 2 n = 134)

Figure 9. Proportion of people who had a record of BMI from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 1.5% change between 2013 and 2014.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Table 21. Proportion of people with diabetes (types 1 and 2 combined) with a record of BMI in the previous 15 months.

Year	BMI recorded
2014	87.7%
2013	88.7%
2012	89.2%
2011	88.7%
2010	82.0%
2009	89.7%
2008	87.4%
2007	85.3%
2006	84.8%
2005	69.1%
2004	66.1%
2003	58.9%
2002	52.3%
2001	39.8%

Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (n = 3127)

Table 22. Type 1 diabetes: percentage of people with a record of BMI in the last 15 months who are in each BMI category (by NHS board), ranked in increasing order by % with BMI ≥ 40 kg/m²

NHS Board	BMI (kg/m ²)						Total recorded	Not recorded
	<18.5	18.5-24.9	25-29.9	30-34.9	35-39.9	≥ 40		
Shetland	0.0%	28.1%	37.1%	24.7%	10.1%	0.0%	89	21
Highland	1.3%	34.4%	39.1%	18.0%	5.5%	1.8%	1,426	247
Forth Valley	1.6%	36.6%	38.2%	16.5%	5.3%	1.8%	1,368	168
Fife	1.7%	34.1%	38.2%	17.9%	6.2%	2.0%	1,635	211
Greater Glasgow and Clyde	2.3%	37.2%	37.5%	15.6%	5.2%	2.2%	4,946	871
Orkney	0.0%	34.9%	37.2%	16.3%	9.3%	2.3%	86	17
Lothian	2.7%	37.1%	36.5%	16.7%	4.6%	2.4%	3,729	399
Tayside	1.4%	34.7%	38.1%	18.7%	4.5%	2.5%	1,627	178
Lanarkshire	2.1%	33.8%	36.4%	19.1%	6.0%	2.6%	2,668	655
Grampian	1.6%	35.3%	38.7%	16.6%	5.1%	2.7%	2,584	327
Western Isles	0.7%	38.0%	41.6%	16.1%	0.7%	2.9%	137	31
Ayrshire and Arran	1.8%	34.7%	35.2%	18.7%	6.6%	3.0%	1,656	311
Dumfries and Galloway	2.3%	32.9%	36.2%	19.6%	5.8%	3.1%	771	66
Borders	0.7%	28.9%	37.4%	20.1%	8.0%	4.8%	537	48
Scotland	2.0%	35.4%	37.4%	17.3%	5.4%	2.4%	23,259	3,550

Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (n = 2993).

Table 23. Type 2 diabetes: proportion of people who are in each BMI category (by NHS board), ranked by % with BMI ≥ 40 kg/m²

NHS Board	BMI (kg/m ²)						Total recorded	Not recorded
	<18.5	18.5-24.9	25-29.9	30-34.9	35-39.9	≥ 40		
Western Isles	0.3%	11.4%	31.5%	31.1%	17.2%	8.5%	975	167
Grampian	0.5%	12.2%	32.1%	30.1%	15.5%	9.6%	21,348	2,480
Greater Glasgow and Clyde	0.6%	13.8%	32.6%	28.8%	14.4%	9.9%	48,456	6,280
Highland	0.5%	12.1%	32.6%	29.7%	15.1%	10.0%	12,524	1,561
Tayside	0.6%	12.3%	31.4%	30.0%	15.7%	10.0%	18,075	1,755
Ayrshire and Arran	0.6%	12.8%	31.7%	29.3%	15.2%	10.4%	17,419	2,491
Borders	0.7%	11.8%	32.5%	28.6%	16.0%	10.4%	4,979	582
Lanarkshire	0.6%	12.1%	30.4%	30.1%	16.4%	10.5%	24,784	5,068
Lothian	0.6%	12.4%	30.9%	29.7%	15.9%	10.6%	28,288	4,430
Dumfries and Galloway	0.5%	12.5%	30.6%	30.2%	15.7%	10.6%	7,001	976
Orkney	0.3%	10.8%	31.1%	29.3%	17.6%	10.8%	876	88
Forth Valley	0.6%	11.2%	30.8%	29.7%	16.5%	11.2%	12,334	1,588
Fife	0.5%	11.1%	29.8%	29.2%	17.0%	12.3%	16,191	2,244
Shetland	0.5%	10.3%	27.4%	29.5%	19.7%	12.6%	827	129
Scotland	0.6%	12.5%	31.5%	29.5%	15.6%	10.4%	214,077	29,839

Note: Excludes children under 18 years of age (n = 134).

Glycaemic Control

94.0% of patients had an HbA_{1c} recorded in the previous 15 months (Table 24). In 57.4% of patients with a recorded result, HbA_{1c} was less than 58mmol/mol (7.5%), suggesting reasonable control of diabetes. While all laboratories in Scotland are using a standardised (IFCC aligned) HbA_{1c} assay, there are some slight differences in actual results between laboratories and some concern remains about the comparability of results between laboratories. This should be considered when comparing results from different health board areas. It should be noted that HbA_{1c} is higher in the winter with an average variability of around 6mmol/mol (0.5%). This is described in more detail in Appendix 3.

Table 24. Percentage of people with diabetes (Type 1 and Type 2 combined) with a record of HbA_{1c} in previous 15 months.

Year	Recorded within previous 15 months
2014	94.0%
2013	93.3%
2012	92.1%
2011	91.1%
2010	91.4%
2009	89.5%
2008	89.8%
2007	88.7%
2006	87.0%
2005	84.0%
2004	73.6%

Figure 10. Percentage of patients with diabetes with a recording of HbA1c within the previous 15 months by NHS Board and diabetes type, horizontal lines show figures for Scotland as a whole and bars are ranked by figures for Type 2 diabetes).

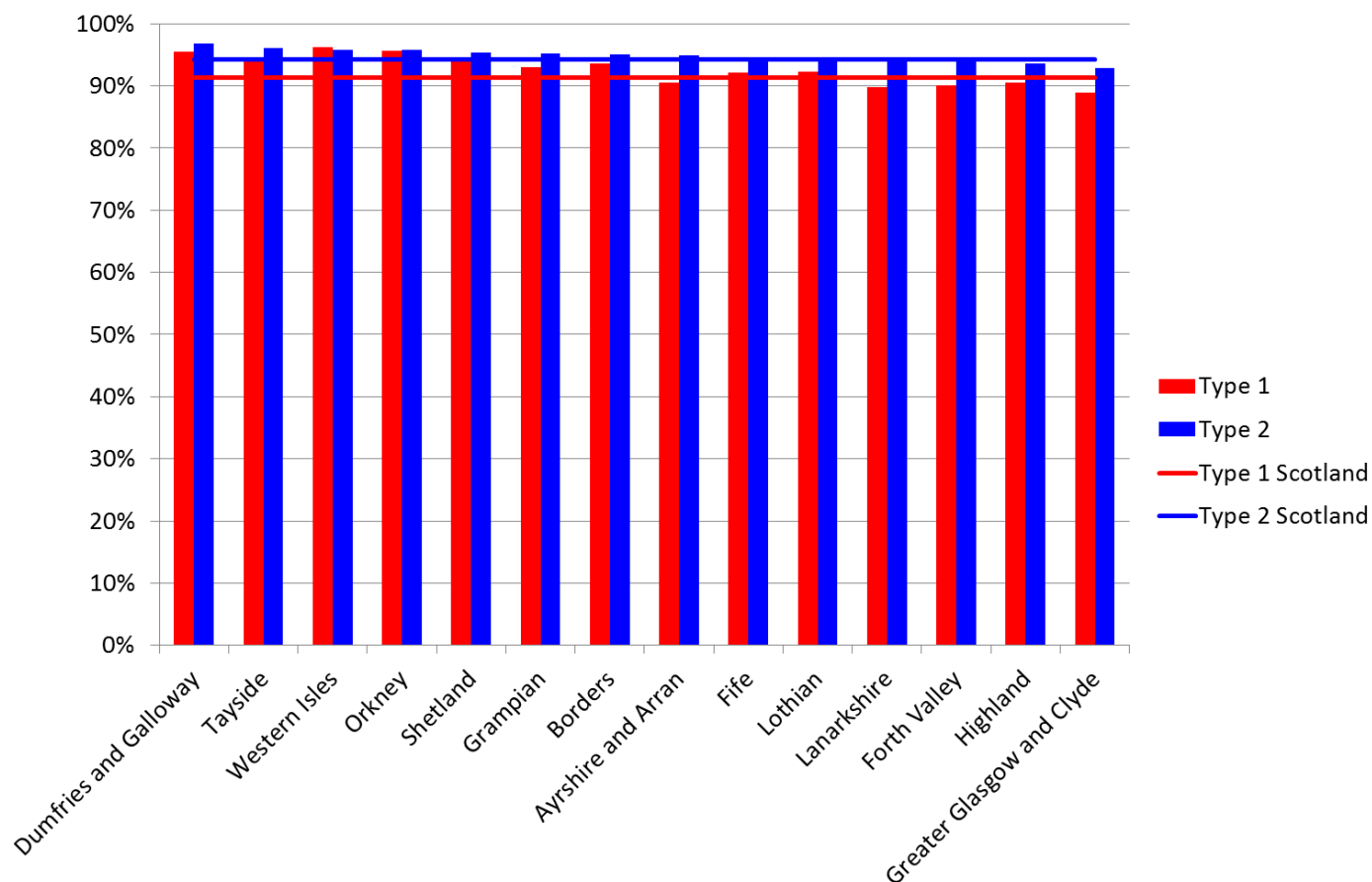
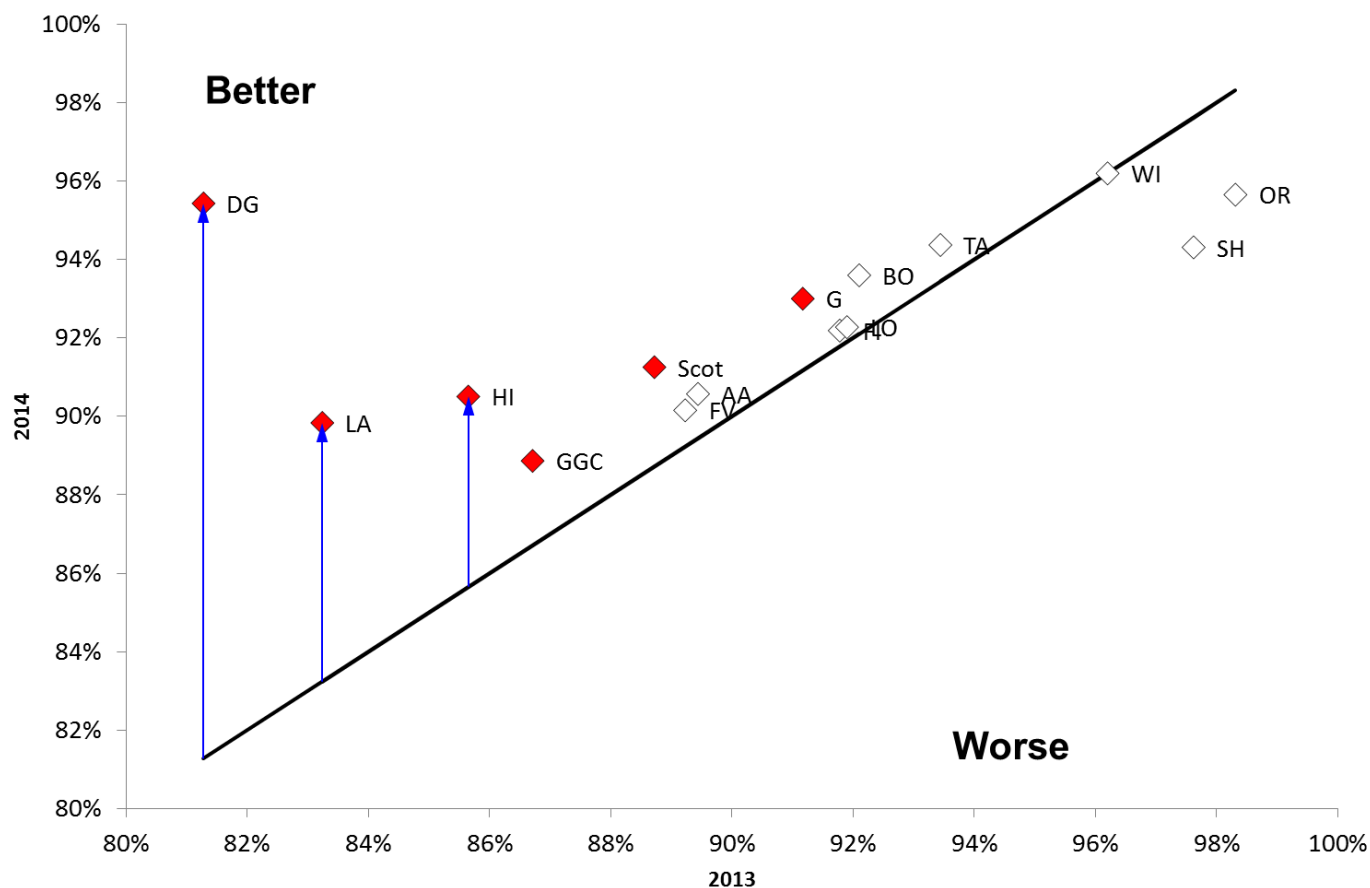
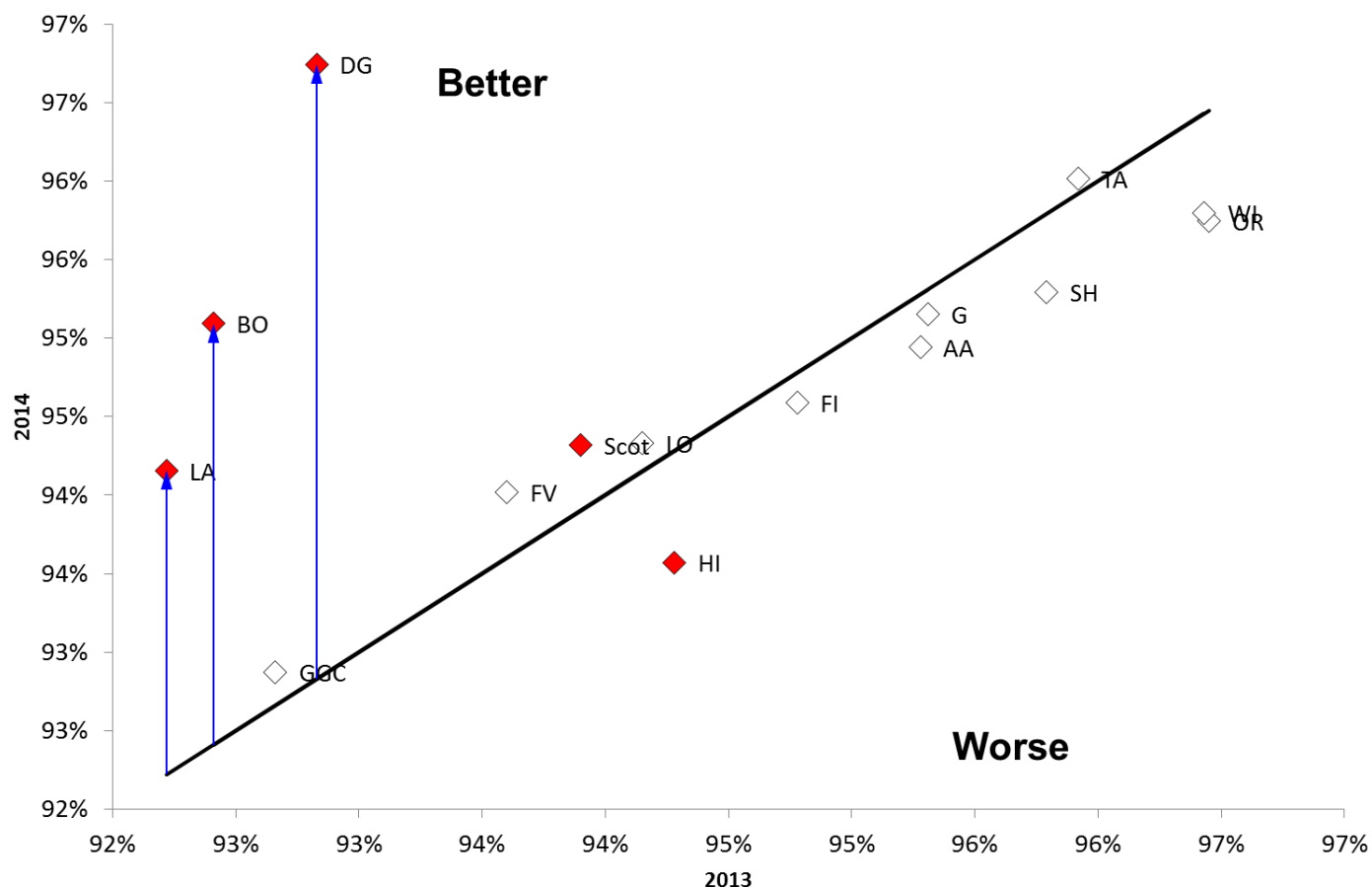


Figure 11. Proportion of people with Type 1 diabetes who had a record of HbA1c from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 3.5% change between 2013 and 2014.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Figure 12. Proportion of people with Type 2 diabetes who had a record of HbA1c from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 1.5% change between 2013 and 2014



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Table 25. Percentage of people with diabetes who had a record of HbA_{1c} within the previous 15 months, by diabetes type and NHS board, ranked in decreasing order by proportions among people with Type 2 diabetes.

NHS Board	Type 1 diabetes			Type 2 diabetes			Total recorded
	Recorded within previous 15 months		Not recorded	Recorded within previous 15 months		Not recorded	
	Number	Percentage		Number	Percentage		
Dumfries and Galloway	877	95.4%	42	7,721	96.7%	260	8,598
Tayside	1,877	94.4%	112	19,041	96.0%	790	20,918
Western Isles	177	96.2%	7	1,094	95.8%	48	1,271
Orkney	110	95.7%	5	923	95.7%	41	1,033
Shetland	116	94.3%	7	911	95.3%	45	1,027
Grampian	3,016	93.0%	227	22,674	95.2%	1,155	25,690
Borders	614	93.6%	42	5,292	95.1%	273	5,906
Ayrshire and Arran	2,027	90.6%	211	18,906	94.9%	1,007	20,933
Fife	1,888	92.2%	160	17,447	94.6%	998	19,335
Lothian	4,145	92.3%	347	30,870	94.3%	1,855	35,015
Lanarkshire	3,376	89.8%	382	28,176	94.2%	1,749	31,552
Forth Valley	1,566	90.2%	171	13,095	94.0%	833	14,661
Highland	1,716	90.5%	180	13,183	93.6%	906	14,899
Greater Glasgow and Clyde	5,691	88.9%	713	50,854	92.9%	3,903	56,545
Scotland	27,196	91.3%	2,606	230,187	94.3%	13,863	257,383

Figure 13. Type 1 diabetes: percentage of people in each HbA_{1c} category for HbA_{1c} recorded in the previous 15 months, by NHS Board, ranked by proportion with HbA_{1c} over 75 mmol/mol (9%).

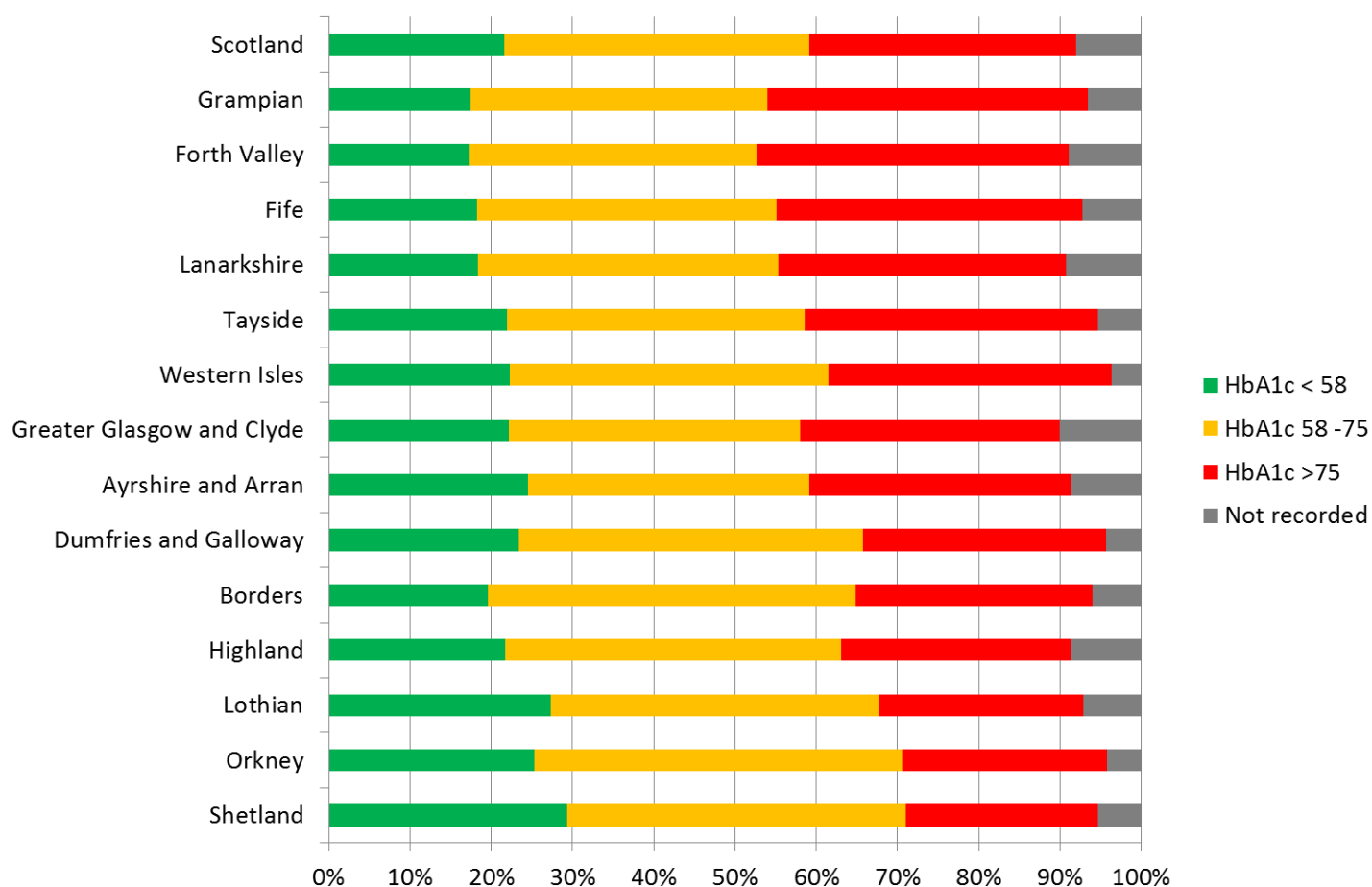


Figure 14. Type 2 diabetes: percentage of people in each HbA_{1c} category for HbA_{1c} recorded in the previous 15 months, by NHS Board, ranked by percentage with HbA_{1c} over 75mmol/mol (9%).

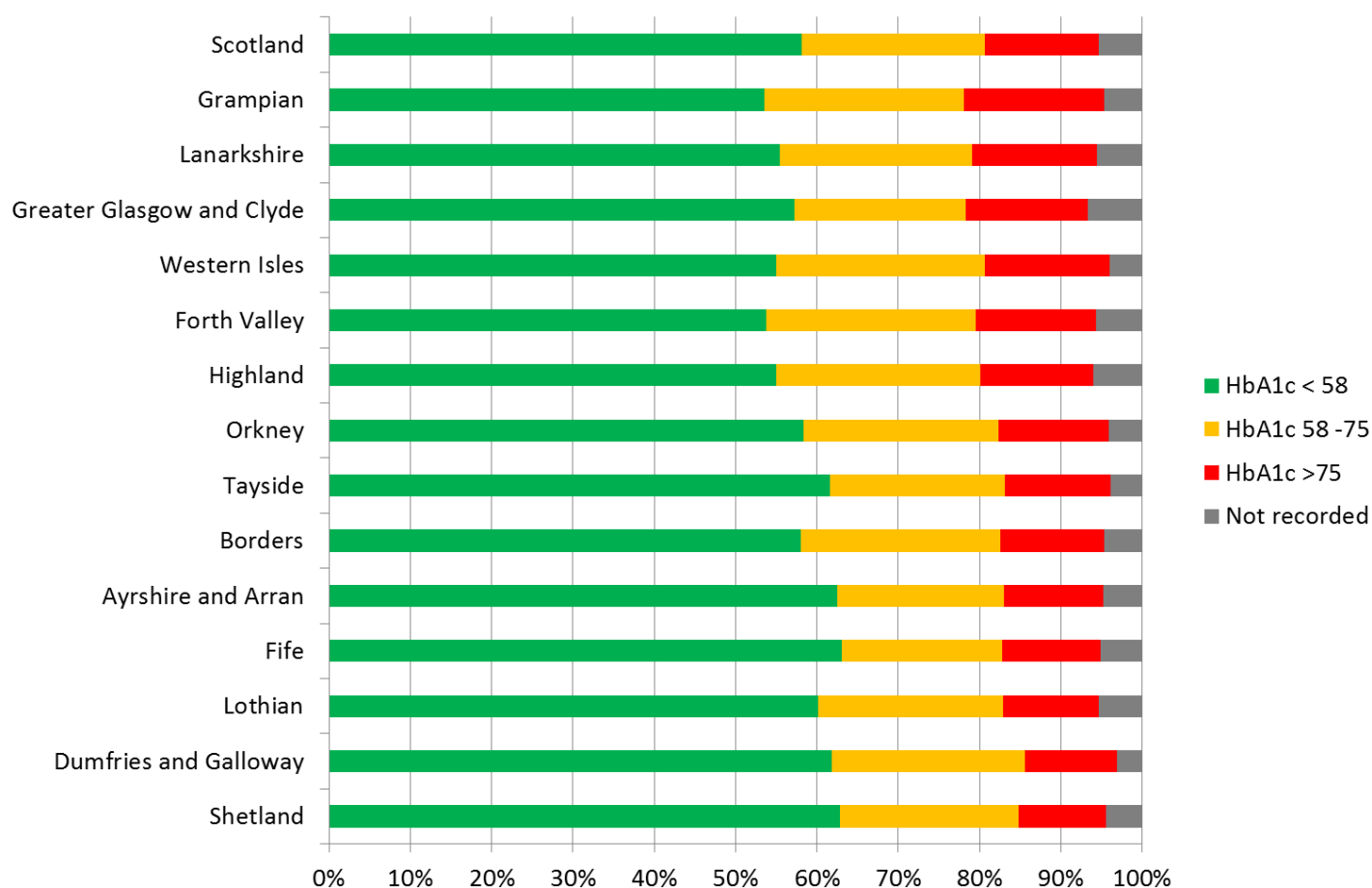


Table 26. Type 1 diabetes: HbA_{1c} category as a percentage of patients with HbA_{1c} recorded in previous 15 months, by NHS Board, ranked by proportion with HbA_{1c} over 75mmol/mol (9%).

NHS Board	HbA _{1c} < 58 mmol/mol (7.5%)		HbA _{1c} 58 -75 mmol/mol (7.5 - 9.0%)		HbA _{1c} >75 mmol/mol (9%)		Total recorded	Not recorded
Shetland	36	31.0%	51	44.0%	29	25.0%	116	7
Orkney	29	26.4%	52	47.3%	29	26.4%	110	5
Lothian	1,222	29.5%	1,801	43.4%	1,122	27.1%	4,145	347
Highland	408	23.8%	777	45.3%	531	30.9%	1,716	180
Borders	128	20.8%	296	48.2%	190	30.9%	614	42
Dumfries and Galloway	215	24.5%	388	44.2%	274	31.2%	877	42
Ayrshire and Arran	544	26.8%	768	37.9%	715	35.3%	2,027	211
Greater Glasgow and Clyde	1,402	24.6%	2,264	39.8%	2,025	35.6%	5,691	713
Western Isles	41	23.2%	72	40.7%	64	36.2%	177	7
Tayside	435	23.2%	727	38.7%	715	38.1%	1,877	112
Lanarkshire	681	20.2%	1,378	40.8%	1,317	39.0%	3,376	382
Fife	371	19.7%	750	39.7%	767	40.6%	1,888	160
Forth Valley	299	19.1%	606	38.7%	661	42.2%	1,566	171
Grampian	564	18.7%	1,177	39.0%	1,275	42.3%	3,016	227
Scotland	6,375	23.4%	11,107	40.8%	9,714	35.7%	27,196	2,606

Table 27. Type 2 diabetes: HbA_{1c} category as percentage of patients with HbA_{1c} recorded in previous 15 months, by NHS Board, ranked by proportion with HbA_{1c} over 75mmol/mol (9%).

NHS Board	HbA _{1c} < 58 mmol/mol (7.5%)		HbA _{1c} 58 -75 mmol/mol (7.5 - 9.0%)		HbA _{1c} >75 mmol/mol (9%)		Total recorded	Not recorded
Shetland	599	65.8%	210	23.1%	102	11.2%	911	45
Dumfries and Galloway	4,927	63.8%	1,893	24.5%	901	11.7%	7,721	260
Lothian	19,637	63.6%	7,394	24.0%	3,839	12.4%	30,870	1,855
Fife	11,594	66.5%	3,636	20.8%	2,217	12.7%	17,447	998
Ayrshire and Arran	12,421	65.7%	4,076	21.6%	2,409	12.7%	18,906	1,007
Borders	3,220	60.8%	1,363	25.8%	709	13.4%	5,292	273
Tayside	12,193	64.0%	4,264	22.4%	2,584	13.6%	19,041	790
Orkney	561	60.8%	231	25.0%	131	14.2%	923	41
Highland	7,715	58.5%	3,517	26.7%	1,951	14.8%	13,183	906
Forth Valley	7,456	56.9%	3,583	27.4%	2,056	15.7%	13,095	833
Western Isles	627	57.3%	292	26.7%	175	16.0%	1,094	48
Greater Glasgow and Clyde	31,206	61.4%	11,426	22.5%	8,222	16.2%	50,854	3,903
Lanarkshire	16,544	58.7%	7,053	25.0%	4,579	16.3%	28,176	1,749
Grampian	12,726	56.1%	5,842	25.8%	4,106	18.1%	22,674	1,155
Scotland	141,426	61.4%	54,780	23.8%	33,981	14.8%	230,187	13,863

Table 28. Type 1 diabetes: number and percentage of people with a record of HbA_{1c} in each HbA_{1c} category.

Year	HbA _{1c} < 58 (7.5%)		HbA _{1c} 58-75 (7.5-9.0%)		HbA _{1c} >75 (9.0%)		Total recorded	Not recorded
	Number	Percentage	Number	Percentage	Number	Percentage		
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	5194	21.8%	9556	40.1%	9096	38.1%	23846	3521

Table 29. Type 2 diabetes: number and percentage of people with a record of HbA_{1c} in each HbA_{1c} category.

Year	HbA _{1c} < 58 (7.5%)		HbA _{1c} 58-75 (7.5-9.0%)		HbA _{1c} >75 (9.0%)		Total recorded	Not recorded
	Number	Percentage	Number	Percentage	Number	Percentage		
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	114281	63.8%	40537	22.6%	24234	13.5%	179052	20212

Table 30. Type 1 diabetes: HbA_{1c} category as percent of all those with HbA_{1c} recorded in the previous 15 months (HbA_{1c} in mmol/mol), by NHS Board, ranked by proportion with HbA_{1c} over 75mmol/mol.

NHS Board	HbA _{1c} <53	HbA _{1c} 53-57	HbA _{1c} 58-63	HbA _{1c} 64-68	HbA _{1c} 69-75	HbA _{1c} >75	Total recorded	Not recorded
Shetland	12.1%	19.0%	18.1%	15.5%	10.3%	25.0%	116	7
Orkney	15.5%	10.9%	20.0%	11.8%	15.5%	26.4%	110	5
Lothian	16.7%	12.7%	17.6%	13.2%	12.7%	27.1%	4,145	347
Highland	12.6%	11.1%	16.8%	13.1%	15.3%	30.9%	1,716	180
Borders	10.6%	10.3%	18.1%	15.5%	14.7%	30.9%	614	42
Dumfries and Galloway	15.1%	9.5%	14.4%	14.9%	14.9%	31.2%	877	42
Ayrshire and Arran	15.7%	11.1%	13.9%	13.0%	11.0%	35.3%	2,027	211
Greater Glasgow and Clyde	14.7%	10.0%	14.8%	11.8%	13.1%	35.6%	5,691	713
Western Isles	14.1%	9.0%	14.1%	12.4%	14.1%	36.2%	177	7
Tayside	12.7%	10.5%	12.8%	13.5%	12.4%	38.1%	1,877	112
Lanarkshire	10.9%	9.2%	13.8%	13.1%	13.9%	39.0%	3,376	382
Fife	10.5%	9.1%	13.3%	13.5%	13.0%	40.6%	1,888	160
Forth Valley	9.8%	9.3%	13.7%	13.0%	12.0%	42.2%	1,566	171
Grampian	9.6%	9.1%	13.0%	14.3%	11.7%	42.3%	3,016	227
Scotland	13.1%	10.3%	14.8%	13.1%	13.0%	35.7%	27,196	2,606

Table 31. Type 2 diabetes: HbA_{1c} category as percent of all those with HbA_{1c} recorded in the previous 15 months (HbA_{1c} in mmol/mol), by NHS Board, 2014, ranked by proportion with HbA_{1c} over 75 mmol/mol (9%).

NHS Board	HbA _{1c} < 53	HbA _{1c} 53- 57	HbA _{1c} 58- 63	HbA _{1c} 64- 68	HbA _{1c} 69- 75	HbA _{1c} >75	Total recorded	Not recorded
Shetland	53.5%	12.3%	12.8%	6.5%	3.7%	11.2%	911	45
Dumfries and Galloway	48.8%	15.0%	11.7%	6.8%	6.0%	11.7%	7,721	260
Lothian	49.5%	14.1%	11.9%	6.5%	5.5%	12.4%	30,870	1,855
Fife	51.3%	15.2%	9.7%	6.6%	4.5%	12.7%	17,447	998
Ayrshire and Arran	51.4%	14.3%	9.9%	6.7%	5.0%	12.7%	18,906	1,007
Borders	44.8%	16.0%	12.5%	8.0%	5.3%	13.4%	5,292	273
Tayside	48.5%	15.5%	10.4%	7.1%	4.9%	13.6%	19,041	790
Orkney	46.3%	14.5%	11.5%	7.3%	6.3%	14.2%	923	41
Highland	43.3%	15.2%	12.9%	7.6%	6.1%	14.8%	13,183	906
Forth Valley	41.8%	15.1%	12.9%	7.9%	6.6%	15.7%	13,095	833
Western Isles	44.4%	12.9%	11.5%	7.6%	7.6%	16.0%	1,094	48
Greater Glasgow and Clyde	47.9%	13.5%	10.8%	6.0%	5.6%	16.2%	50,854	3,903
Lanarkshire	44.0%	14.7%	12.1%	6.9%	6.1%	16.3%	28,176	1,749
Grampian	39.6%	16.5%	12.1%	7.8%	5.9%	18.1%	22,674	1,155
Scotland	46.8%	14.7%	11.4%	6.8%	5.6%	14.8%	230,187	13,863

Table 32. Mean HbA_{1c} (mmol/mol) recorded in the previous 15 months, by NHS Board, for people with Type 1 diabetes by age and for Type 2 diabetes (all ages combined), ranked by mean HbA_{1c} for those with Type 2 diabetes.

NHS Board	Type 1 diabetes; age in years											Type 2 diabetes
	0-4	5-9	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60-79	>79	All ages
Shetland	-	66	62	83	88	64	67	68	62	62	-	55
Ayrshire and Arran	62	63	71	74	81	75	69	71	69	65	61	56
Dumfries and Galloway	74	65	67	80	74	73	71	68	68	64	65	56
Fife	67	71	73	81	80	74	72	72	73	68	66	56
Lothian	67	60	64	71	73	71	66	67	67	64	66	56
Tayside	69	67	67	72	81	77	73	71	70	66	60	57
Borders	60	62	64	74	78	69	68	73	72	65	69	58
Greater Glasgow and Clyde	61	59	61	75	78	73	70	72	71	67	68	58
Orkney	-	54	69	91	76	87	67	67	67	59	62	58
Western Isles	-	60	56	74	88	78	75	75	66	64	54	58
Forth Valley	64	62	73	81	82	80	75	72	72	67	65	59
Highland	61	62	62	76	77	75	72	70	70	66	70	59
Lanarkshire	64	67	70	80	80	75	72	73	71	69	67	59
Grampian	56	64	68	81	77	73	73	74	74	70	73	60

Table 33. Numbers and percentages of patients using insulin pumps by age group and NHS Board, December 2014. Data supplied by the Scottish Government (not from SCI_Diabetes).

December 2014		Aged under 18		Aged 18 or over			All ages		
Region	Patients (n)	On Pump (n)	On Pump (%)	Patients (n)	On Pump (n)	On Pump (%)	Patients (n)	On Pump (n)	On Pump (%)
Ayrshire & Arran	273	78	28.6%	1967	98	5.0%	2240	176	7.9%
Borders	69	26	37.7%	587	60	10.2%	656	86	13.1%
Dumfries & Galloway	77	38	49.4%	923	97	10.5%	1000	135	13.5%
Fife	229	55	24.0%	1811	155	8.6%	2040	210	10.3%
Forth Valley	200	46	23.0%	1536	93	6.1%	1736	139	8.0%
Grampian	332	71	21.4%	2907	147	5.1%	3239	218	6.7%
Greater Glasgow & Clyde	586	186	31.7%	5815	240	4.1%	6401	426	6.7%
Highland	199	54	27.1%	1697	85	5.0%	1896	139	7.3%
Lanarkshire	400	93	23.3%	3198	156	4.9%	3598	249	6.9%
Lothian	364	116	31.9%	4128	358	8.7%	4492	474	10.6%
Orkney	12	6	50.0%	103	5	4.9%	115	11	9.6%
Shetland	13	4	30.8%	110	4	3.6%	123	8	6.5%
Tayside	183	71	38.8%	1805	131	7.3%	1988	202	10.2%
Western Isles	16	5	31.3%	161	3	1.9%	177	8	4.5%
Scotland	2953	849	28.8%	26748	1632	6.1%	29701	2481	8.4%

Note that these data are not extracted from SCI_Diabetes due to under-recording within the database. Pump data from SC_Diabetes will be reported in subsequent survey reports.

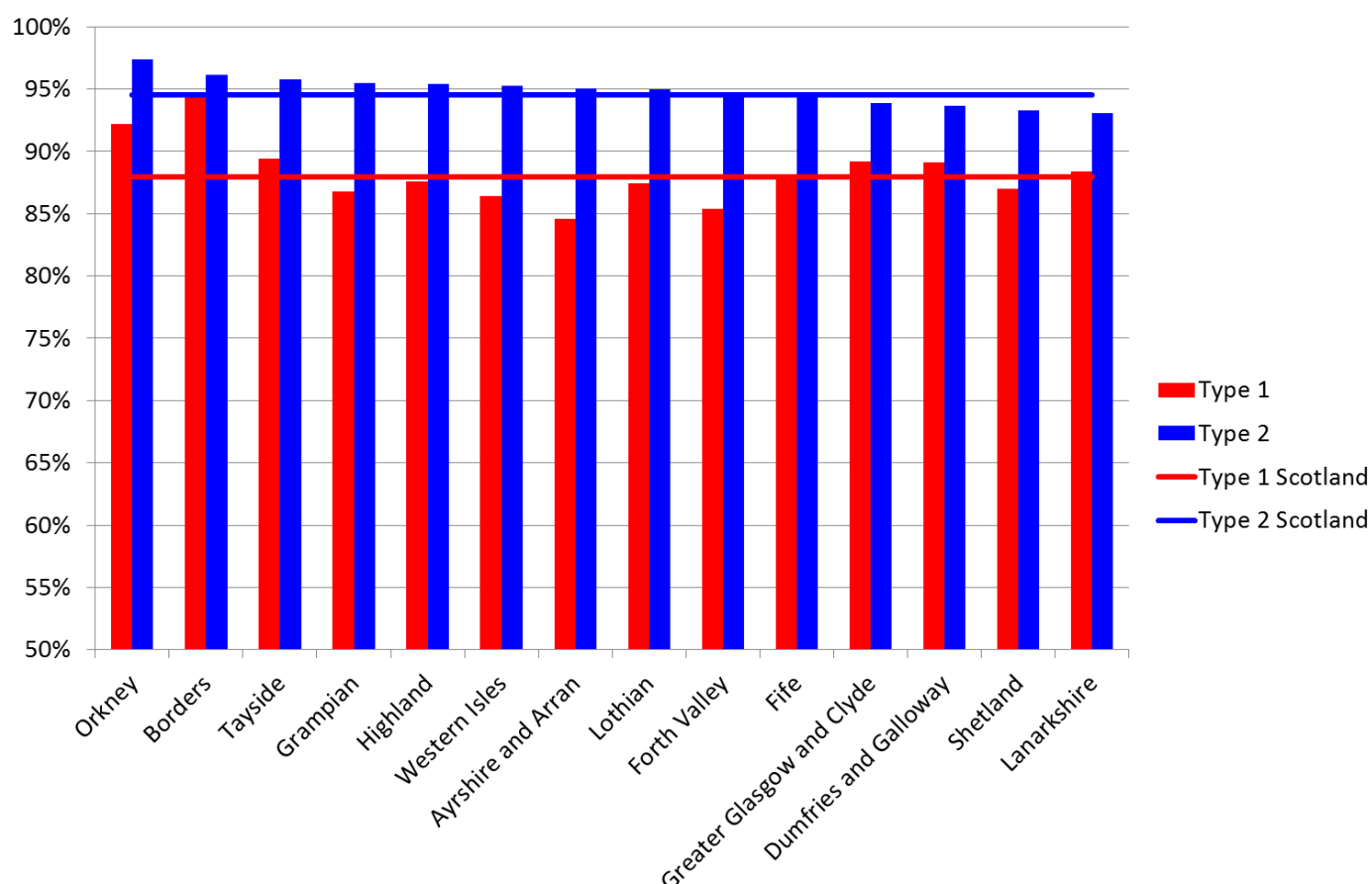
Cardiovascular Risk

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

93.8% of people with diabetes had their BP recorded within the previous 15 months, of which 78.5% had a systolic BP less than or equal to 140mmHg, suggesting reasonable control of blood pressure. Figures by NHS Board and diabetes type are shown in Figure 16 and Table 36.

Figure 15. Percentage of people with diabetes (by diabetes type) with a recording of BP in the previous 15 months, by NHS Board (horizontal lines show levels for Scotland as a whole); ranked by figures for Type 2 (Note that Y axis is interrupted at 50%).



There has been little recent change in the completeness of blood pressure recording in Type 1 (Table 37) or Type 2 diabetes (Table 38). However, the proportion with a systolic blood pressure of 140mmHg or greater has fallen (Table 43) reflecting better blood pressure control overall. Figures for blood pressure control by NHS Board are shown in Figures 17 and 18

(Table 39 and Table 40) for Type 1 diabetes and in Figures 19 and 20 (Table 41 and Table 42) for Type 2 diabetes. Blood pressure control for people with Type 1 diabetes deteriorated significantly in three NHS Boards (Figure 21), while there were significant improvements in blood pressure control for people with Type 2 diabetes in two Boards (Figure 22).

Table 34. Percentage of people with diabetes with a recording of BP in the previous 15 months, by NHS Board and diabetes type, ranked by figures for Type 2 diabetes.

NHS Board	Recorded within previous 15 months			
	Type 1 diabetes		Type 2 diabetes	
	Number	Percentage	Number	Percentage
Orkney	106	92.2%	939	97.4%
Borders	620	94.5%	5,352	96.2%
Tayside	1,779	89.4%	18,995	95.8%
Grampian	2,814	86.8%	22,745	95.5%
Highland	1,660	87.6%	13,447	95.4%
Western Isles	159	86.4%	1,088	95.3%
Ayrshire and Arran	1,893	84.6%	18,932	95.1%
Lothian	3,929	87.5%	31,073	95.0%
Forth Valley	1,483	85.4%	13,133	94.3%
Fife	1,799	87.8%	17,392	94.3%
Greater Glasgow and Clyde	5,712	89.2%	51,399	93.9%
Dumfries and Galloway	819	89.1%	7,477	93.7%
Shetland	107	87.0%	892	93.3%
Lanarkshire	3,321	88.4%	27,846	93.1%
Scotland	26,201	87.9%	230,710	94.5%

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

Table 35. Percentage of people with Type 1 diabetes with BP recorded within the previous 15 months.

Type 1			
Year	Type 1 population	BP Recorded (n)	BP (%)
2014	29,802	26,201	87.9%
2013	29,261	25,395	86.8%
2012	28,849	24,574	85.2%
2011	28,272	24,165	85.5%
2010	27,910	23,977	85.9%
2009	27,367	23,568	86.1%

Table 36. Percentage of people with Type 2 diabetes with a BP recorded within the previous 15 months.

Year	Type 2 population	BP Recorded (n)	BP (%)
2014	244,050	230,710	94.5%
2013	236,605	224,420	94.9%
2012	227,967	215,702	94.6%
2011	217,514	204,782	94.1%
2010	208,279	196,638	94.4%
2009	199,264	189,289	95.0%

Figure 16. Type 1 diabetes : percentage of people with most recent systolic blood pressure (SBP) < 140 mmHg in the last 15 months by NHS Board. Horizontal line indicates level for Scotland as a whole.

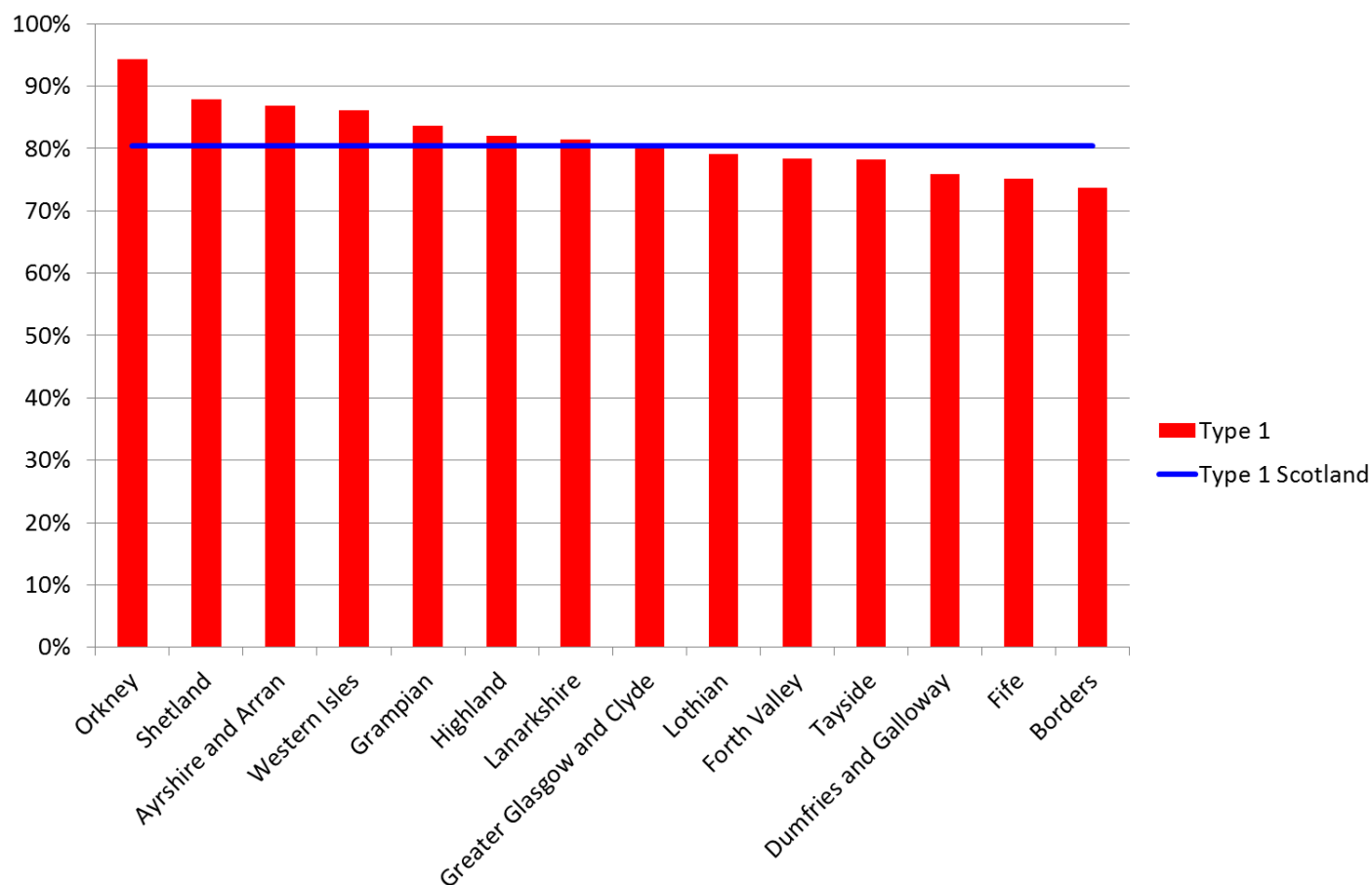


Figure 17. Type 1 diabetes :percentage of people with most recent blood pressure in the last 15 months < 130 mmHg (systolic) and < 80mmHg (diastolic), by NHS Board. Horizontal line indicates level for Scotland as a whole.

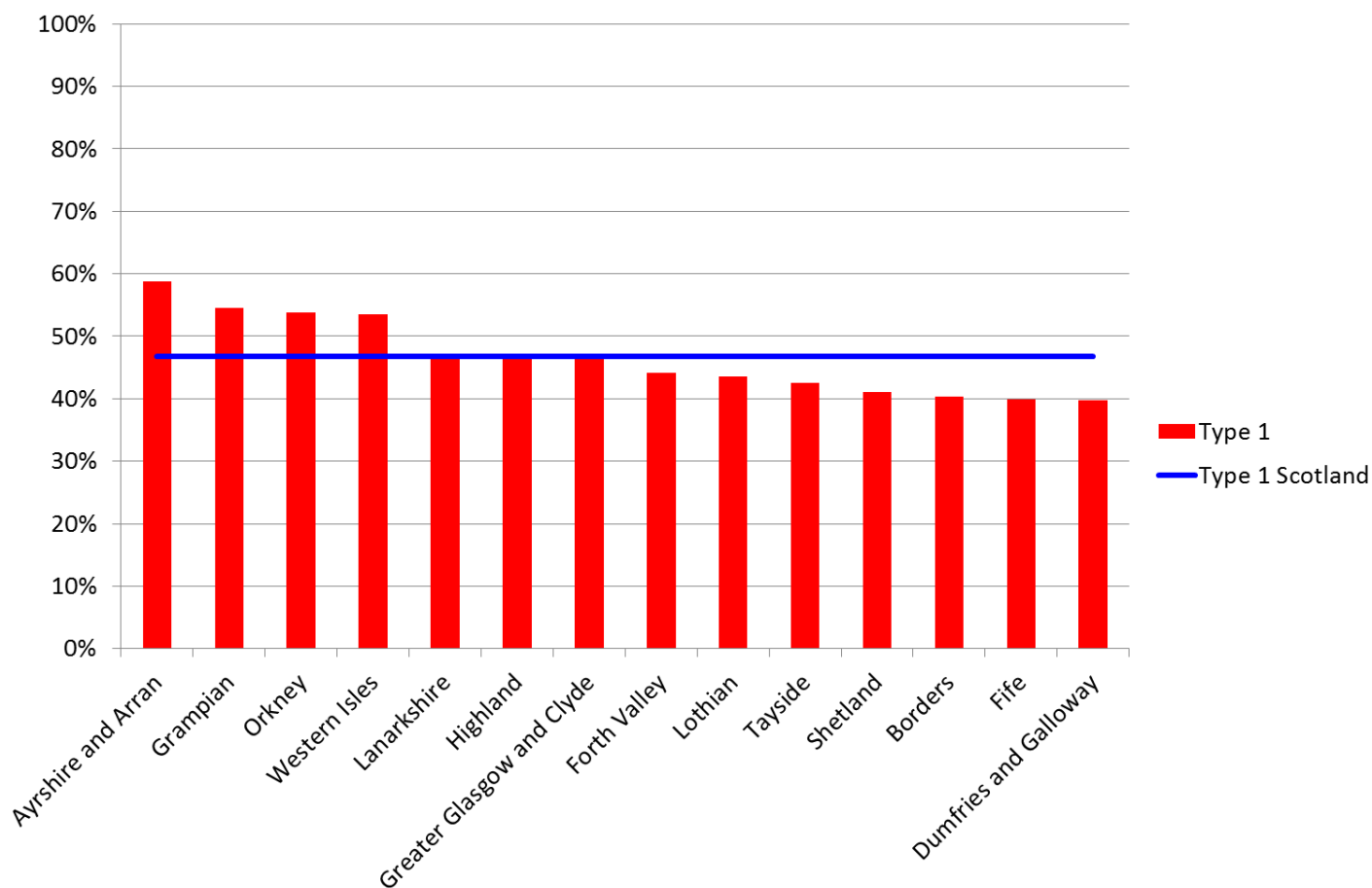


Figure 18. Type 2 diabetes: percentage of people with most recent systolic blood pressure (SBP) < 140 mmHg in the last 15 months by NHS Board. Horizontal line indicates level for Scotland as a whole.

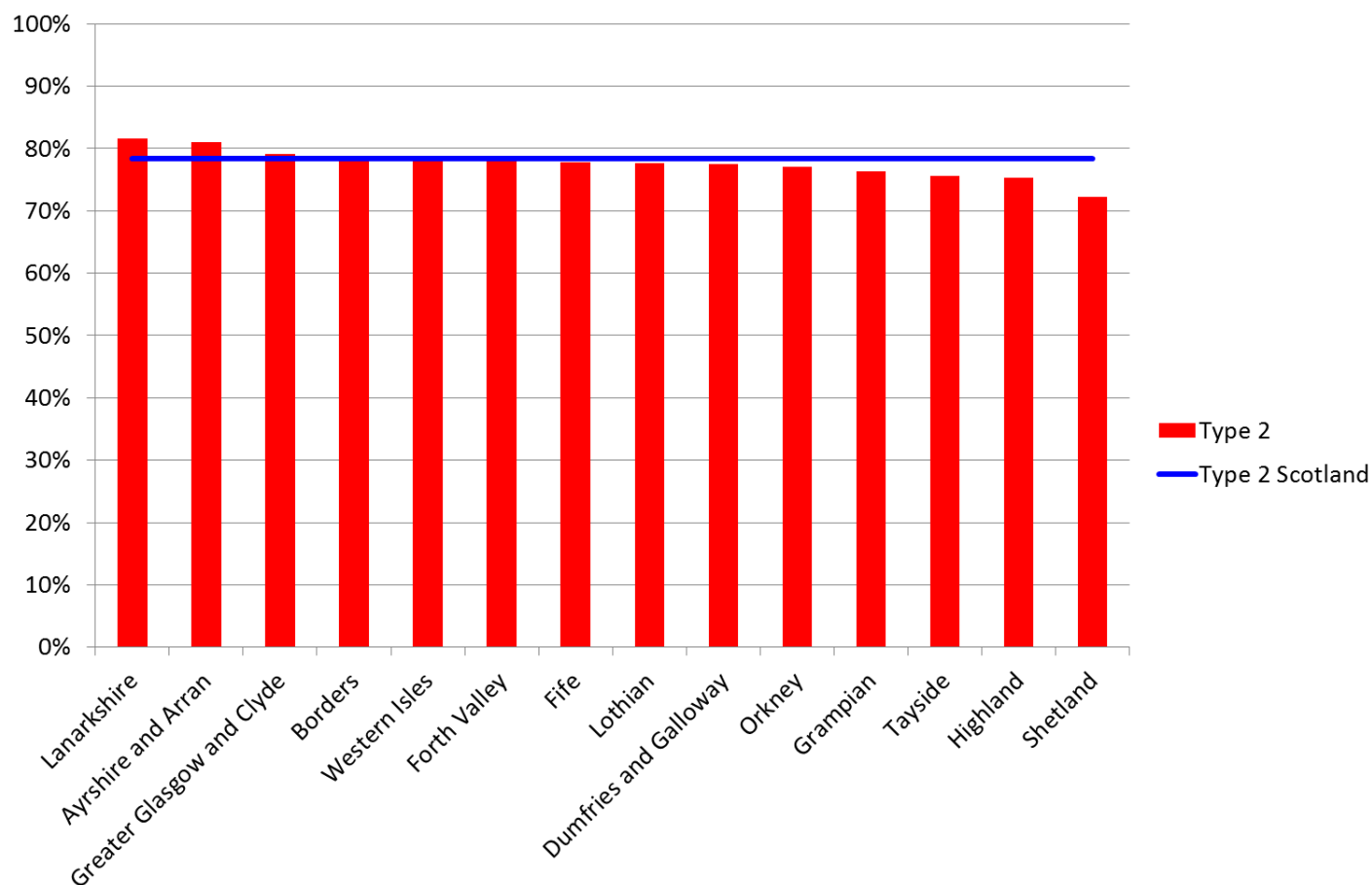


Figure 19. Type 2 diabetes: percentage of people with most recent blood pressure in the last 15 months < 130 mmHg (systolic) and < 80mmHg (diastolic), by NHS Board. Horizontal line indicates level for Scotland as a whole.

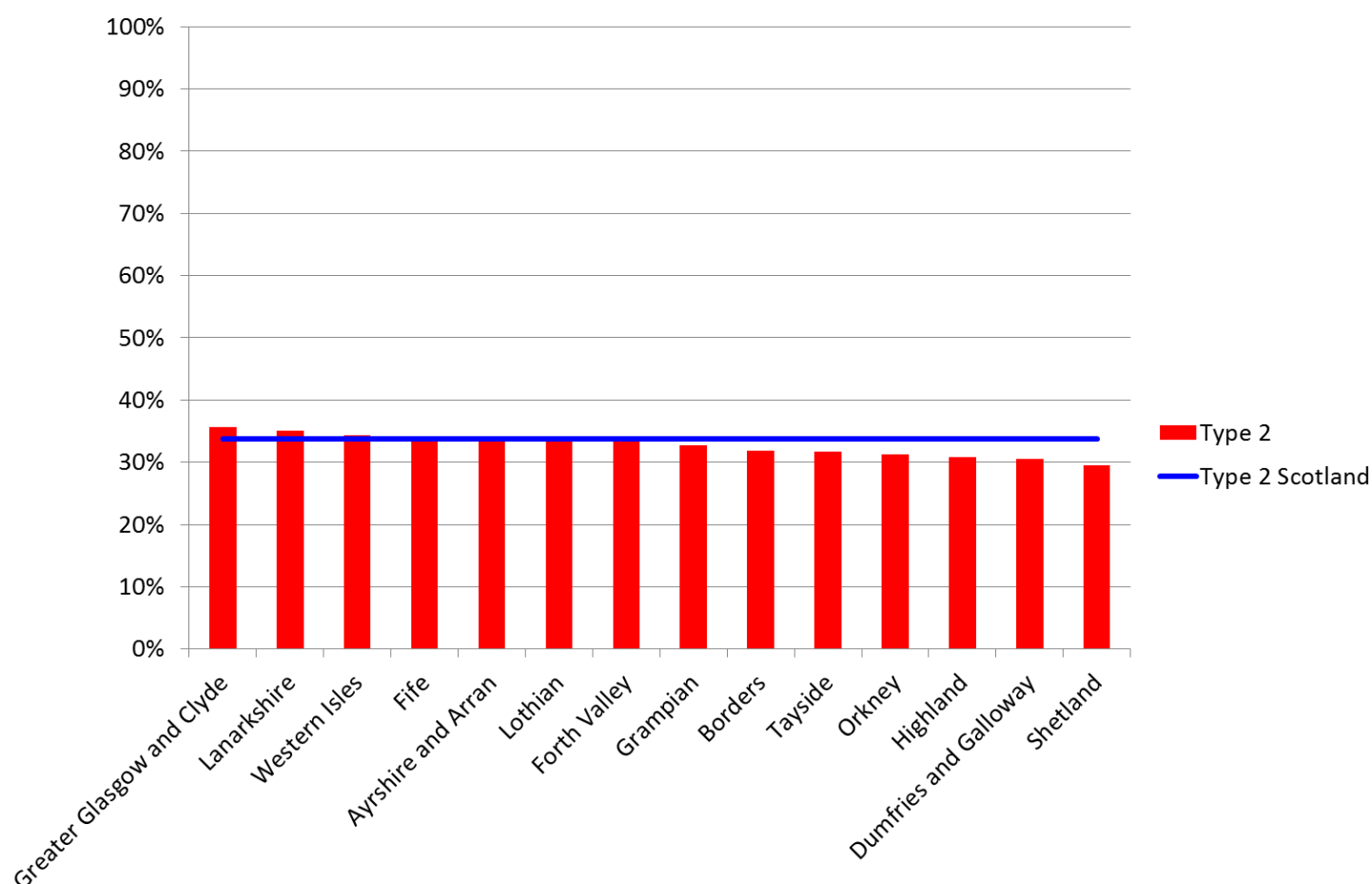
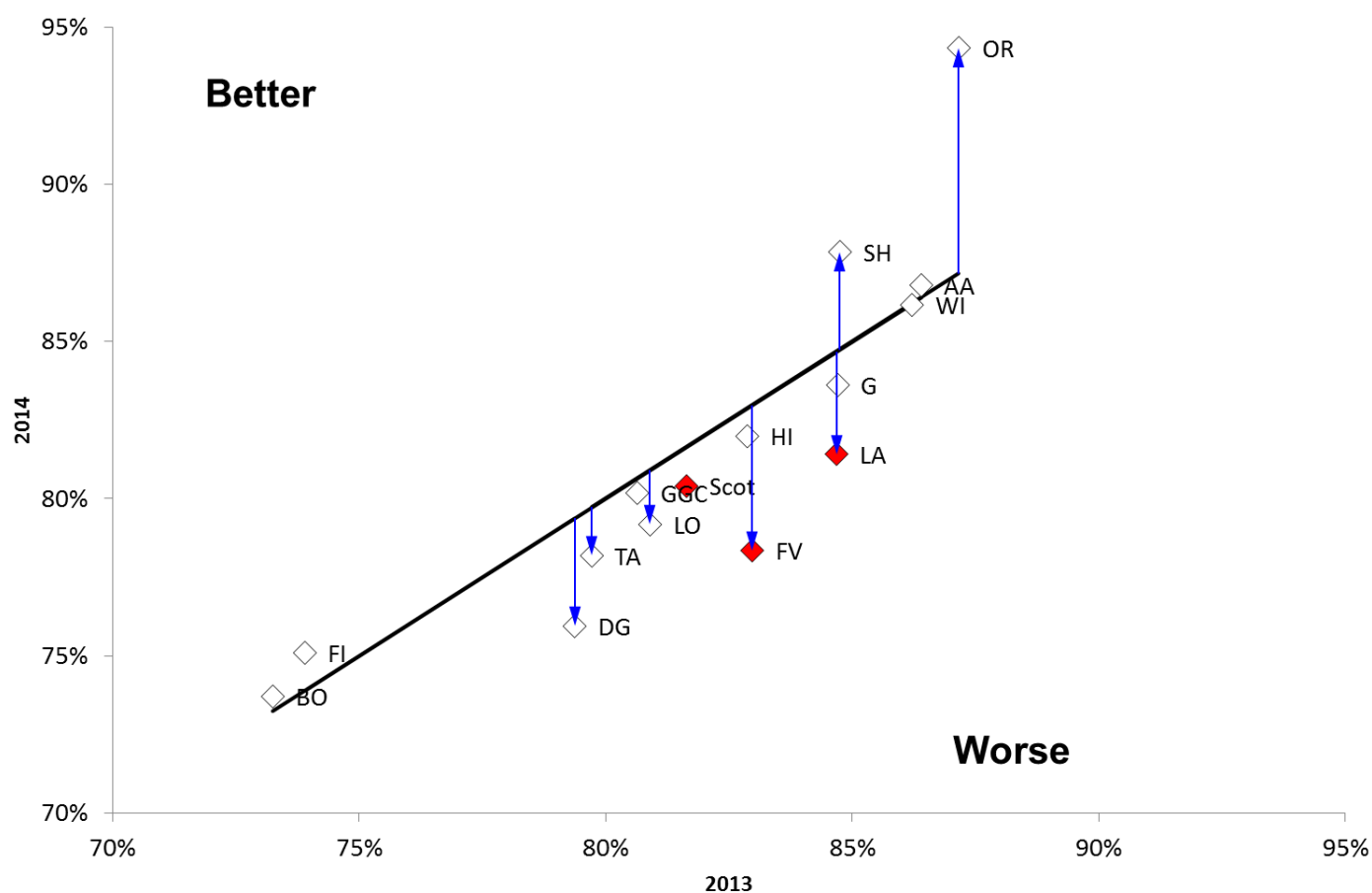


Table 37. Type 1 diabetes : percentage of people with systolic blood pressure (SBP) \leq 140 mmHg by NHS Board, ranked by percentage $>$ 140 mmHg.

NHS Board	Systolic BP \leq 140		Systolic BP $>$ 140		Total recorded	Not recorded (n,%)	
	Number	Percentage	Number	Percentage		Number	Percentage
Orkney	100	94.3%	6	5.7%	106	9	7.8%
Shetland	94	87.9%	13	12.1%	107	16	13.0%
Ayrshire and Arran	1,643	86.8%	250	13.2%	1,893	345	15.4%
Western Isles	137	86.2%	22	13.8%	159	25	13.6%
Grampian	2,353	83.6%	461	16.4%	2,814	429	13.2%
Highland	1,361	82.0%	299	18.0%	1,660	236	12.4%
Lanarkshire	2,704	81.4%	617	18.6%	3,321	437	11.6%
Greater Glasgow and Clyde	4,580	80.2%	1,132	19.8%	5,712	692	10.8%
Lothian	3,111	79.2%	818	20.8%	3,929	563	12.5%
Forth Valley	1,162	78.4%	321	21.6%	1,483	254	14.6%
Tayside	1,391	78.2%	388	21.8%	1,779	210	10.6%
Dumfries and Galloway	622	75.9%	197	24.1%	819	100	10.9%
Fife	1,351	75.1%	448	24.9%	1,799	249	12.2%
Borders	457	73.7%	163	26.3%	620	36	5.5%
Scotland	21,066	80.4%	5,135	19.6%	26,201	3,601	12.1%

Note: Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded).

Figure 20. Type 1 diabetes: percentage of people with SBP ≤ 140 mmHg from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 2.5% change between 2013 and 2014.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Table 38. Type 1 diabetes: percentage of people with systolic blood pressure (SBP) \leq 130 mmHg AND diastolic blood pressure (DBP) $<$ 80mmHg, by NHS Board, ranked by percentage $>$ 130/80 mmHg.

NHS Board	BP \leq 130/80		BP $>$ 130/80		Total recorded	Not recorded	
	Number	Percentage	Number	Percentage		Number	Percentage
Ayrshire and Arran	1,113	58.8%	780	41.2%	1,893	345	15.4%
Grampian	1,536	54.6%	1,278	45.4%	2,814	429	13.2%
Orkney	57	53.8%	49	46.2%	106	9	7.8%
Western Isles	85	53.5%	74	46.5%	159	25	13.6%
Lanarkshire	1,563	47.1%	1,758	52.9%	3,321	437	11.6%
Highland	781	47.0%	879	53.0%	1,660	236	12.4%
Greater Glasgow and Clyde	2,681	46.9%	3,031	53.1%	5,712	692	10.8%
Forth Valley	654	44.1%	829	55.9%	1,483	254	14.6%
Lothian	1,709	43.5%	2,220	56.5%	3,929	563	12.5%
Tayside	756	42.5%	1,023	57.5%	1,779	210	10.6%
Shetland	44	41.1%	63	58.9%	107	16	13.0%
Borders	250	40.3%	370	59.7%	620	36	5.5%
Fife	719	40.0%	1,080	60.0%	1,799	249	12.2%
Dumfries and Galloway	325	39.7%	494	60.3%	819	100	10.9%
Scotland	12,273	46.8%	13,928	53.2%	26,201	3,601	12.1%

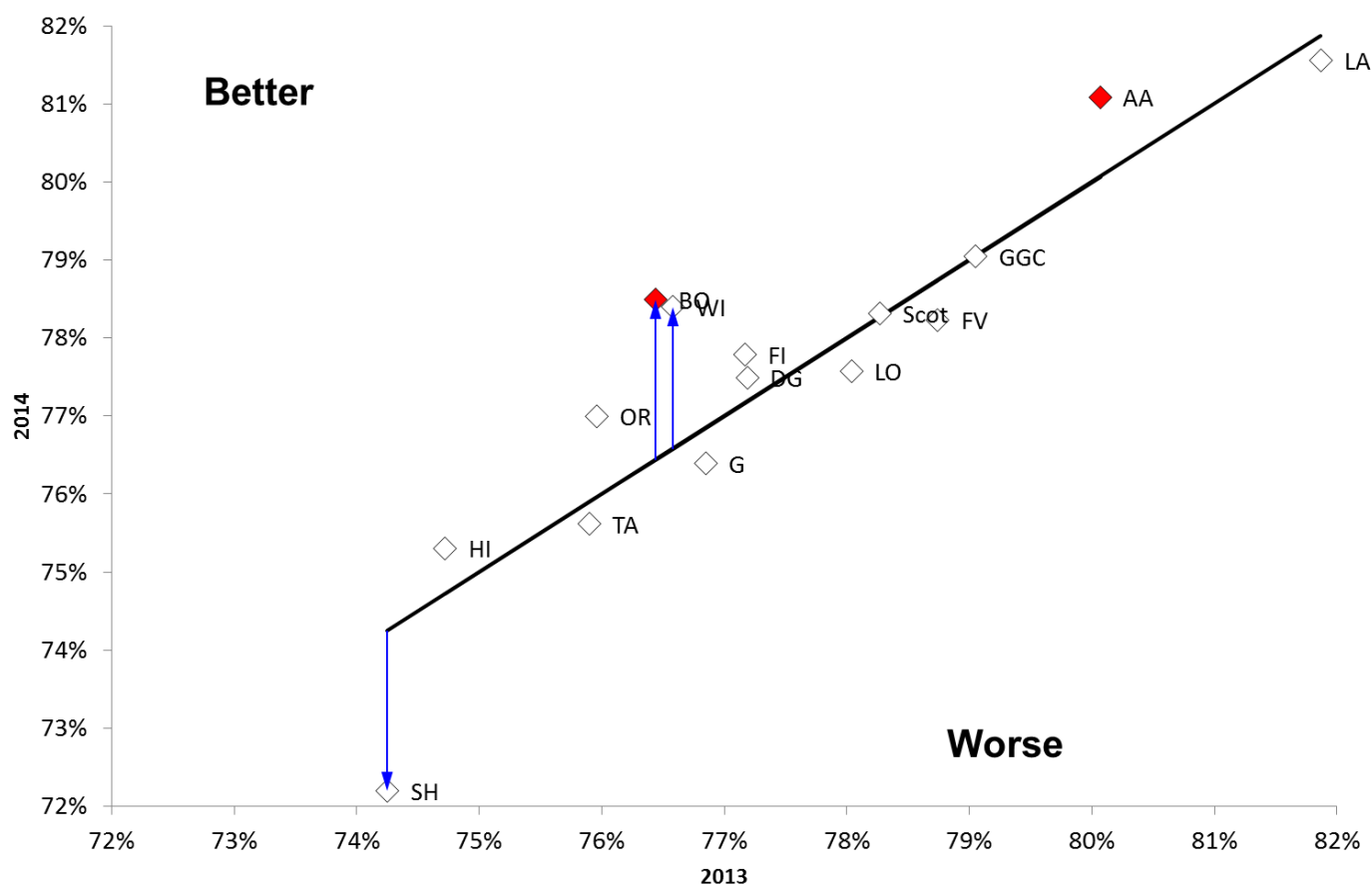
Note: Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded).

Table 39. Type 2 diabetes: percentage of people with systolic blood pressure (SBP) \leq 140 mmHg by NHS Board, ranked by percentage $>$ 140 mmHg.

NHS Board	Systolic BP \leq 140		Systolic BP $>$ 140		Total recorded	Not recorded	
	Number	Percentage	Number	Percentage		Number	Percentage
Lanarkshire	22,711	81.6%	5,135	18.4%	27,846	2,079	6.9%
Ayrshire and Arran	15,351	81.1%	3,581	18.9%	18,932	981	4.9%
Greater Glasgow and Clyde	40,630	79.0%	10,769	21.0%	51,399	3,358	6.1%
Borders	4,201	78.5%	1,151	21.5%	5,352	213	3.8%
Western Isles	853	78.4%	235	21.6%	1,088	54	4.7%
Forth Valley	10,274	78.2%	2,859	21.8%	13,133	795	5.7%
Fife	13,529	77.8%	3,863	22.2%	17,392	1,053	5.7%
Lothian	24,105	77.6%	6,968	22.4%	31,073	1,652	5.0%
Dumfries and Galloway	5,794	77.5%	1,683	22.5%	7,477	504	6.3%
Orkney	723	77.0%	216	23.0%	939	25	2.6%
Grampian	17,376	76.4%	5,369	23.6%	22,745	1,084	4.5%
Tayside	14,364	75.6%	4,631	24.4%	18,995	836	4.2%
Highland	10,126	75.3%	3,321	24.7%	13,447	642	4.6%
Shetland	644	72.2%	248	27.8%	892	64	6.7%
Scotland	180,681	78.3%	50,029	21.7%	230,710	13,340	5.5%

Note: Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded).

Figure 21. Type 2 diabetes: percentage of people with SBP ≤ 140 mmHg from 2013 to 2014:
Arrows showing the direction of change have been added for all boards with more than 1.5% change between 2013 and 2014.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Table 40. Type 2 diabetes: percentage of people with systolic blood pressure (SBP) ≤ 130 mmHg AND diastolic blood pressure (DBP) < 80mmHg, by NHS Board, ranked by percentage > 130/80 mmHg.

NHS Board	BP ≤ 130/80		BP > 130/80		Total recorded	Not recorded	
	Number	Percentage	Number	Percentage		Number	Percentage
Greater Glasgow and Clyde	18,304	35.6%	33,095	64.4%	51,399	3,358	6.1%
Lanarkshire	9,761	35.1%	18,085	64.9%	27,846	2,079	6.9%
Western Isles	374	34.4%	714	65.6%	1,088	54	4.7%
Fife	5,956	34.2%	11,436	65.8%	17,392	1,053	5.7%
Ayrshire and Arran	6,458	34.1%	12,474	65.9%	18,932	981	4.9%
Lothian	10,517	33.8%	20,556	66.2%	31,073	1,652	5.0%
Forth Valley	4,405	33.5%	8,728	66.5%	13,133	795	5.7%
Grampian	7,461	32.8%	15,284	67.2%	22,745	1,084	4.5%
Borders	1,703	31.8%	3,649	68.2%	5,352	213	3.8%
Tayside	6,012	31.7%	12,983	68.3%	18,995	836	4.2%
Orkney	293	31.2%	646	68.8%	939	25	2.6%
Highland	4,155	30.9%	9,292	69.1%	13,447	642	4.6%
Dumfries and Galloway	2,280	30.5%	5,197	69.5%	7,477	504	6.3%
Shetland	263	29.5%	629	70.5%	892	64	6.7%
Scotland	77,942	33.8%	152,768	66.2%	230,710	13,340	5.5%

Note. Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded)

Table 41. Percentage of people with diabetes (Type 1 and Type 2 combined) with systolic blood pressure (SBP) < 140 mmHg.

Year	Total	Systolic BP ≤ 140	Systolic BP > 140	Not recorded
2014	273,852	78.5%	21.5%	6.2%
2013	256,866	78.6%	21.4%	6.0%
2012	256,816	77.5%	22.5%	6.4%
2011	228,948	76.0%	24.0%	6.9%
2010	220,615	74.9%	25.1%	6.6%
2009	212,857	75.1%	24.9%	6.1%
2008	199,650	73.3%	26.7%	9.2%
2007	204,166	73.0%	27.0%	2.6%
2006	188,424	71.1%	28.9%	4.3%
2005	155,269	69.2%	30.8%	7.9%

Note: From 2008 onwards, there was a requirement that BP should be in previous 15 months. In 2004 to 2007, older results could be included if there was no recent result.

Table 42. Type 1 diabetes: Mean BP (mmHg) recorded in previous 15 months in people aged < 40 years, by NHS Board, ranked by mean systolic BP.

NHS Board	Mean systolic BP	Mean diastolic BP
Orkney	115	71
Ayrshire and Arran	118	70
Grampian	119	71
Western Isles	120	74
Highland	122	74
Lanarkshire	122	73
Shetland	122	73
Greater Glasgow and Clyde	123	74
Lothian	123	76
Dumfries and Galloway	125	76
Forth Valley	125	73
Tayside	125	75
Borders	126	70
Fife	127	76

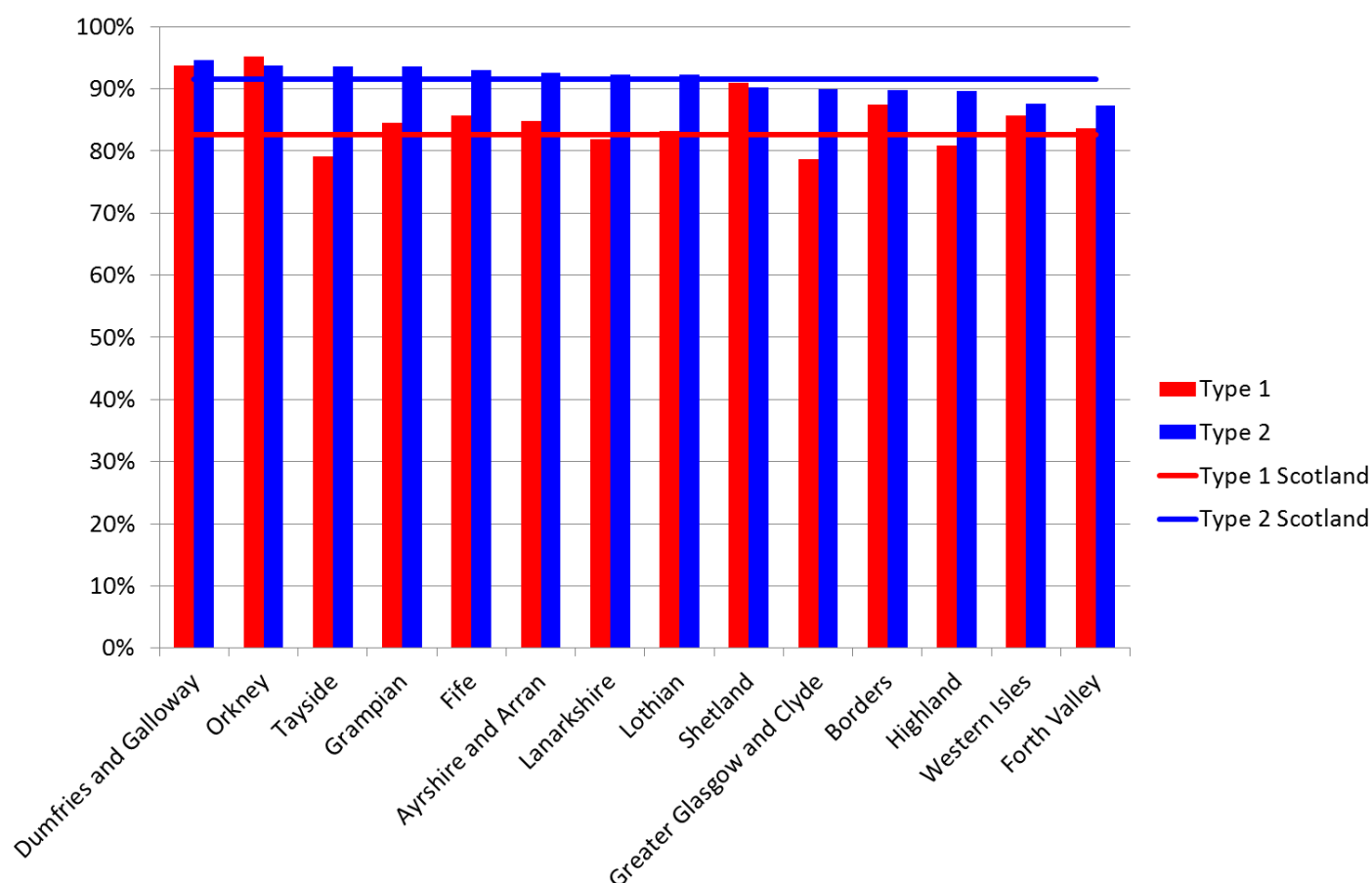
Table 43. Type 2 diabetes: mean BP recorded in previous 15 months in people aged 50-60 years, by NHS Board, ranked by mean systolic BP.

NHS Board	Mean systolic BP	Mean diastolic BP
Greater Glasgow and Clyde	131	78
Ayrshire and Arran	132	78
Borders	132	77
Dumfries and Galloway	132	79
Fife	132	79
Forth Valley	132	78
Grampian	132	79
Lanarkshire	132	77
Lothian	132	79
Orkney	132	78
Tayside	132	79
Western Isles	132	80
Highland	133	79
Shetland	134	80

Total cholesterol

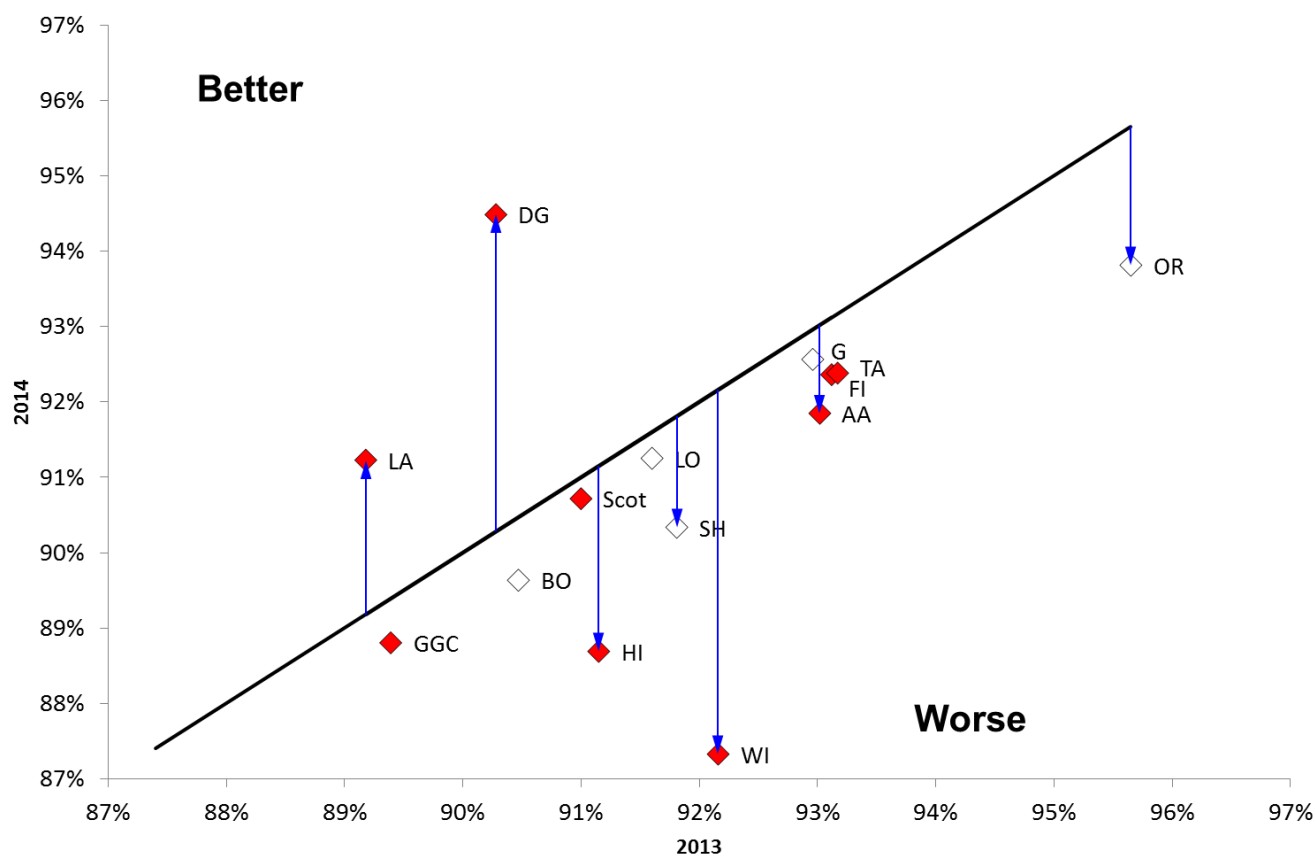
Cholesterol level was recorded in 90.7% of people with Type 1 or Type 2 diabetes within the previous 15 months. Total cholesterol was less than or equal to 5.0mmol/l in 79.8% of patients with a recorded result.

Figure 22. Percentage of people with diabetes with a record of cholesterol within the previous 15 months by diabetes type and NHS Board. Horizontal lines indicate figures for Scotland as a whole.



Note: Excludes children under 18 years (type1 n = 2993, Type 2 n = 134).

Figure 23. Percentage of people with diabetes (Type 1 and Type 2 combined) with a recording of cholesterol within the previous 15 months from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 1% change between 2013 and 2014.



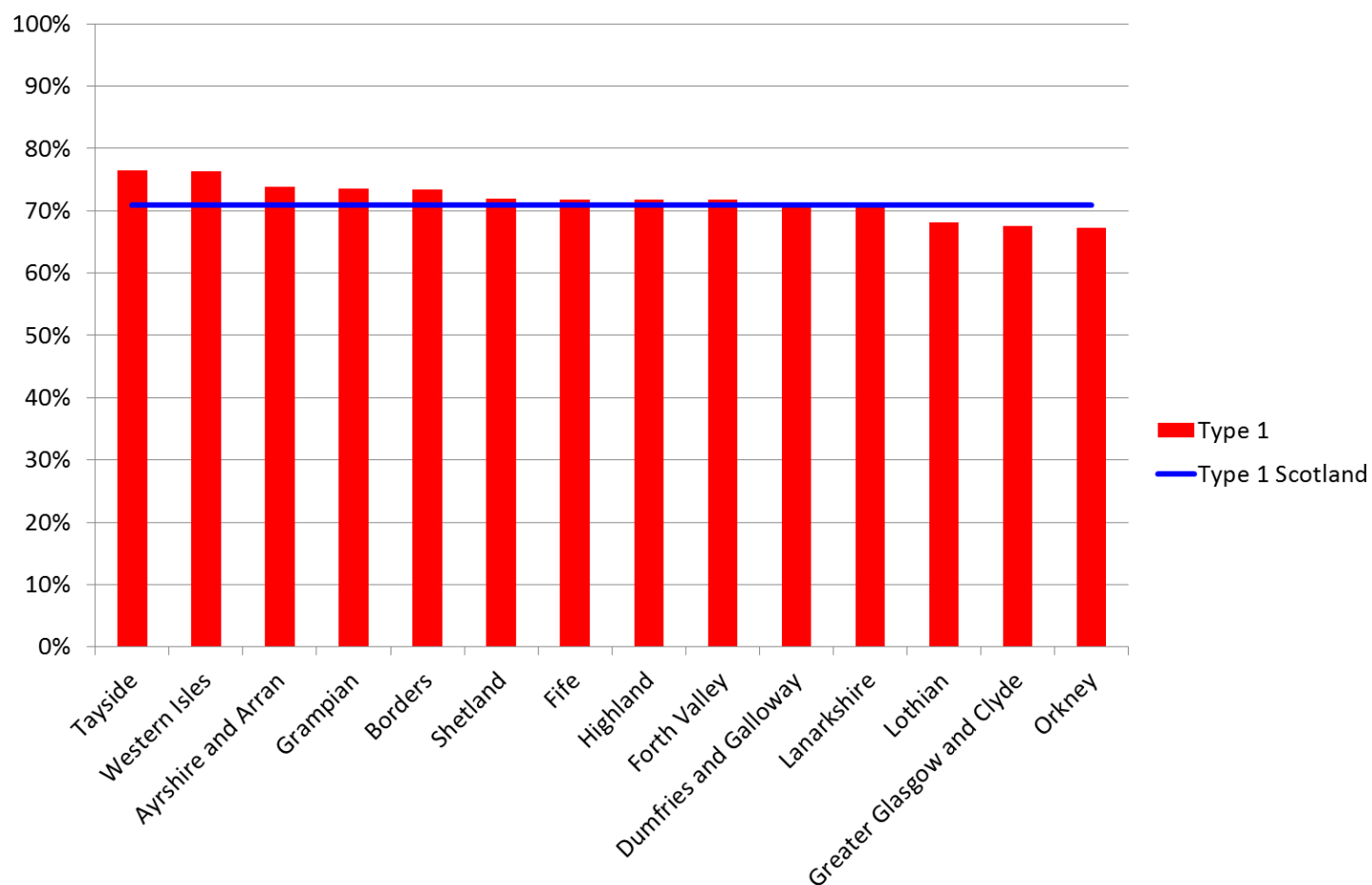
Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Table 44. Percentage of people with diabetes (Type 1 and Type 2 combined) with a recording of cholesterol within the previous 15 months.

Year	Recorded within previous 15 months
2014	90.7%
2013	91.0%
2012	90.6%
2011	89.2%
2010	89.6%
2009	86.5%
2008	90.1%
2007	88.4%
2006	85.5%
2005	79.2%
2004	69.0%
2003	40.2%
2002	60.5%

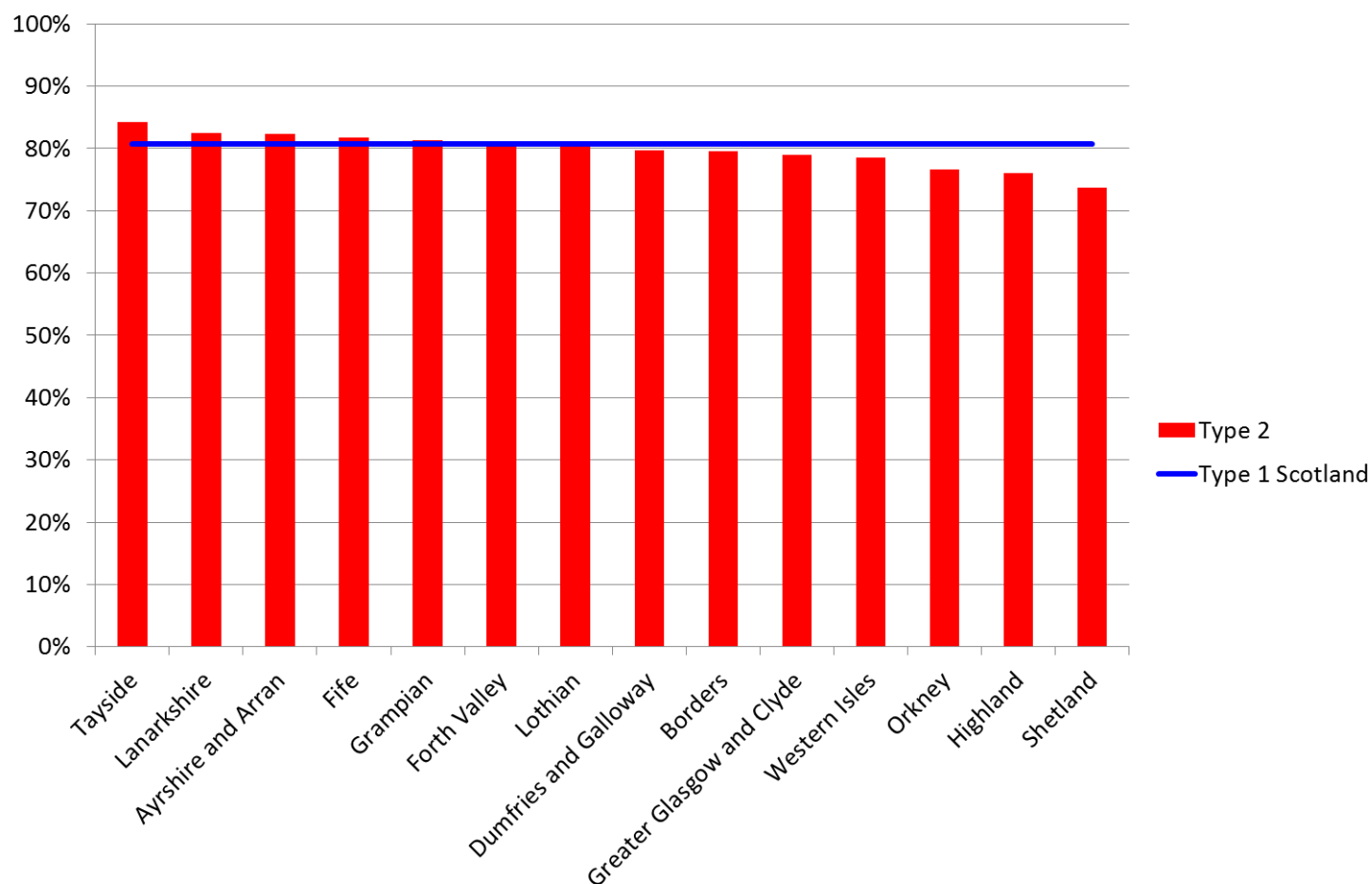
Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (type1 n = 2993, Type 2 n = 134).

Figure 24. Type 1 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). Horizontal line indicates level for Scotland as a whole.



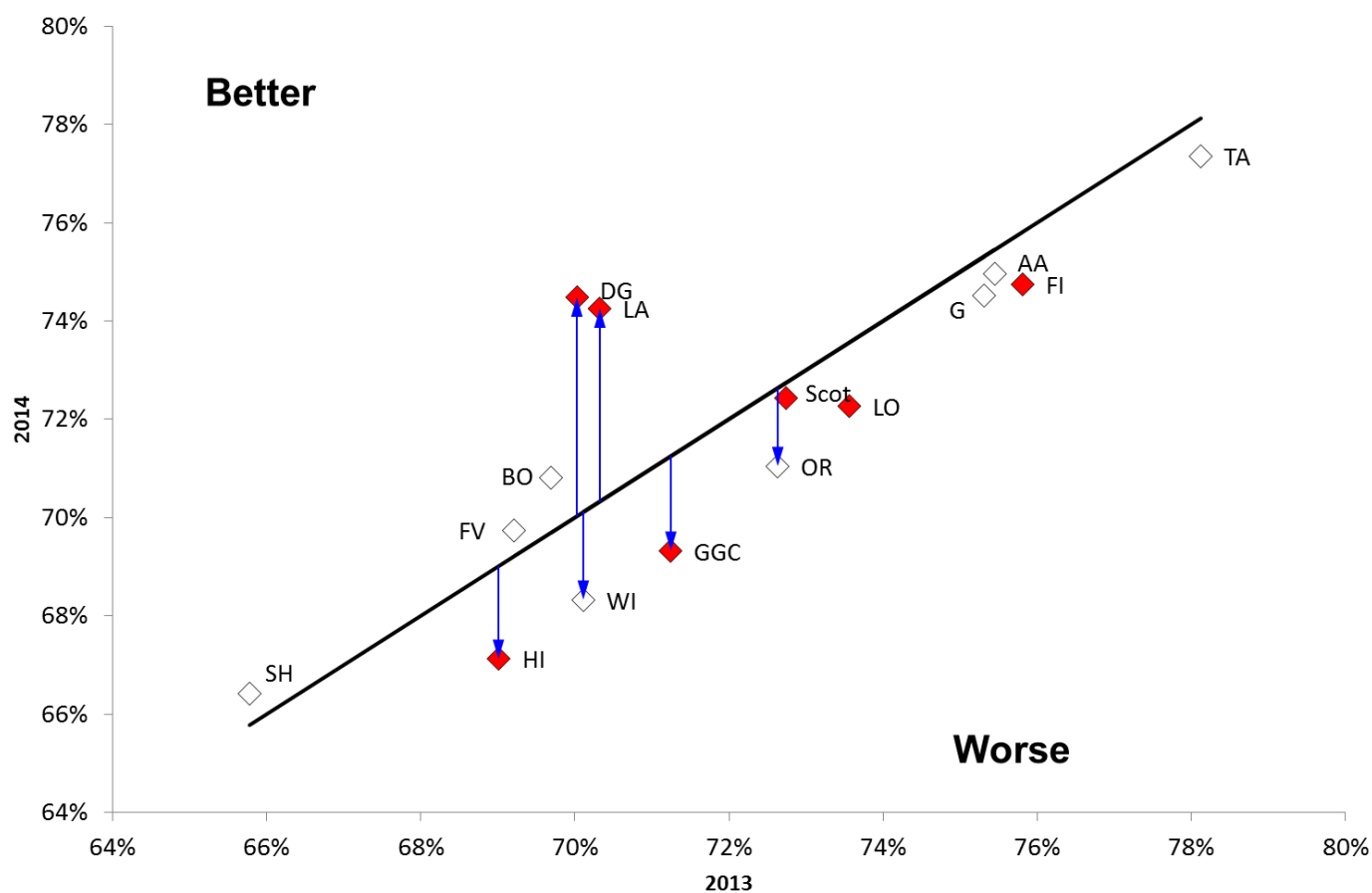
Note: Excludes children under 18 years (n=2993)

Figure 25. 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). Horizontal line indicates level for Scotland as a whole.



Note: Excludes children under 18 years (n= 134).

Figure 26. Percentage of people with diabetes (Type 1 and Type 2 combined) with cholesterol ≤ 5 mmol/l within the previous 15 months from 2013 to 2014: Arrows showing the direction of change have been added for all boards with more than 1.5% change between 2013 and 2014.



Note: Points in red indicate statistically significant change. The diagonal line shows no change between 2013 and 2014.

Table 45. Type 1 diabetes : percentage of people with cholesterol ≤ 5 mmol/l, by NHS Board (denominator those with recording of cholesterol within the previous 15 months), ranked by percentage.

NHS Board	Total recorded	Total cholesterol ≤ 5	Not recorded
Tayside	1,428	76.5%	20.9%
Western Isles	144	76.3%	14.3%
Ayrshire and Arran	1,668	73.8%	15.2%
Grampian	2,460	73.5%	15.5%
Borders	512	73.4%	12.5%
Shetland	100	71.9%	9.1%
Fife	1,582	71.9%	14.3%
Highland	1,354	71.9%	19.1%
Forth Valley	1,285	71.7%	16.3%
Dumfries and Galloway	785	71.1%	6.2%
Lanarkshire	2,719	71.0%	18.2%
Lothian	3,437	68.1%	16.7%
Greater Glasgow and Clyde	4,577	67.6%	21.3%
Orkney	98	67.3%	4.9%
Scotland	22,149	70.9%	17.4%

Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (n = 2993).

Table 46. Type 2 diabetes: percentage of people with cholesterol ≤ 5 mmol/l, by NHS Board (denominator those with recording of cholesterol within the previous 15 months), ranked by percentage.

NHS Board	Total recorded	Total cholesterol ≤ 5	Not recorded
Tayside	18,559	84.3%	6.4%
Lanarkshire	27,546	82.4%	7.7%
Ayrshire and Arran	18,426	82.3%	7.5%
Fife	17,150	81.8%	7.0%
Grampian	22,291	81.3%	6.5%
Forth Valley	12,161	81.1%	12.6%
Lothian	30,186	80.5%	7.7%
Dumfries and Galloway	7,543	79.6%	5.4%
Borders	4,997	79.6%	10.1%
Greater Glasgow and Clyde	49,197	79.0%	10.1%
Western Isles	1,000	78.5%	12.4%
Orkney	903	76.6%	6.3%
Highland	12,622	76.1%	10.4%
Shetland	863	73.7%	9.7%
Scotland	223,444	80.7%	8.4%

Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (n = 134).

Table 47. Percentage of people with diabetes (Type 1 and Type 2 combined) with cholesterol ≤ 5 mmol/l, by NHS Board (denominator those with recording of cholesterol within the previous 15 months).

Year	Cholesterol ≤ 5		Cholesterol > 5		Not recorded		Total
	Number	Percentage	Number	Percentage	Number	Percentage	
2014	196,091	79.8%	49,502	20.2%	25,132	9.3%	270,725
2013	191,130	79.9%	47,970	20.1%	23,654	9.0%	262,754
2012	182,643	79.5%	47,145	20.5%	23,895	9.4%	253,683
2011	174,832	79.8%	44,364	20.2%	25,604	10.4%	245,786
2010	169,367	80.4%	41,391	19.6%	24,440	10.4%	235,198
2009	157,434	80.7%	37,650	19.3%	30,551	13.5%	225,635
2008	157,938	80.1%	39,107	19.9%	21,858	10.0%	218,903
2007	159,843	79.8%	40,552	20.2%	8,257	4.0%	208,652
2006	143,999	78.9%	38,614	21.1%	13,104	6.7%	195,717
2005	113,542	75.1%	37,631	24.9%	16,680	9.9%	167,853

Note: From 2008 onwards, there was a requirement that cholesterol should be in previous 15 months. In 2004 to 2007, older results could be included if there was no recent result. Excludes patients under 18 years of age and patients whose date of birth has not been recorded (n = 2993).

Table 48. Type 2 diabetes: mean total cholesterol recorded in previous 15 months in people aged ≥ 50 -60 years, by NHS Board, ranked by mean cholesterol.

NHS Board	Mean total cholesterol (mmol/l)
Tayside	4.1
Ayrshire and Arran	4.2
Forth Valley	4.2
Fife	4.2
Lanarkshire	4.2
Grampian	4.2
Western Isles	4.3
Lothian	4.3
Greater Glasgow and Clyde	4.3
Orkney	4.3
Borders	4.3
Dumfries and Galloway	4.3
Highland	4.4
Shetland	4.5

Smoking status

Smoking status was recorded for 84.6% of the diabetic population. Table 51, Table 52 and Table 53 shows those with a recorded smoking status in the last 15 months 18.8% reported that they currently smoke (23.6% Type 1 and 18.3% Type 2). Figure 28 and Figure 29 graphically shows the percentages of the smoking status, including those without a recording, using the diabetic population as the denominator.

Figure 27. Type 1 diabetes: smoking status as a percentage of all those with Type 1 diabetes, by NHS Board.

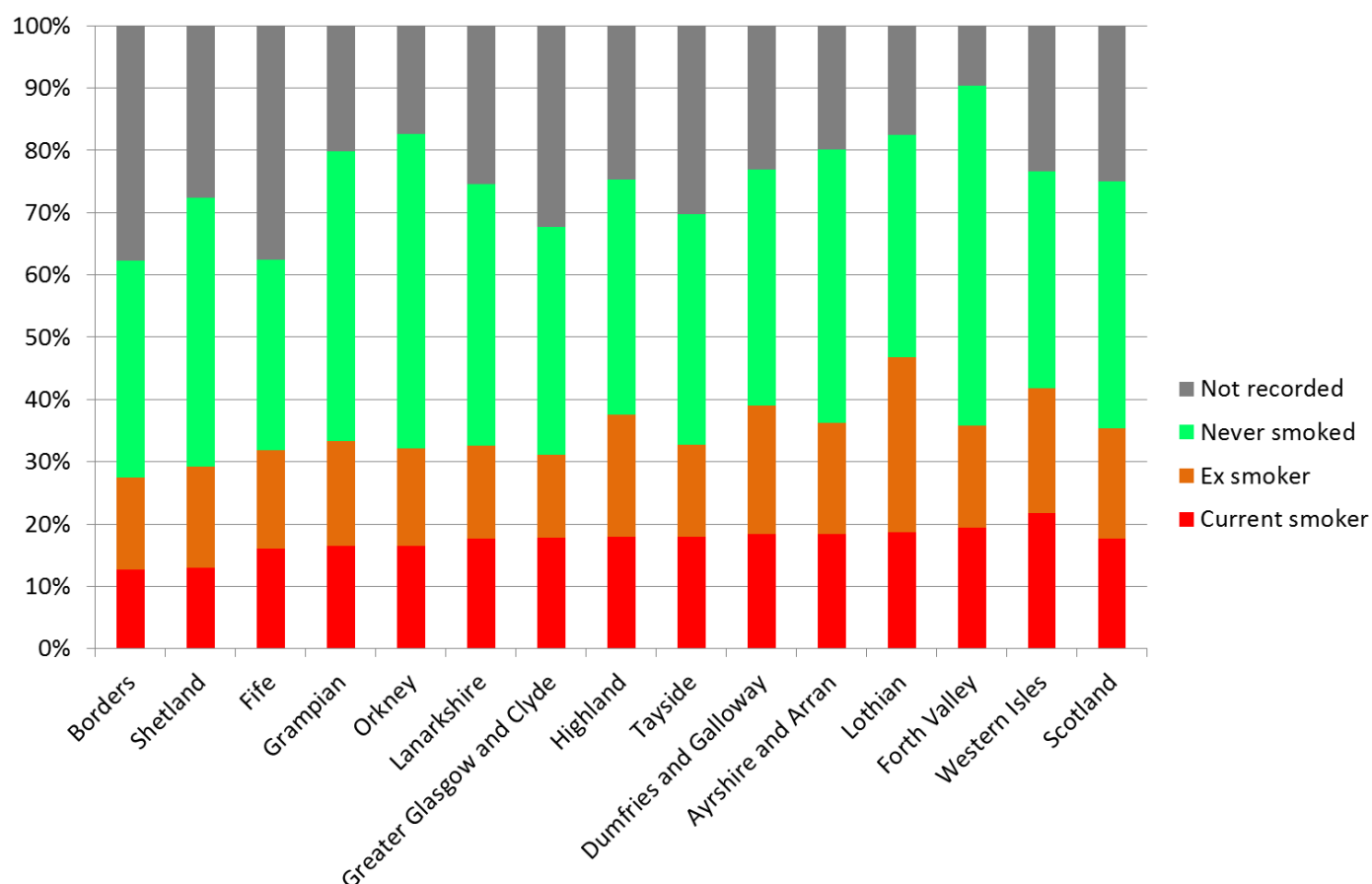


Figure 28. Type 2 diabetes: smoking status as a percentage of all those with Type 2 diabetes, by NHS Board.

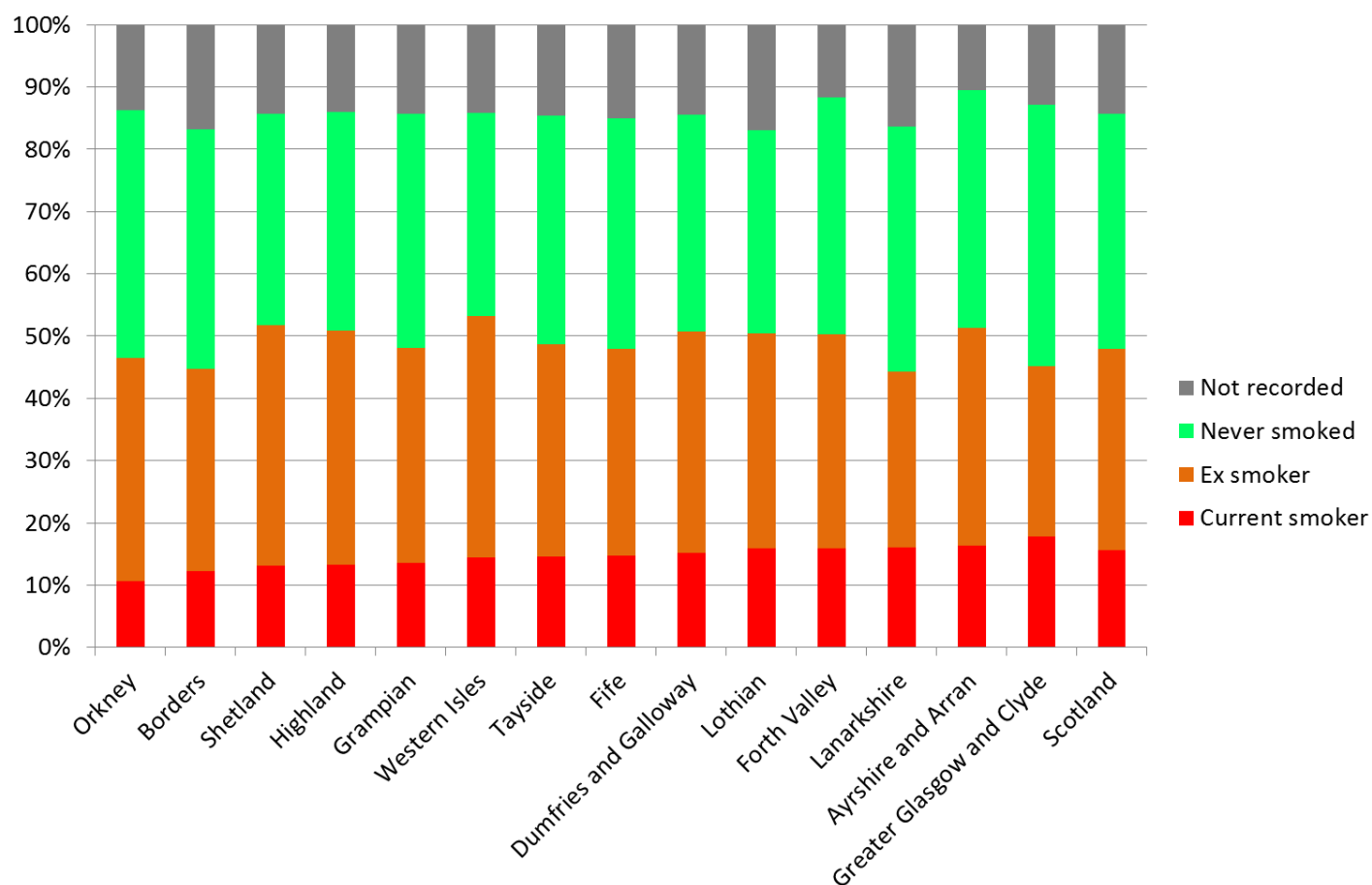


Table 49. Type 1 diabetes: Percentage of people who were recorded as current, ex- or never-smokers, by NHS Board (denominator those with recording of smoking status); ranked by proportion who are current smokers.

NHS Board	No with known status	Current smoker	Ex-smoker	Never smoked	% recorded
Shetland	89	18.0%	22.5%	59.6%	72.4%
Orkney	95	20.0%	18.9%	61.1%	82.6%
Borders	409	20.3%	23.7%	56.0%	62.3%
Grampian	2,588	20.7%	21.1%	58.3%	79.8%
Forth Valley	1,570	21.4%	18.3%	60.3%	90.4%
Lothian	3,707	22.6%	34.2%	43.2%	82.5%
Ayrshire and Arran	1,793	23.0%	22.3%	54.7%	80.1%
Lanarkshire	2,804	23.7%	20.0%	56.3%	74.6%
Highland	1,427	23.9%	25.9%	50.2%	75.3%
Dumfries and Galloway	707	23.9%	26.7%	49.4%	76.9%
Fife	1,280	25.7%	25.3%	49.0%	62.5%
Tayside	1,388	25.8%	21.2%	53.0%	69.8%
Greater Glasgow and Clyde	4,336	26.2%	19.7%	54.1%	67.7%
Western Isles	141	28.4%	26.2%	45.4%	76.6%
Scotland	22,334	23.6%	23.6%	52.8%	74.9%

Table 50. Type 2 diabetes: Percentage of people who were recorded as current, ex- or never-smokers, by NHS Board (denominator those with recording of smoking status); ranked by proportion who are current smokers.

NHS Board	No with known status	Current smoker	Ex-smoker	Never smoked	% recorded
Orkney	832	12.3%	41.6%	46.2%	86.3%
Borders	4,633	14.7%	39.0%	46.3%	83.3%
Shetland	819	15.4%	45.1%	39.6%	85.7%
Highland	12,117	15.4%	43.8%	40.8%	86.0%
Grampian	20,431	15.9%	40.2%	44.0%	85.7%
Western Isles	981	16.8%	45.1%	38.1%	85.9%
Tayside	16,942	17.0%	40.0%	42.9%	85.4%
Fife	15,662	17.3%	39.1%	43.6%	84.9%
Dumfries and Galloway	6,831	17.7%	41.6%	40.7%	85.6%
Forth Valley	12,295	18.0%	39.0%	43.0%	88.3%
Ayrshire and Arran	17,809	18.3%	39.0%	42.7%	89.4%
Lothian	27,197	19.1%	41.7%	39.2%	83.1%
Lanarkshire	25,042	19.1%	33.8%	47.1%	83.7%
Greater Glasgow and Clyde	47,694	20.5%	31.3%	48.2%	87.1%
Scotland	209,285	18.3%	37.6%	44.1%	85.8%

Table 51. 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).

Year	Current smoker	Ex-smoker	Never smoked	Not recorded
2014	18.8%	36.3%	45.0%	15.4%
2013	18.7%	34.9%	46.5%	1.5%
2012	19.3%	35.2%	45.5%	4.7%
2011	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%
2007	20.0%	35.2%	44.9%	3.3%
2006	20.3%	35.2%	44.6%	6.3%
2005	21.4%	32.9%	45.7%	8.9%

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 the people of working age;

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

The purpose of 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.

Myocardial infarction

25,096 (9.2%) of registered patients have a record of a previous MI. 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.

Table 52. Number and percentage of people with diabetes recorded as having had a previous myocardial infarction (MI), by diabetes type and NHS board, ranked by percentages for Type 2.

NHS Board	Recorded as having had an MI			
	Type 1		Type 2	
	Number	Percentage	Number	Percentage
Shetland	5	4.1%	62	6.5%
Western Isles	8	4.3%	91	8.0%
Orkney	4	3.5%	79	8.2%
Dumfries and Galloway	34	3.7%	673	8.4%
Grampian	106	3.3%	2,211	9.3%
Borders	30	4.6%	531	9.5%
Fife	76	3.7%	1,773	9.6%
Lothian	128	2.8%	3,180	9.7%
Ayrshire and Arran	84	3.8%	1,947	9.8%
Forth Valley	55	3.2%	1,379	9.9%
Lanarkshire	174	4.6%	3,031	10.1%
Greater Glasgow and Clyde	209	3.3%	5,561	10.2%
Tayside	71	3.6%	2,057	10.4%
Highland	58	3.1%	1,479	10.5%
Scotland	1,042	3.5%	24,054	9.9%

Table 53. Percentage of people with diabetes (Type 1 and Type 2 combined) who are recorded as having had a previous myocardial infarction (MI).

Year of Survey	Myocardial infarction
2014	9.2%
2013	9.3%
2012	9.4%
2011	9.5%
2010	9.1%
2009	9.5%
2008	9.5%
2007	9.5%
2006	9.4%
2005	8.6%
2004	7.3%
2003	7.7%
2002	8.1%
2001	6.7%

Note: This Table shows the percentage of people with diabetes who have ever had a heart attack and survived.

Cardiac revascularisation

18,775 (6.9%) people included in the survey have a record of having undergone cardiac revascularisation, including coronary artery bypass graft (CABG) and percutaneous transluminal coronary angioplasty (PTCA).

Table 54. Number and percentage of people with diabetes who have a record of cardiac revascularisation by NHS Board and diabetes type, ranked by percentages for Type 2.

NHS Board	Recorded as having undergone cardiac revascularisation			
	Type 1		Type 2	
	Number	Percentage	Number	Percentage
Shetland	4	3.3%	51	5.3%
Orkney	3	2.6%	60	6.2%
Dumfries and Galloway	33	3.6%	500	6.3%
Fife	47	2.3%	1,157	6.3%
Forth Valley	38	2.2%	953	6.8%
Ayrshire and Arran	48	2.1%	1,365	6.9%
Borders	17	2.6%	405	7.3%
Tayside	57	2.9%	1,449	7.3%
Western Isles	4	2.2%	85	7.4%
Lanarkshire	127	3.4%	2,261	7.6%
Lothian	101	2.2%	2,508	7.7%
Greater Glasgow and Clyde	157	2.5%	4,212	7.7%
Highland	50	2.6%	1,107	7.9%
Grampian	84	2.6%	1,892	7.9%
Scotland	770	2.6%	18,005	7.4%

Table 55. Percentage of people with diabetes recorded as having ever had cardiac revascularisation.

Year of Survey	Cardiac Revascularisation
2014	6.9%
2013	6.8%
2012	6.7%
2011	6.6%
2010	6.4%
2009	6.3%
2008	6.1%
2007	5.9%
2006	5.5%
2005	4.9%
2004	3.9%
2003	2.8%
2002	3.7%
2001	2.1%

Stroke

13,353 (4.9%) 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 2013, 4.9% in 2012 and 2011, 5.0% in 2010 and 5.1% in each year between 2006 and 2011).

Table 56. Number and percentage of people with diabetes who were recorded as ever having had a stroke, by NHS Board and diabetes type, ranked by figures for Type 2 diabetes.

NHS Board	Recorded as having had a stroke			
	Type 1 diabetes		Type 2 diabetes	
	Number	Percentage	Number	Percentage
Orkney	2	1.7%	31	3.2%
Shetland	1	0.8%	37	3.9%
Western Isles	4	2.2%	49	4.3%
Dumfries and Galloway	19	2.1%	349	4.4%
Grampian	50	1.5%	1,103	4.6%
Lanarkshire	82	2.2%	1,487	5.0%
Fife	51	2.5%	940	5.1%
Forth Valley	31	1.8%	726	5.2%
Highland	41	2.2%	735	5.2%
Ayrshire and Arran	54	2.4%	1,080	5.4%
Tayside	37	1.9%	1,076	5.4%
Greater Glasgow and Clyde	120	1.9%	3,061	5.6%
Lothian	82	1.8%	1,915	5.9%
Borders	21	3.2%	351	6.3%
Scotland	595	2.0%	12,940	5.3%

Kidney Disease

Serum creatinine

Serum creatinine was recorded for 94.0% (257,446) of patients aged over 11 years of age in the previous 15 months.

Table 57. Number and percentage of people with diabetes who have a record of serum creatinine within the previous 15 months, by NHS board and diabetes type, ranked by percentage for Type 2.

NHS Board	Recorded within previous 15 months				Total
	Type 1 diabetes		Type 2 diabetes		
	Number	Percentage	Number	Percentage	
Dumfries and Galloway	830	93.6%	7,791	97.7%	8,621
Shetland	106	91.4%	925	96.8%	1,031
Borders	578	91.7%	5,371	96.5%	5,949
Ayrshire and Arran	1,935	90.3%	19,171	96.3%	21,106
Grampian	2,780	88.7%	22,935	96.2%	25,715
Tayside	1,681	87.1%	19,081	96.2%	20,762
Western Isles	162	91.0%	1,098	96.1%	1,260
Fife	1,783	90.2%	17,685	95.9%	19,468
Orkney	105	94.6%	924	95.9%	1,029
Lothian	3,849	88.5%	31,325	95.7%	35,174
Lanarkshire	3,105	86.6%	28,555	95.6%	31,660
Forth Valley	1,470	88.5%	13,212	94.9%	14,682
Greater Glasgow and Clyde	5,316	85.7%	51,892	94.8%	57,208
Highland	1,367	75.8%	12,414	88.1%	13,781
Scotland	25,067	87.3%	232,379	95.3%	257,446

Note: Excludes children under 12 years of age or patients who have no date of birth recorded (type1 n = 1090, Type 2 n = 111).

Table 58. Percentage of people with diabetes (Type 1 and Type 2 combined) who had a record of serum creatinine within the previous 15 months.

Year	Recorded within previous 15 months	Total eligible population
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
2007	88.6%	208,652
2006	86.1%	195,717
2005	82.3%	171,899
2004	69.2%	149,353
2003	42.5%	133,889

Note: Excludes children under 12 years of age or patients who have no date of birth recorded (n=1201). Figures prior to 2009 reported on those with all types of diabetes mellitus. The figures for 2009 and onwards report only on those with Type 1 and Type 2 diabetes.

Urinary microalbuminuria

Table 61 shows information on the recording of microalbuminuria.

Table 59. Number and percentage of people with diabetes who have a record of estimated urinary microalbumin value available on SCI-Diabetes within the previous 15 months, by NHS board and diabetes type, ranked by figures for Type 2.

NHS Board	Recorded within previous 15 months				Total
	Type 1 diabetes		Type 2 diabetes		
	Number	Percentage	Number	Percentage	
Tayside	1,349	69.9%	16,717	84.3%	18,066
Western Isles	132	74.2%	960	84.1%	1,092
Grampian	2,202	70.3%	19,719	82.8%	21,921
Fife	1,501	75.9%	15,038	81.6%	16,539
Dumfries and Galloway	654	73.7%	6,459	81.0%	7,113
Highland	1,124	62.3%	10,919	77.5%	12,043
Orkney	80	72.1%	745	77.3%	825
Forth Valley	951	57.3%	10,361	74.4%	11,312
Lothian	3,160	72.6%	24,070	73.6%	27,230
Greater Glasgow and Clyde	4,136	66.6%	39,352	71.9%	43,488
Shetland	84	72.4%	667	69.8%	751
Ayrshire and Arran	1,185	55.3%	13,099	65.8%	14,284
Lanarkshire	1,679	46.8%	19,057	63.8%	20,736
Borders	279	44.3%	483	8.7%	762
Scotland	18,516	64.5%	177,646	72.8%	196,162

Note: Excludes children under 12 years of age or patients who have no date of birth recorded (type1 n = 1090, Type 2 n = 111). In some cases, urinary microalbumin was estimated from albumin/creatinine ratio (ACR).

Table 60. Number and percentage of people with diabetes who have a record of estimated glomerular filtration rate (eGFR) available on SCI-Diabetes within the previous 15 months, by NHS board and diabetes type, ranked by figures for Type 2.

NHS Board	Recorded within previous 15 months				Total
	Type 1 diabetes		Type 2 diabetes		
	Number	Percentage	Number	Percentage	
Shetland	105	95.5%	925	96.8%	1,030
Tayside	1,542	85.4%	19,067	96.2%	20,609
Grampian	2,625	90.2%	22,896	96.1%	25,521
Fife	1,648	89.3%	17,573	95.3%	19,221
Western Isles	143	85.1%	1,085	95.0%	1,228
Forth Valley	1,362	88.7%	13,198	94.8%	14,560
Greater Glasgow and Clyde	4,912	84.4%	51,710	94.5%	56,622
Orkney	93	90.3%	904	93.8%	997
Lothian	3,590	87.0%	30,672	93.7%	34,262
Highland	1,412	84.4%	13,196	93.7%	14,608
Dumfries and Galloway	698	83.4%	7,367	92.4%	8,065
Lanarkshire	2,871	86.4%	27,478	92.0%	30,349
Borders	511	87.4%	5,012	90.1%	5,523
Ayrshire and Arran	427	21.7%	6,120	30.7%	6,547
Scotland	21,939	81.8%	217,203	89.0%	239,142

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 61. Number and percentage of people with diabetes recorded as having end stage renal failure, by NHS board and diabetes type, ranked by percentage for Type 2.

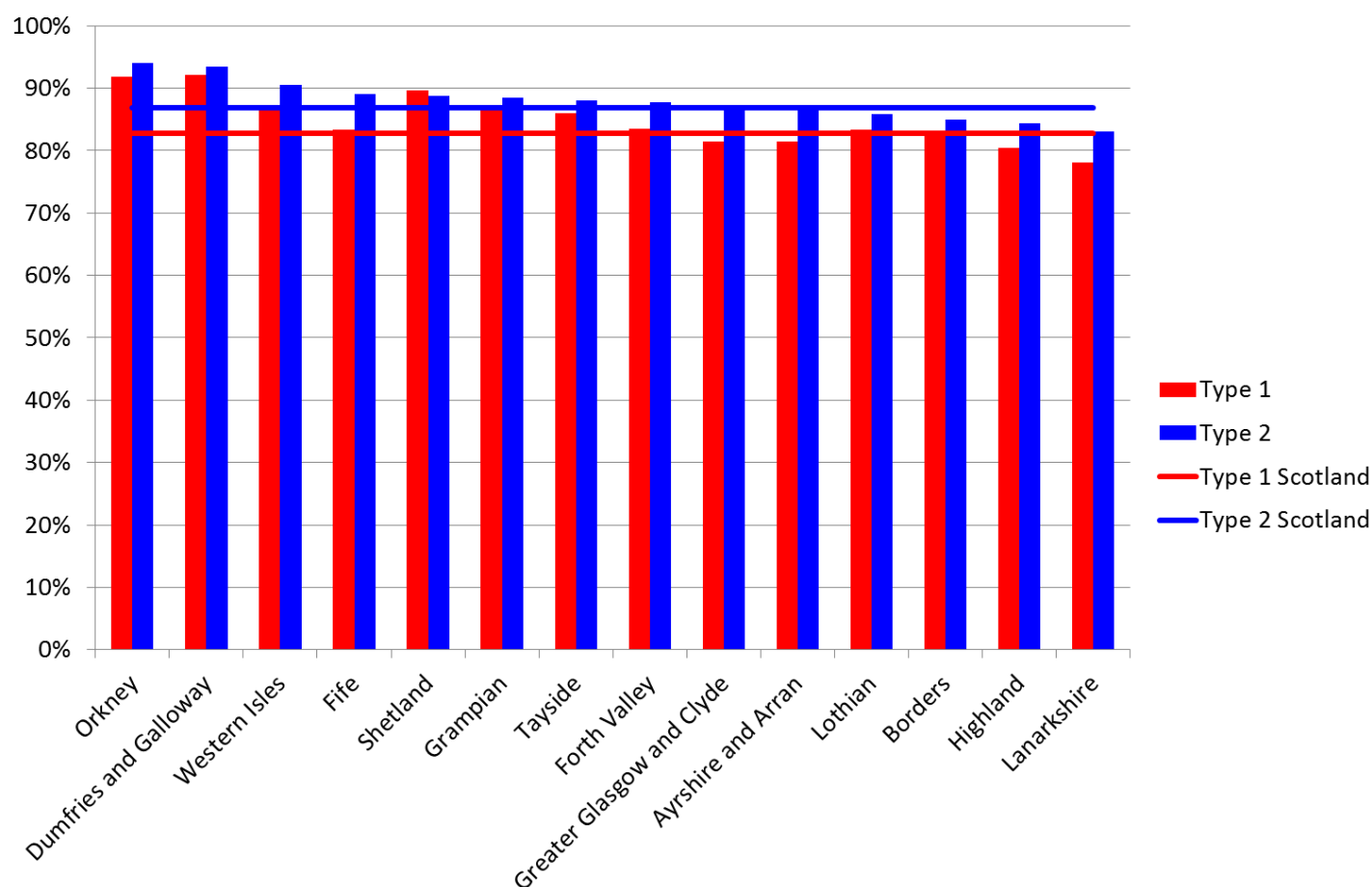
NHS Board	Recorded as having end stage renal failure			
	Type 1 diabetes		Type 2 diabetes	
	Number	Percentage	Number	Percentage
Orkney	2	1.7%	3	0.3%
Western Isles	1	0.5%	4	0.4%
Dumfries and Galloway	14	1.5%	34	0.4%
Borders	16	2.4%	24	0.4%
Ayrshire and Arran	41	1.8%	91	0.5%
Lanarkshire	58	1.5%	146	0.5%
Fife	20	1.0%	91	0.5%
Shetland	1	0.8%	5	0.5%
Forth Valley	23	1.3%	74	0.5%
Highland	19	1.0%	76	0.5%
Grampian	50	1.5%	141	0.6%
Tayside	29	1.5%	118	0.6%
Greater Glasgow and Clyde	84	1.3%	336	0.6%
Lothian	49	1.1%	222	0.7%
Scotland	407	1.4%	1,365	0.6%

Diabetic Eye Disease

Diabetic retinal screening

85.2% of patients 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.

Figure 29. Percentage of people with 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 by percentage for Type 2.



Note: Excludes patients under 18 years of age and patients whose date of birth has not been recorded (type1 n = 2993, Type 2 n = 134).

Table 64 shows the number and proportion of patients of appropriate age (≥ 12 years) who were either screened, were getting eye-care via specialist services or were deliberately (for clinical or social reasons) suspended from screening as a proportion of the total number of patients who had a record of date of birth and were over 12 years of age.

Table 62. Number and percentage of people with 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 patients who had a record of date of birth and were over 12 years of age; by NHS Board and diabetes type, ranked (descending) by percentage figure for Type 2

NHS Board	Type 1 diabetes		Type 2 diabetes		All (Type 1 and Type 2)		Not recorded
	Number	Percentage	Number	Percentage	Number	Percentage	
Orkney	102	91.9%	906	94.0%	1,008	93.8%	67
Dumfries and Galloway	817	92.1%	7,453	93.4%	8,270	93.3%	594
Western Isles	154	86.5%	1,033	90.5%	1,187	89.9%	133
Fife	1,648	83.4%	16,414	89.0%	18,062	88.5%	2,352
Shetland	104	89.7%	849	88.8%	953	88.9%	119
Grampian	2,720	86.8%	21,098	88.5%	23,818	88.3%	3,145
Tayside	1,660	86.0%	17,454	88.0%	19,114	87.8%	2,648
Forth Valley	1,386	83.4%	12,214	87.7%	13,600	87.3%	1,985
Greater Glasgow and Clyde	5,052	81.4%	47,692	87.1%	52,744	86.5%	8,203
Ayrshire and Arran	1,744	81.4%	17,324	87.0%	19,068	86.5%	2,986
Lothian	3,626	83.3%	28,070	85.8%	31,696	85.5%	5,375
Borders	519	82.4%	4,726	85.0%	5,245	84.7%	948
Highland	1,452	80.5%	11,885	84.4%	13,337	83.9%	2,553
Lanarkshire	2,797	78.0%	24,797	83.1%	27,594	82.5%	5,847
Scotland	23,781	82.8%	211,915	86.9%	235,696	86.4%	36,955

Note: Excludes children under 12 years of age or patients who have no date of birth recorded (Type 1 n = 1090, Type 2 n = 111)

Table 63. Numbers of patients eligible for retinopathy screening and percentages of those who had a record of screening (Type 1 and Type 2 combined), ranked by percentage of screened patients.

NHS Board	Eligible for screening	Screened	Percentage screened
Orkney	980	913	93.2%
Dumfries and Galloway	8,098	7,504	92.7%
Western Isles	1,190	1,057	88.8%
Shetland	1,006	887	88.2%
Grampian	25,454	22,309	87.6%
Fife	18,496	16,144	87.3%
Forth Valley	15,033	13,048	86.8%
Tayside	18,776	16,128	85.9%
Ayrshire and Arran	20,644	17,658	85.5%
Greater Glasgow and Clyde	55,990	47,787	85.3%
Lothian	33,922	28,547	84.2%
Borders	5,408	4,460	82.5%
Highland	14,405	11,852	82.3%
Lanarkshire	30,450	24,603	80.8%
Scotland	249,852	212,897	85.2%

Table 64 Number (and prevalence per 10,000 people with type 1 diabetes) who are recorded as blind ranked by diabetic cause prevalence

NHS Board	Diabetic cause		Non-diabetic cause		Not specified		Total		Total on register
	n	Prevalence	n	Prevalence	n	Prevalence	n	Prevalence	
Borders	0	0.00	0	0.00	2	30.49	2	30.49	656
Dumfries and Galloway	0	0.00	0	0.00	3	32.64	3	32.64	919
Highland	0	0.00	0	0.00	9	47.47	9	47.47	1,896
Lothian	0	0.00	0	0.00	16	35.62	16	35.62	4,492
Orkney	0	0.00	0	0.00	0	0.00	0	0.00	115
Shetland	0	0.00	0	0.00	0	0.00	0	0.00	123
Western Isles	0	0.00	0	0.00	0	0.00	0	0.00	184
Lanarkshire	1	2.66	0	0.00	32	85.15	33	87.81	3,758
Grampian	1	3.08	0	0.00	20	61.67	21	64.75	3,243
Forth Valley	1	5.76	0	0.00	7	40.30	8	46.06	1,737
Ayrshire and Arran	2	8.94	0	0.00	18	80.43	20	89.37	2,238
Greater Glasgow and Clyde	6	9.37	0	0.00	30	46.85	36	56.21	6,404
Tayside	4	20.11	0	0.00	11	55.30	15	75.41	1,989
Fife	6	29.30	0	0.00	4	19.53	10	48.83	2,048
Scotland	21	7.05	0	0.00	152	51.00	173	58.05	29,802

Table 65 Number (and prevalence per 10,000 people with type 2 diabetes) who are recorded as blind ranked by diabetic cause prevalence

NHS Board	Diabetic cause		Non-diabetic cause		Not specified		Total		Total on register
	n	Prevalence	n	Prevalence	n	Prevalence	n	Prevalence	
Borders	0	0.00	0	0.00	34	61.10	34	61.10	5,565
Dumfries and Galloway	0	0.00	0	0.00	42	52.62	42	52.62	7,981
Grampian	0	0.00	1	0.42	184	77.22	185	77.64	23,829
Lanarkshire	0	0.00	0	0.00	232	77.53	232	77.53	29,925
Lothian	0	0.00	1	0.31	213	65.09	214	65.39	32,725
Orkney	0	0.00	0	0.00	6	62.24	6	62.24	964
Shetland	0	0.00	0	0.00	8	83.68	8	83.68	956
Western Isles	0	0.00	0	0.00	3	26.27	3	26.27	1,142
Ayrshire and Arran	1	0.50	1	0.50	113	56.75	115	57.75	19,913
Highland	1	0.71	0	0.00	91	64.59	92	65.30	14,089
Forth Valley	2	1.44	4	2.87	63	45.23	69	49.54	13,928
Greater Glasgow and Clyde	8	1.46	12	2.19	334	61.00	354	64.65	54,757
Tayside	3	1.51	9	4.54	109	54.96	121	61.02	19,831
Fife	4	2.17	1	0.54	135	73.19	140	75.90	18,445
Scotland	19	0.78	29	1.19	1,567	64.21	1,615	66.17	244,050

Table 66. 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 each report).

Year	Recorded within previous 15 months
2014	86.5%
2013	86.8%
2012	86.1%
2011	85.6%
2010	85.1%
2009	80.6%
2008	71.9%
2007	83.6%
2006	70.8%
2005	67.7%
2004	60.4%
2003	40.4%
2002	60.3%
2001	42.2%

Note: Excludes children under 12 years or patients who have no date of birth recorded (Type 1 n = 1090, Type 2 n = 111). 2008 data is taken only from digital imaging via Diabetes Retinopathy Screening. For 2002 to 2007, data from any form of screening was acceptable.

Foot Complications

Table 67. Type 1 diabetes: 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 percentage who have active foot disease.

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%	2	2.2%	2	2.2%	89	95.7%	93	75.6%
Highland	15	1.2%	88	6.8%	134	10.4%	1,050	81.6%	1,287	67.9%
Orkney	1	1.2%	10	12.2%	8	9.8%	63	76.8%	82	71.3%
Lothian	37	1.3%	165	5.7%	290	10.0%	2,409	83.0%	2,901	64.6%
Tayside	17	1.3%	121	9.4%	124	9.6%	1,025	79.6%	1,287	64.7%
Borders	6	1.3%	51	11.4%	48	10.8%	341	76.5%	446	68.0%
Grampian	29	1.5%	81	4.2%	147	7.5%	1,691	86.8%	1,948	60.1%
Forth Valley	19	1.6%	70	5.8%	162	13.5%	950	79.1%	1,201	69.1%
Fife	26	2.1%	85	6.7%	200	15.8%	951	75.4%	1,262	61.6%
Ayrshire and Arran	29	2.1%	71	5.1%	116	8.3%	1,184	84.6%	1,400	62.6%
Dumfries and Galloway	15	2.3%	46	7.1%	74	11.5%	510	79.1%	645	70.2%
Western Isles	4	2.8%	16	11.1%	36	25.0%	88	61.1%	144	78.3%
Lanarkshire	68	2.9%	176	7.6%	257	11.1%	1,812	78.3%	2,313	61.5%
Greater Glasgow and Clyde	118	3.0%	249	6.3%	417	10.5%	3,171	80.2%	3,955	61.8%
Scotland	384	2.0%	1,231	6.5%	2,015	10.6%	15,334	80.9%	18,964	63.6%

Table 68. Type 2 diabetes: 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 percentage with active foot disease.

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	%
Grampian	107	0.6%	646	3.5%	2,922	15.7%	14,987	80.3%	18,662	78.3%
Forth Valley	65	0.6%	452	4.0%	2,083	18.4%	8,693	77.0%	11,293	81.1%
Borders	27	0.6%	226	4.9%	583	12.6%	3,776	81.9%	4,612	82.9%
Ayrshire and Arran	102	0.6%	516	3.1%	1,776	10.6%	14,345	85.7%	16,739	84.1%
Lothian	228	0.9%	1,324	5.0%	4,817	18.1%	20,306	76.1%	26,675	81.5%
Shetland	7	0.9%	35	4.4%	104	13.0%	654	81.8%	800	83.7%
Orkney	7	0.9%	98	12.6%	201	25.8%	472	60.7%	778	80.7%
Dumfries and Galloway	63	1.0%	262	4.0%	1,075	16.5%	5,131	78.6%	6,531	81.8%
Fife	137	1.0%	1,166	8.2%	3,868	27.3%	9,013	63.5%	14,184	76.9%
Tayside	166	1.0%	1,111	6.5%	3,228	19.0%	12,529	73.6%	17,034	85.9%
Highland	115	1.0%	874	7.4%	1,933	16.5%	8,812	75.1%	11,734	83.3%
Western Isles	11	1.2%	157	16.7%	287	30.6%	484	51.5%	939	82.2%
Lanarkshire	294	1.3%	1,176	5.1%	3,203	14.0%	18,223	79.6%	22,896	76.5%
Greater Glasgow and Clyde	565	1.3%	2,333	5.4%	8,637	19.9%	31,879	73.4%	43,414	79.3%
Scotland	1,894	1.0%	10,376	5.3%	34,717	17.7%	149,304	76.1%	196,291	80.4%

Foot ulceration

13,476 (4.9%) people with Type 1 or Type 2 diabetes were reported to have had a foot ulcer. The increasing percentages from 2012 for foot ulcers, as shown in Table 70, are likely to be due to better recording rather than a real increase in the risk of foot ulcer.

Table 69. 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 for Type 2.

NHS Board	Recorded as ever having had a foot ulcer			
	Type 1 diabetes		Type 2 diabetes	
	Number	Percentage	Number	Percentage
Grampian	116	3.6%	393	1.6%
Ayrshire and Arran	110	4.9%	411	2.1%
Shetland	1	0.8%	20	2.1%
Borders	46	7.0%	157	2.8%
Dumfries and Galloway	48	5.2%	226	2.8%
Orkney	5	4.3%	33	3.4%
Tayside	143	7.2%	679	3.4%
Forth Valley	177	10.2%	514	3.7%
Highland	99	5.2%	572	4.1%
Fife	135	6.6%	760	4.1%
Greater Glasgow and Clyde	589	9.2%	2,476	4.5%
Western Isles	10	5.4%	56	4.9%
Lothian	342	7.6%	1,932	5.9%
Lanarkshire	707	18.8%	2,719	9.1%
Scotland	2,528	8.5%	10,948	4.5%

Table 70. Percentage of people with diabetes (Type 1 and Type 2 combined) who had a record of ever having had a foot ulcer.

Year of Survey	Recorded as ever having had a foot ulcer
2014	4.9%
2013	5.2%
2012	5.1%
2011	4.3%
2010	4.4%
2009	4.3%
2008	4.6%
2007	4.7%
2006	5.0%
(a) 2005	3.9%
2004	2.2%
2003	1.5%
2002	1.4%
2001	1.0%

(a) Excludes NHS Borders and NHS Lanarkshire.

Lower limb amputation

There were 2,111 (0.77%) patients recorded as having a major lower limb amputation.

Table 71. Number and percentage of people with diabetes with a record of ever having had a major lower limb amputation, by NHS board and diabetes type, ranked by ascending percentage for Type 2.

NHS Board	Recorded as ever having had a lower limb amputation			
	Type 1 diabetes		Type 2 diabetes	
	Number	Percentage	Number	Percentage
Shetland	0	0.0%	4	0.4%
Borders	8	1.2%	31	0.6%
Lothian	38	0.8%	192	0.6%
Ayrshire and Arran	25	1.1%	118	0.6%
Lanarkshire	40	1.1%	192	0.6%
Grampian	36	1.1%	161	0.7%
Forth Valley	22	1.3%	99	0.7%
Greater Glasgow and Clyde	74	1.2%	413	0.8%
Tayside	22	1.1%	150	0.8%
Fife	33	1.6%	159	0.9%
Western Isles	2	1.1%	10	0.9%
Orkney	2	1.7%	9	0.9%
Dumfries and Galloway	22	2.4%	77	1.0%
Highland	30	1.6%	142	1.0%
Scotland	354	1.2%	1,757	0.7%

Table 72. 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.

Year of Survey	Lower limb amputation	
	Number	Percentage
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%
2007	950	0.5%
2006	868	0.4%
(a) 2005	774	0.5%
2004	845	0.6%
2003	1,014	0.8%
2002	996	1.0%

(a) excludes NHS Borders and NHS Lanarkshire.

Other statistics

My Diabetes My Way

“My Diabetes My Way” (www.mydiabetesmyway.scot.nhs.uk) is the NHS Scotland interactive diabetes website that helps to support people who have diabetes and their carers’. The table below shows the number of people who had registered to access their own clinical information using the website by the end of 2014. Records access is a key objective of the Scottish Diabetes Improvement Plan.

Table 73. Numbers of people with diabetes registered to access their clinical information using the “My Diabetes My Way” website by NHS Board.

NHS Board	Type 1	Type 2	Total
Ayrshire and Arran	222	290	512
Borders	27	59	86
Dumfries and Galloway	82	121	203
Fife	247	559	806
Forth Valley	316	697	1013
Grampian	195	298	493
Greater Glasgow and Clyde	745	1260	2005
Highland	161	270	431
Lanarkshire	520	555	1075
Lothian	1020	1719	2739
Orkney	17	12	29
Shetland	22	56	78
Tayside	194	748	942
Western Isles	9	7	16
Scotland	3777	6651	10428

Note: The above figures show the number of patients who had registered to access their diabetes data at the end of 2014. 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, either electronically, or by signing a consent form that has been provided to them. At this stage, username and password are sent out. At

the end of 2014, 3699 patients had accessed their results using this service. During the final 3 months of 2014, a total of 1572 (42.5% of 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. Further information and awareness materials may be obtained by emailing mydiabetesmyway@nhs.net.

Scottish Diabetes Research Network (SDRN) Research Register

The SDRN research register allows people with diabetes to indicate their interest in taking part in research on diabetes in Scotland, including clinical trials. The Table below shows the numbers who had joined the register by the end of 2013. It should be noted that many other people with diabetes who are not necessarily on this registry also take part in research.

Table 74. Numbers of people with diabetes who had joined the SDRN diabetes research register by the end of 2014, by NHS Board, Scotland.

NHS Board	Type 1	Type 2	Total
Ayrshire and Arran	10	12	22
Borders	4	17	21
Dumfries and Galloway	141	663	804
Fife	106	253	359
Forth Valley	60	152	212
Grampian	153	623	776
Greater Glasgow and Clyde	403	814	1217
Highland	482	936	1418
Lanarkshire	131	561	692
Lothian	909	1764	2673
Orkney	0	0	0
Shetland	3	0	3
Tayside	318	1588	1906
Western Isles	2	0	2
Scotland	2722	7383	10105

Care processes

It had been our intention to present in this survey an analysis of the 9 processes of care for those with Type 1 and Type 2 diabetes in Scotland. Unfortunately this year there have been problems with the analysis. We had not excluded some age groups that did not require all nine processes and it is not possible to retrospectively provide these data. As these data are therefore inaccurate they will not be provided this year, but will be available next year.

In the meantime the 9 processes of care are being measured as part of the quarterly reports to the MCN of each NHS Board.

Acknowledgements

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Appendix 1: SCI-Diabetes Data Sources

SCI-Diabetes is NHS Scotland's diabetes patient management system. It is used in every health board and holds data on all people with diabetes living in Scotland. Its purpose is to ensure that patients 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 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 2014 is as follows:

- All 994 general practices across Scotland (EMIS, Vision)
- 42 hospitals (direct data entry on SCI-Diabetes)
- 13 regions linking to local laboratory data (SCI Store – see below)
- National Diabetic Retinopathy Screening (DRS) System
- Community Health Index (master patient identifier)
- Direct web entry on SCI-Diabetes
- Inpatient Management: 2 regions linking to local patient administration system for admission, discharge and transfer data

Registration onto the system can be initiated via the primary and secondary care feeds, registration onto the DRS system or the 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 patients eligible for screening are included.

The current SCI Store and Inpatient Management Implementation matrices are shown below.

Table 75. Progress towards links from SCI Store to SCI-Diabetes.

Region	Implementation Requested	Status	Comments
Ayrshire and Arran	Yes	Live	
Borders	Yes	Live	
Dumfries and Galloway	Yes	Live	
Fife	Yes	Live	
Fife/Tayside	Yes	Live	Tayside store feeding to Fife for north Fife patients
Forth Valley	Yes	Live	
Grampian	Yes	Live	
Greater Glasgow and Clyde	Yes	Live	
Highland	Yes	Not scheduled	Argyll & Bute data to be obtained from GGC Store. No progress on Highland store link
Lanarkshire	Yes	Live	
Lothian	Yes	Live	
Orkney	Yes	Live	
Shetland	Yes	Live	
Tayside	Yes	Live	
Western Isles	Yes	Live	

Table 76. Progress towards links from Patient Administration Systems to SCI-Diabetes.

Region	Implementation Requested	Status	Comments
Ayrshire and Arran		Awaiting TRAK link	
Borders		Awaiting TRAK link	
Dumfries and Galloway		Not scheduled	
Fife	Yes	Live	eOasis/Tiara
Forth Valley		Awaiting TRAK link	
Grampian		Awaiting TRAK link	
Greater Glasgow and Clyde		Awaiting TRAK link	
Highland	Yes	In Pilot	Main pilot site for TRAK link
Lanarkshire		Awaiting TRAK link	
Lothian		Awaiting TRAK link	Arranging TRAK pilot
Orkney		Not scheduled	
Shetland		Not scheduled	
Tayside	Yes	Live	TOPAS
Western Isles		Not scheduled	Cortix

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: patients accessing their own information

SCI-Diabetes Audit Server: for regional and national reporting

Back-Population of 915 (92%) GP systems (in support of a single-point of data entry). The implementation matrix for back-population is shown below:

Table 77. Progress towards back-population of GP systems from SCI-Diabetes.

Region	01/01/2015	Total Practices	Percentage	Comments
Ayrshire & Arran	53	55	96%	
Borders	21	23	91%	
Dumfries & Galloway	29	34	85%	
Fife	58	58	100%	
Forth Valley	55	56	98%	
Glasgow	248	252	98%	
Grampian	79	80	99%	
Highland	79	99	80%	
Lanarkshire	108	114	95%	
Lothian	118	127	93%	
Orkney	10	10	100%	
Tayside	64	66	97%	
Western Isles	10	10	100%	
Shetland	10	10	100%	
Total	942	994	95%	

More information about the SCI-DC programme and SCI-Diabetes is available at:

<http://www.sci-diabetes.scot.nhs.uk/>

The full details of the questions and definitions used in data collection for the 2014 Scottish Diabetes Survey are available on the <http://www.sci-diabetes.scot.nhs.uk> website.

Appendix 2: Comparison with England/Wales

This section provides a comparison of the results of this survey with the 2011-12 National Diabetes Audit (NDA) in England and Wales. Please note that the definitions and cut-off values for blood pressure are not exactly the same so the figure may not be directly comparable.

Diabetes prevalence. The 2014 Scottish Diabetes survey reports that 5.2% of the population had diabetes (276,430 people), compared to 4.7% among 88% of general practices in England and Wales that participated in the National diabetes Audit for 2011-12 (NDA) (2,473,239 people) ¹.

1 National Diabetes Audit 2011-2012 for England. Available at <http://www.hscic.gov.uk/catalogue/PUB12421/nati-diab-audi-11-12-care-proc-rep.pdf>

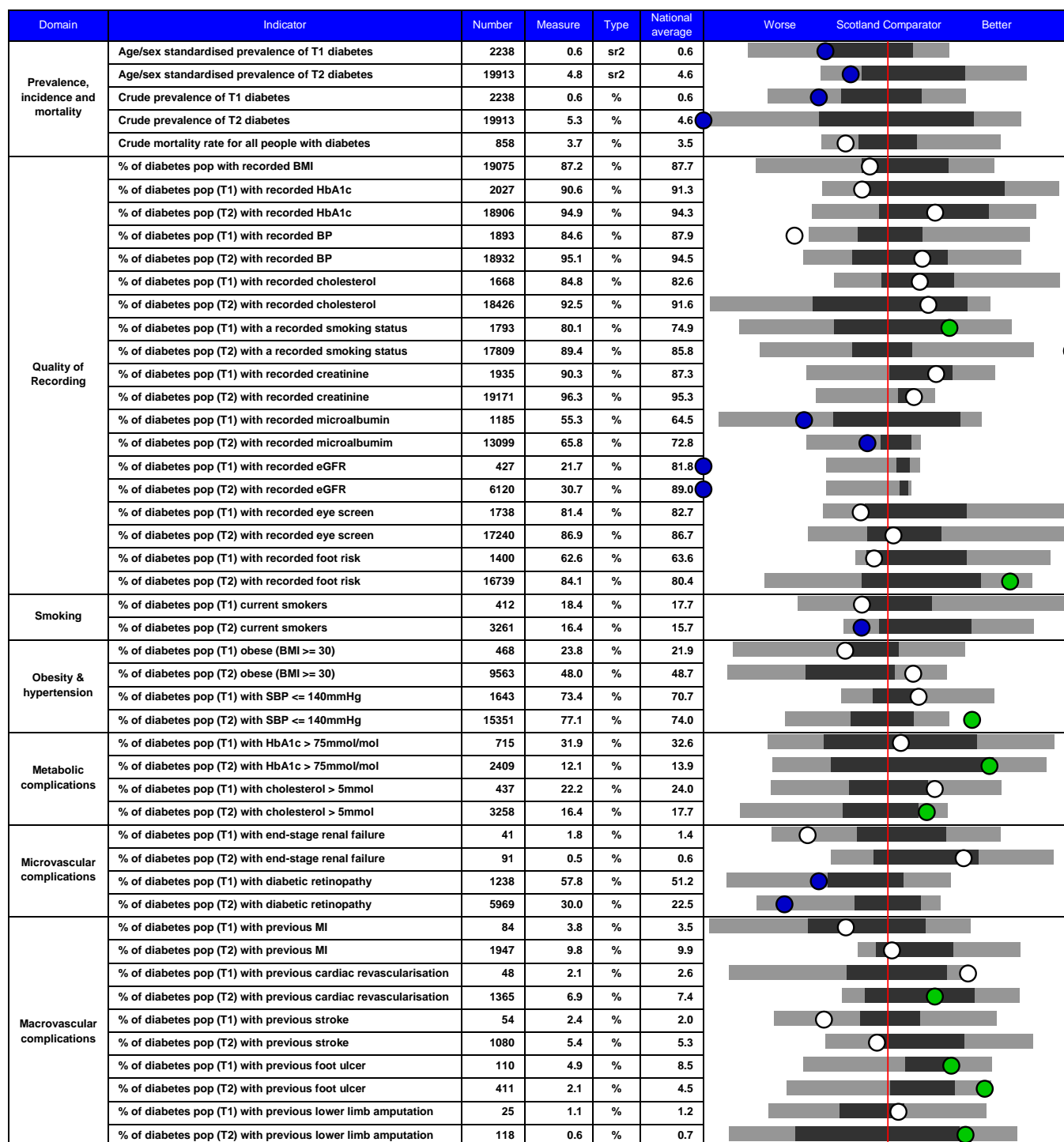
Table 78. Comparison of distribution of key risk factors between Scotland and England/Wales by type of diabetes.

	<u>Type 1</u>		<u>Type 2</u>	
	<u>Scottish Diabetes Survey 2014</u>	<u>England and Wales NDA 2011-2</u>	<u>Scottish Diabetes Survey 2014</u>	<u>England and Wales NDA 2011-2</u>
HbA1c < 58mmol/mol (7.5%),	23.4%	<u>27.0%</u>	61.4%	65.8%
<u>BP<130/80</u>	46.8%		33.8%	
BP <140/80 for patients without recorded eye, kidney or vascular disease or <130/80 for patients with recorded eye, kidney or vascular disease		51.9%		37.7%
Total cholesterol ≤5 mmol/l	70.9%	71.1%	80.7%	77.5%
<u>Current smokers</u>	23.6%	17.1%	18.3%	13.1%
<u>BMI>30kg/m2</u>	24.1%	21.3%	55.5%	47.1%

Appendix 3: Variability of HbA1c

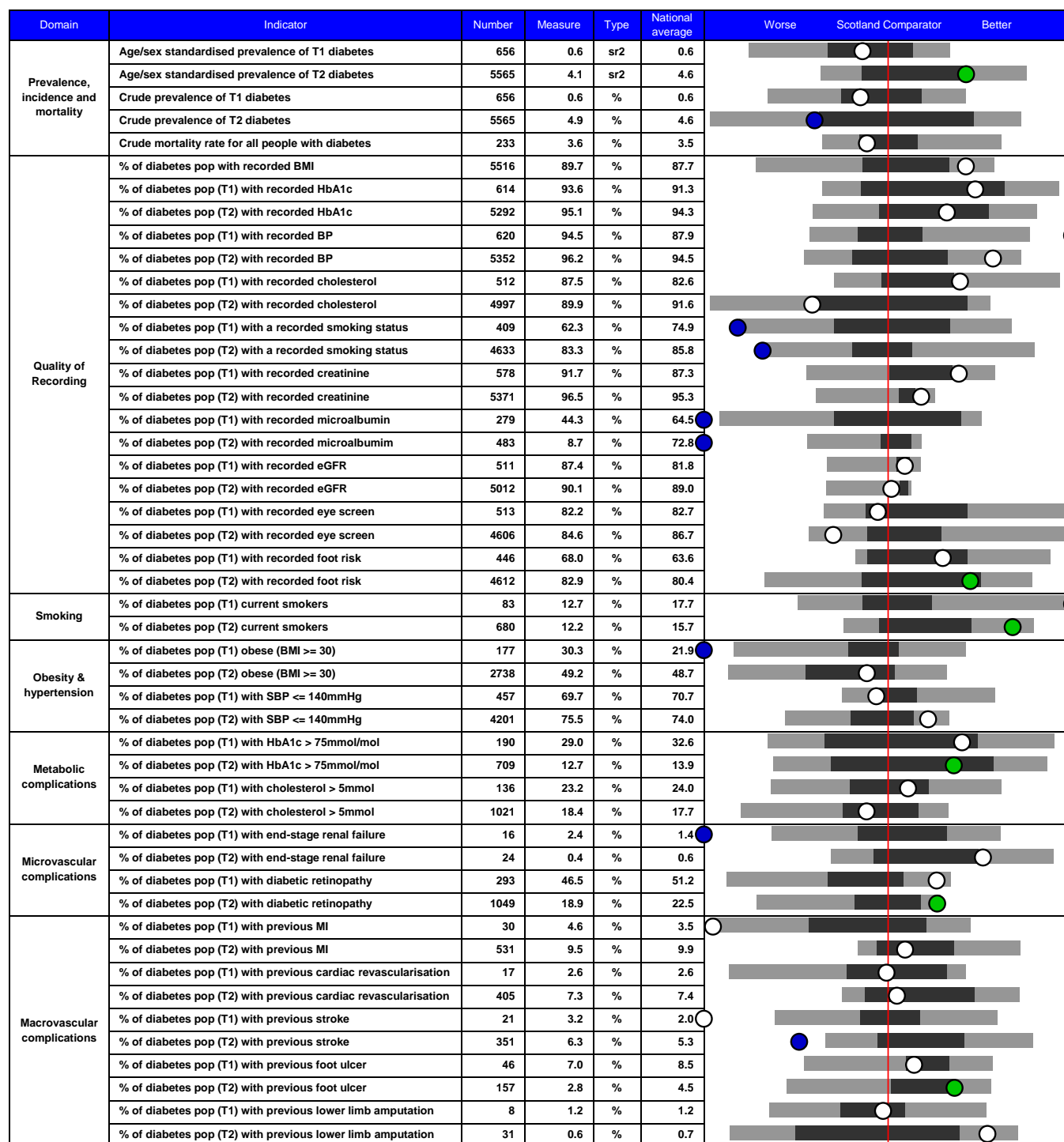
In Scotland laboratory services are provided by 14 separately funded Health Boards from multiple sites. A range of technologies are used in those various sites. Recent information from Birmingham UK National External Quality Assurance Schemes indicated returns from Scotland for 20 sites using ion exchange methods (17 Arkray HA systems and 3 Tosoh G8 systems), 2 affinity chromatograph systems (Menarini 9210) and 6 immunoassay systems (Siemens DCA). Some services use different technologies for high volume workloads (e.g. Arkray HA) and point of care testing (Siemens DCA immunoassay). Although systems are similarly calibrated against IFCC standards, differences are seen in methods-specific bias (deviation) from all-method mean values in EQA schemes and from target values set by secondary IFCC assay methods. Recently the Tosoh G8 methods, used by two health boards in Scotland, for instance have shown UK-wide a median bias against method means of circa +5%, with the Arkray method demonstrating a median bias of -1.6%.

Diabetes Health Board Spine Chart (Ayrshire and Arran) 2014



Spine chart key:	% percent	Spine chart key:	●	Statistically significantly 'worse' than National average
	sr2=age-sex standardised rate per 100 population		○	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) 2014

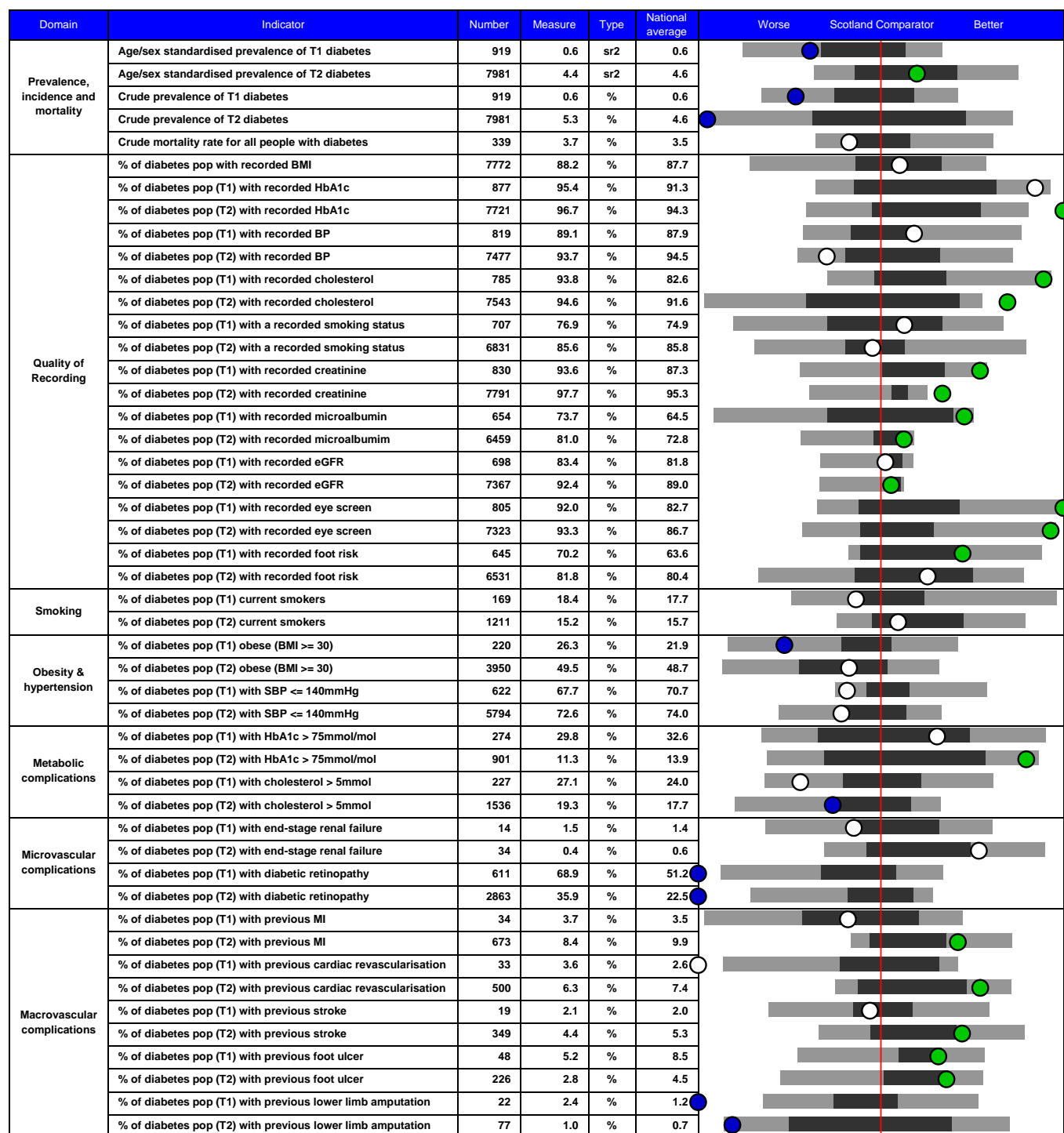


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

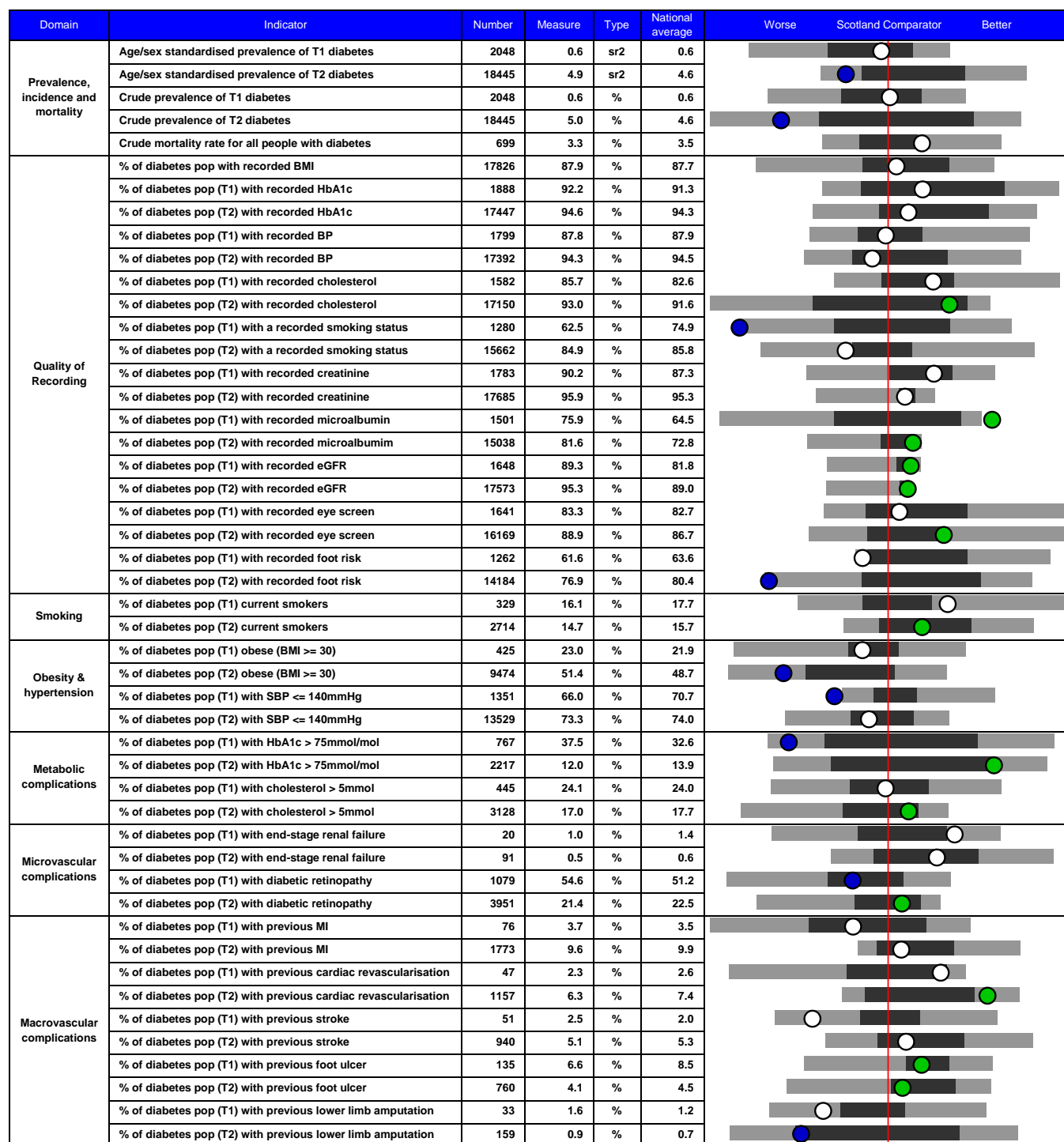


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

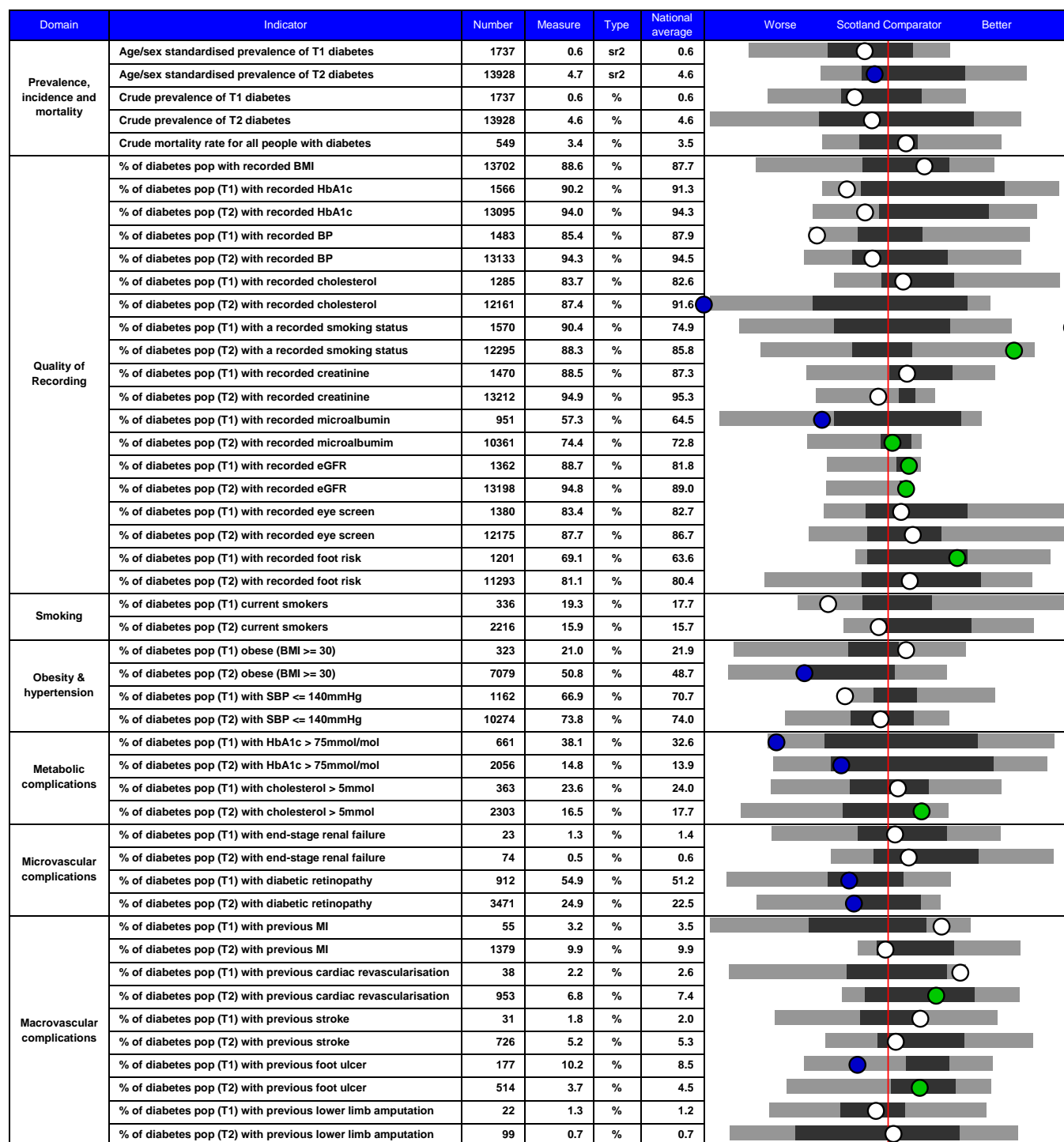


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

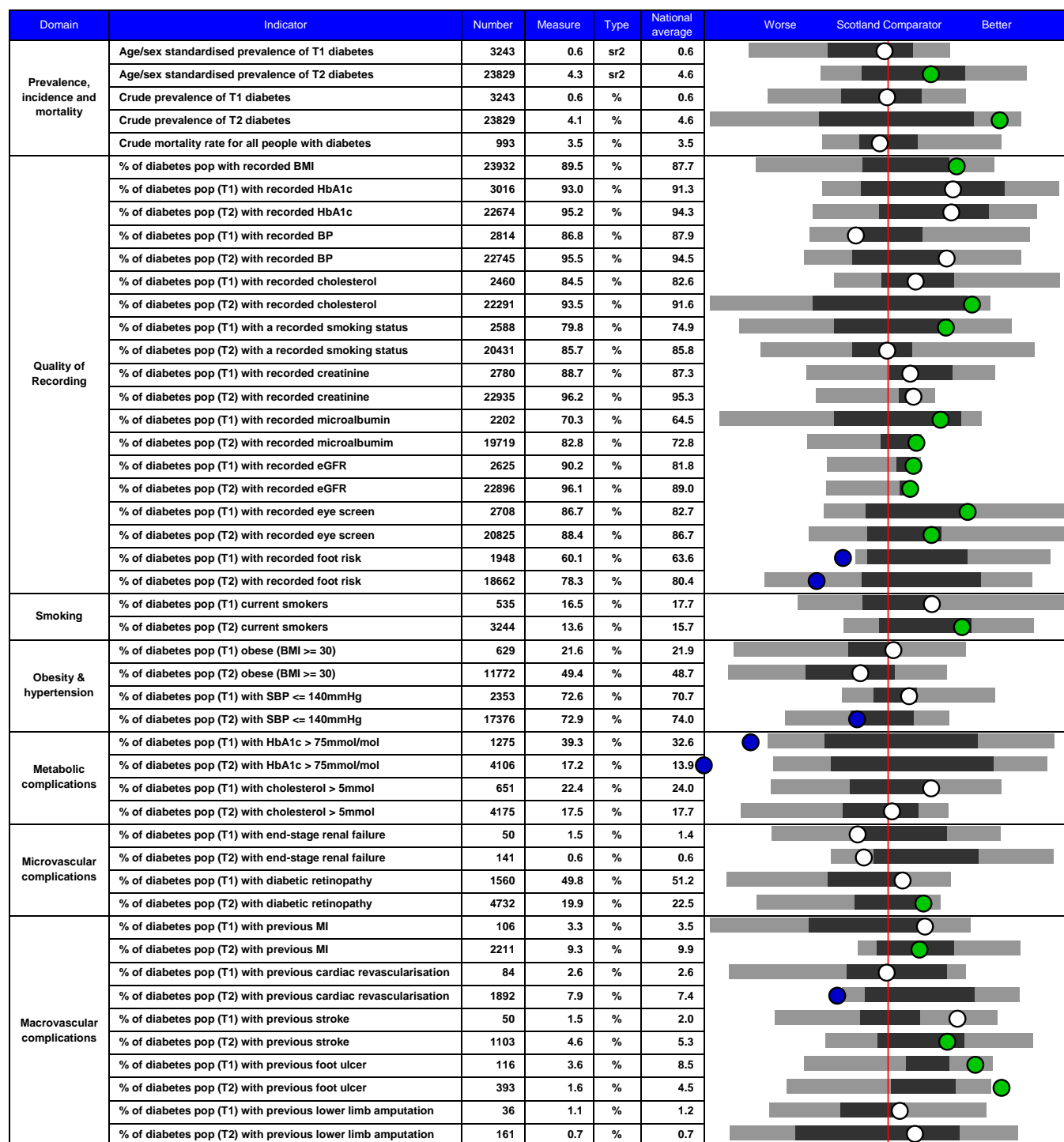


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

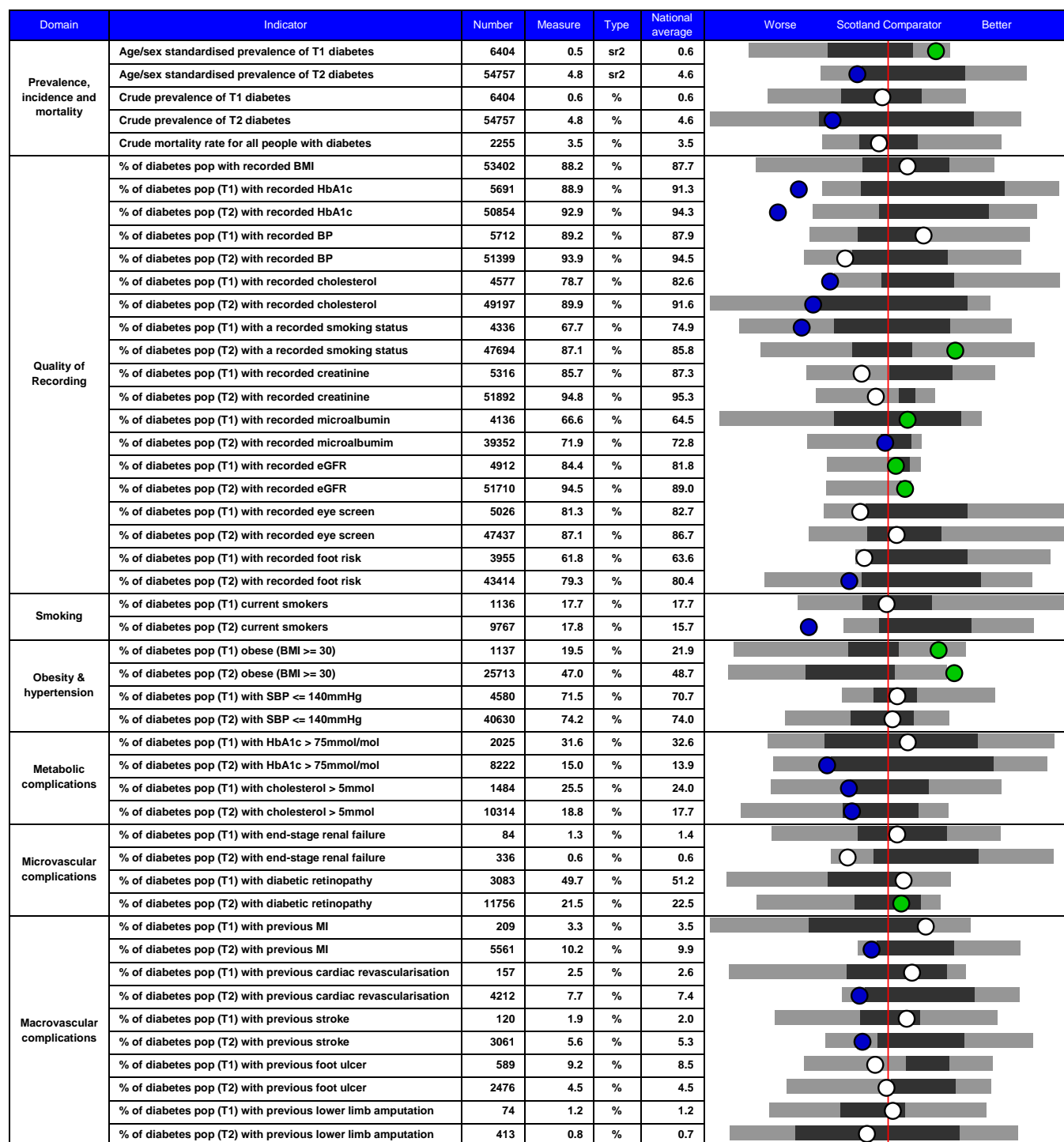


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

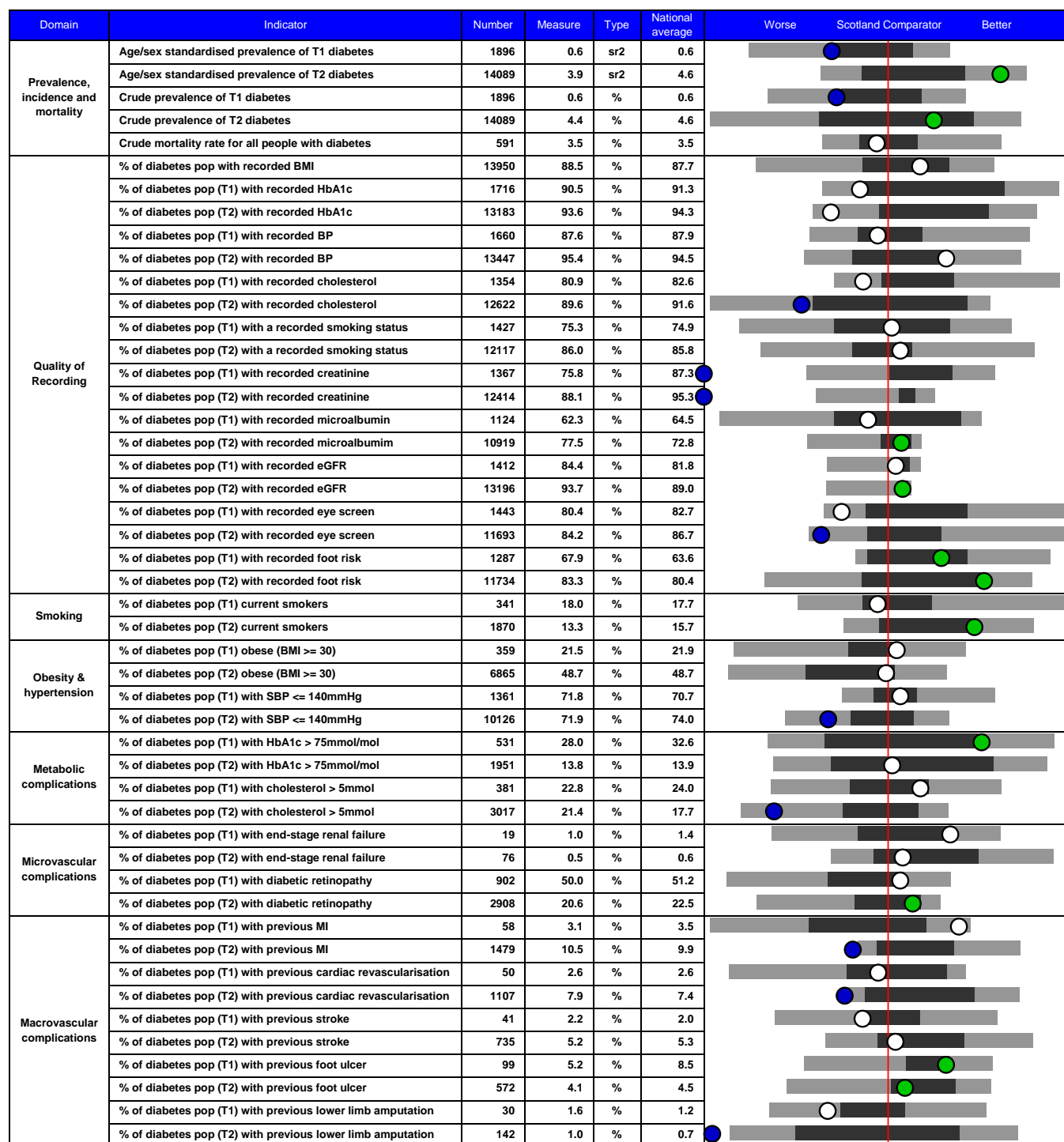


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

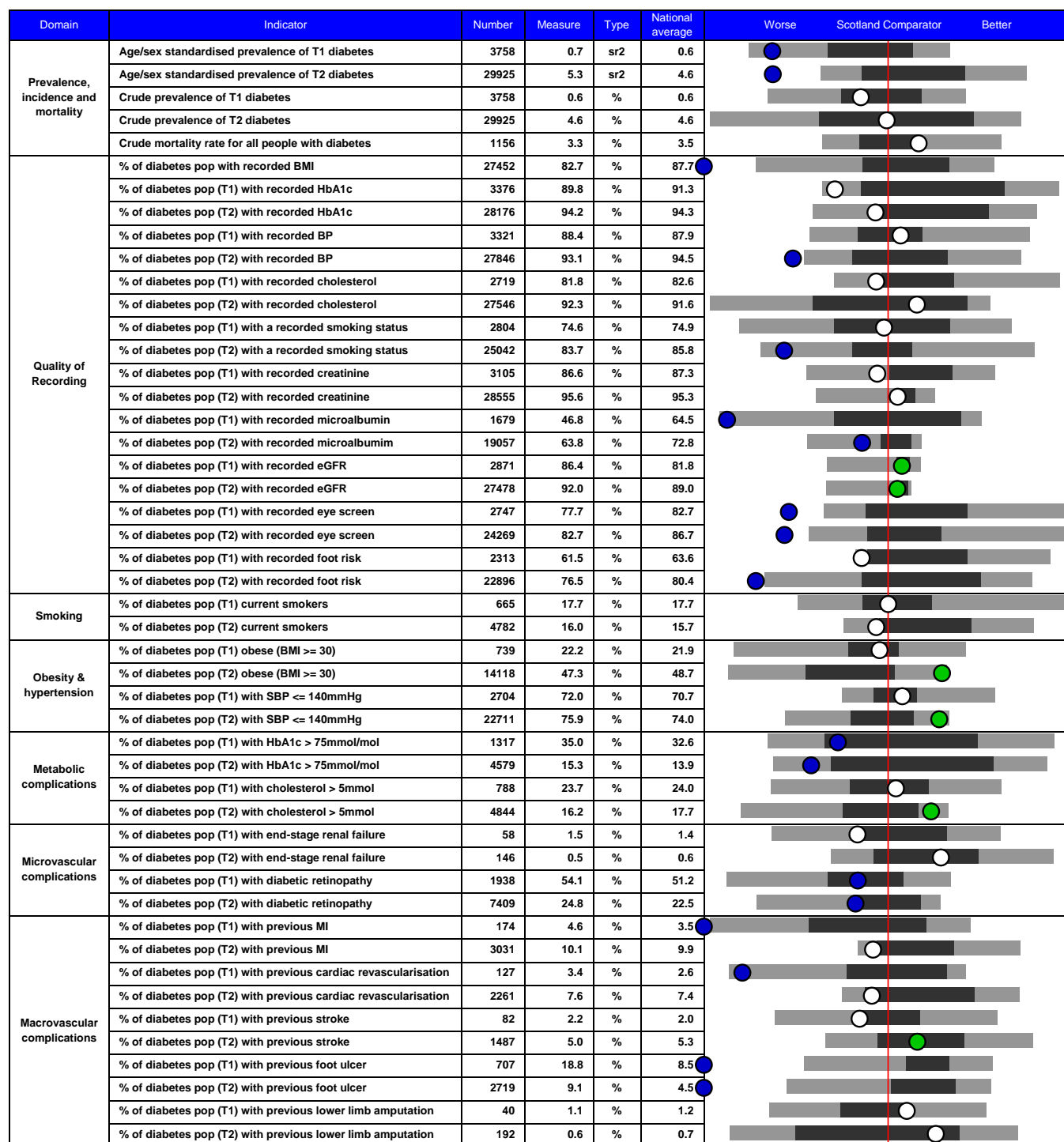


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014



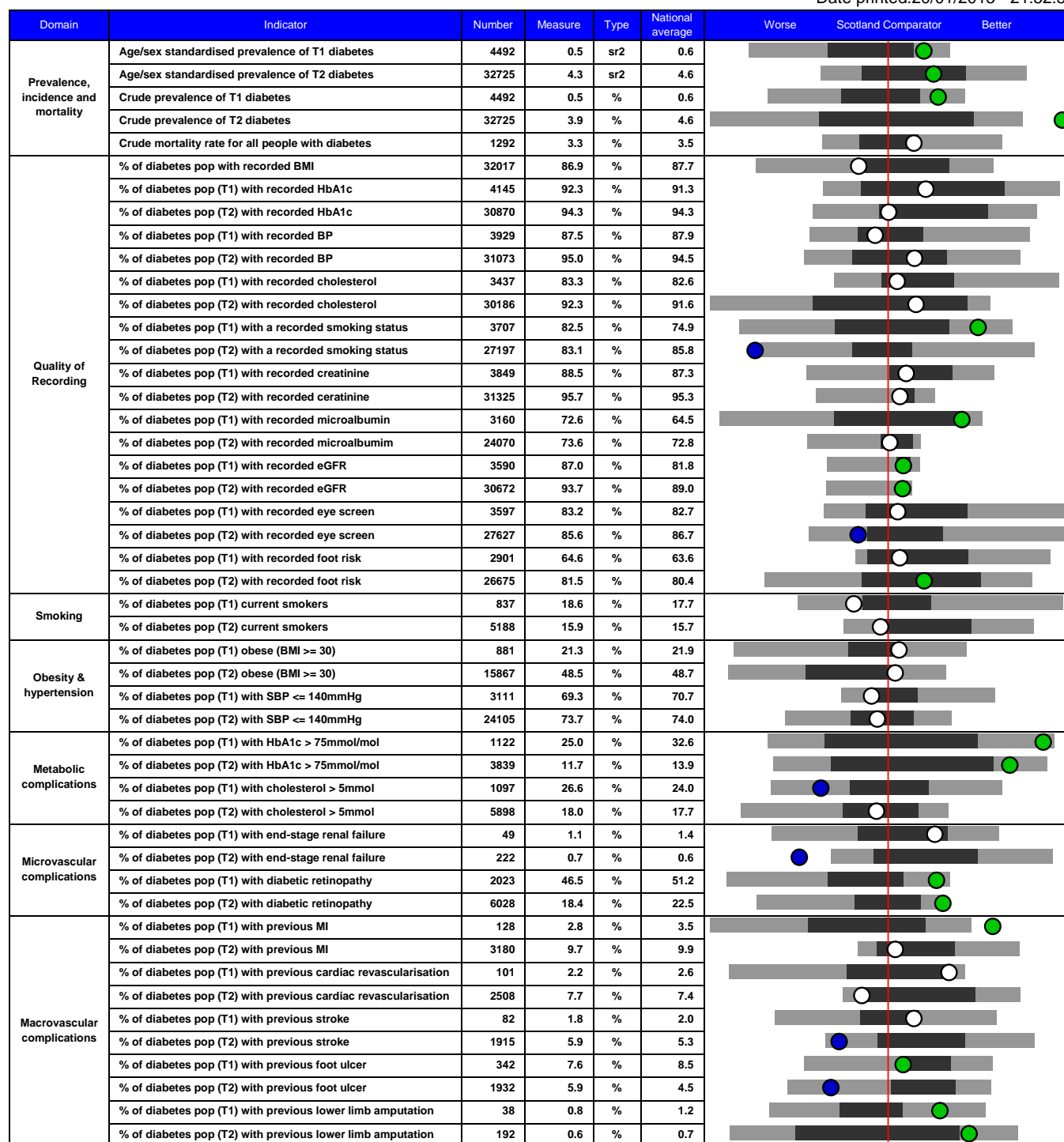
Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

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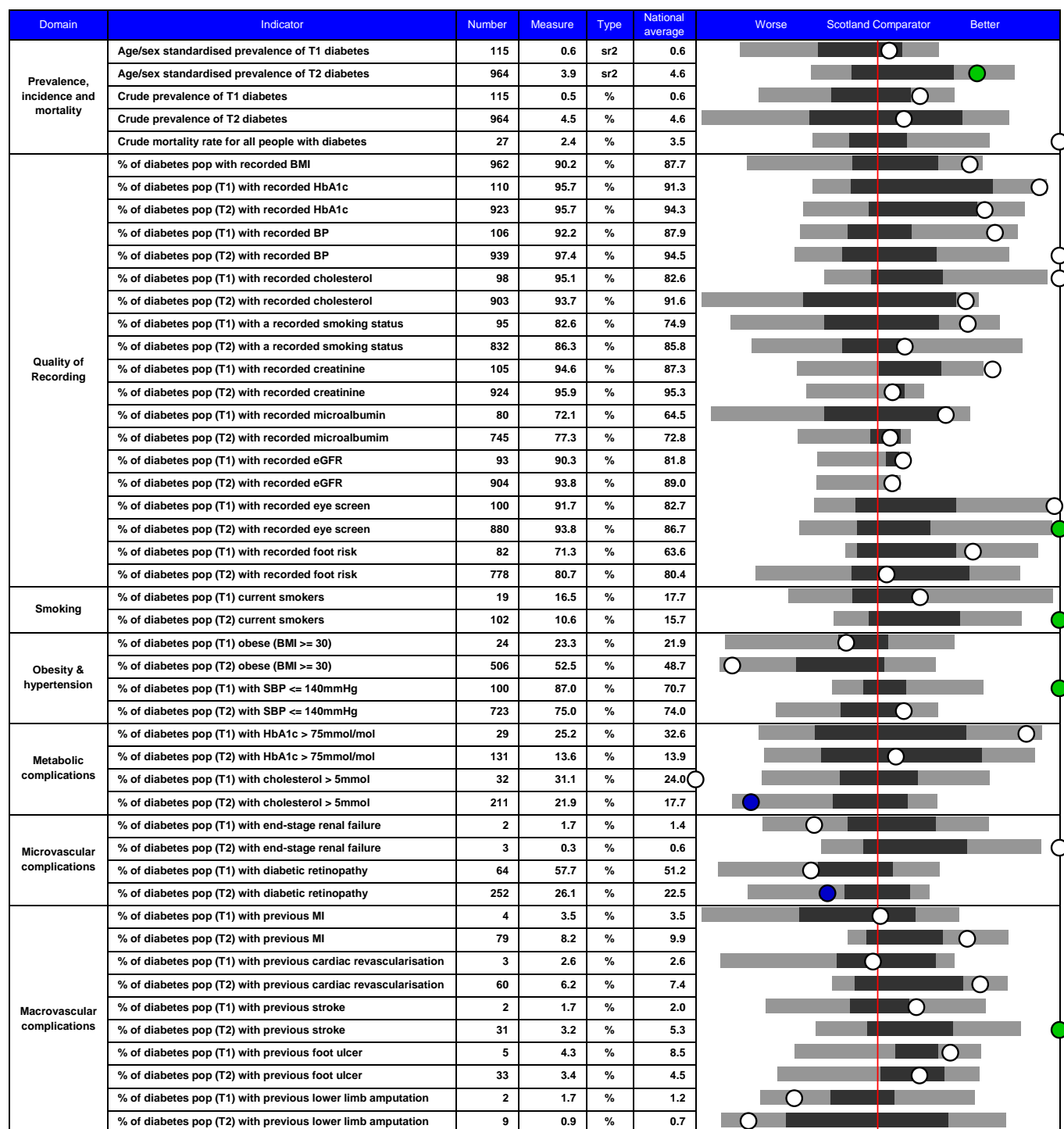


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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

'Worse' Area ← Scotland Average → 'Better' Area
5th percentile 25th percentile 75th percentile 95th percentile

Diabetes Health Board Spine Chart (Orkney) 2014

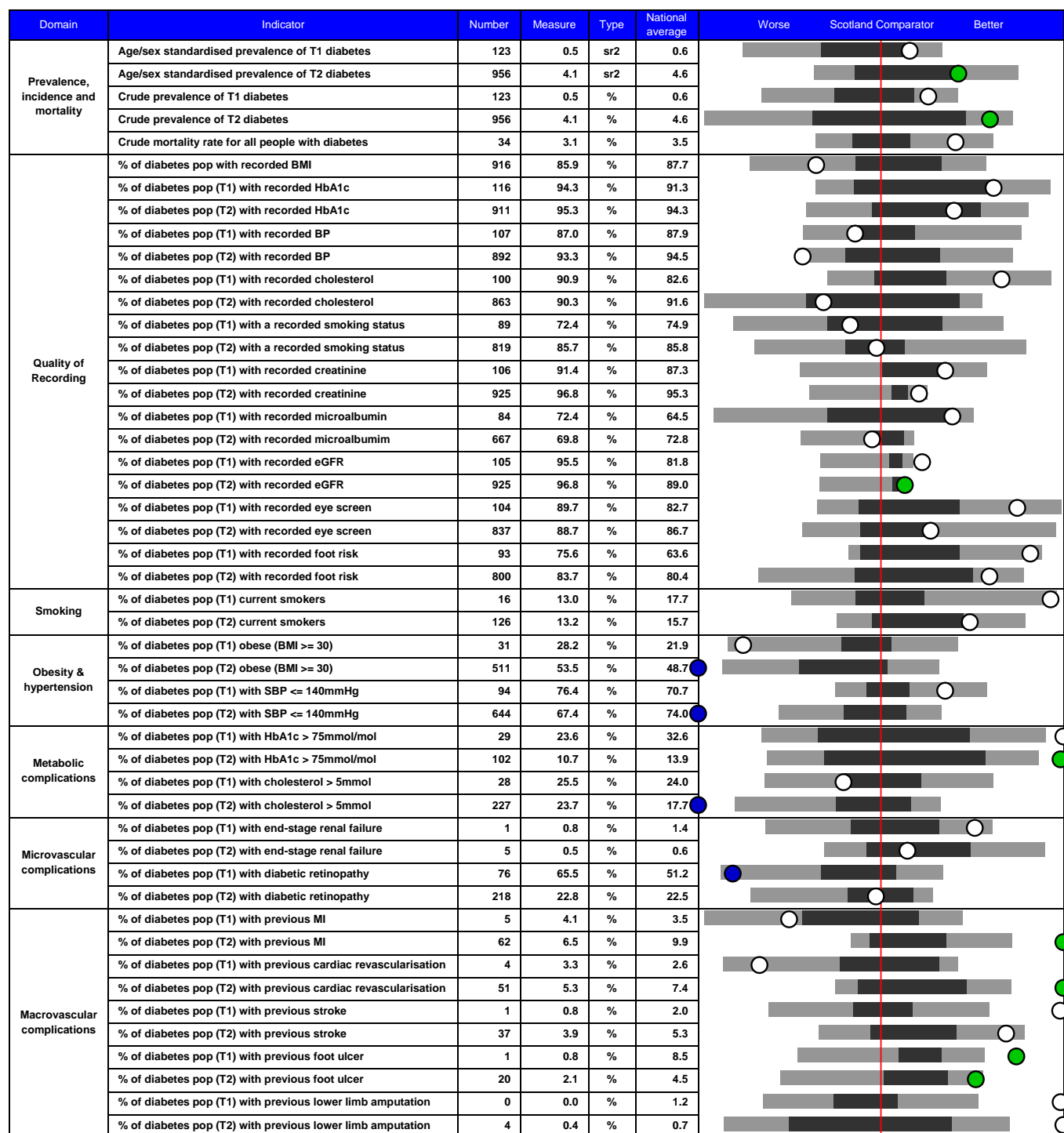


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

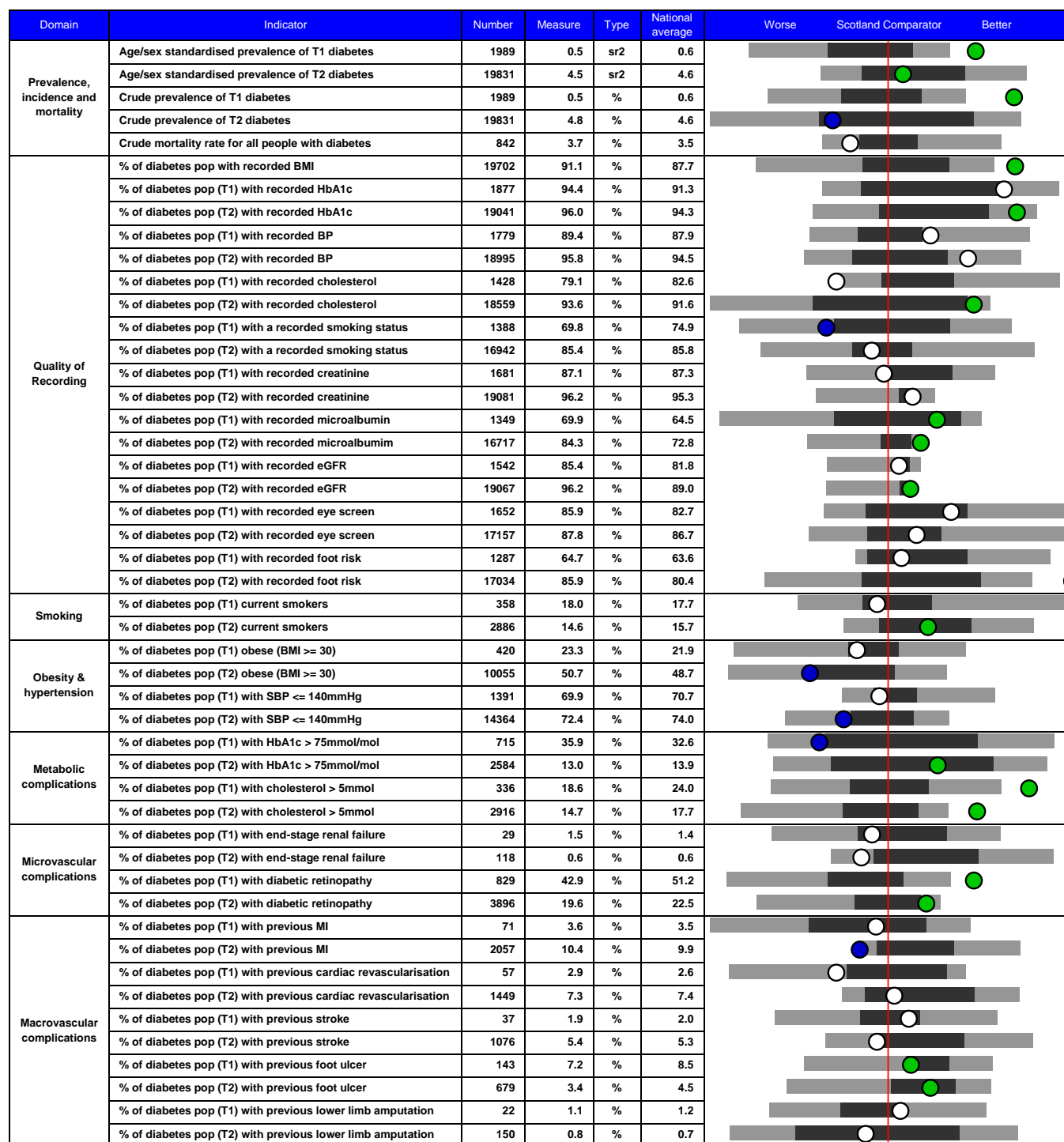


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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) 2014

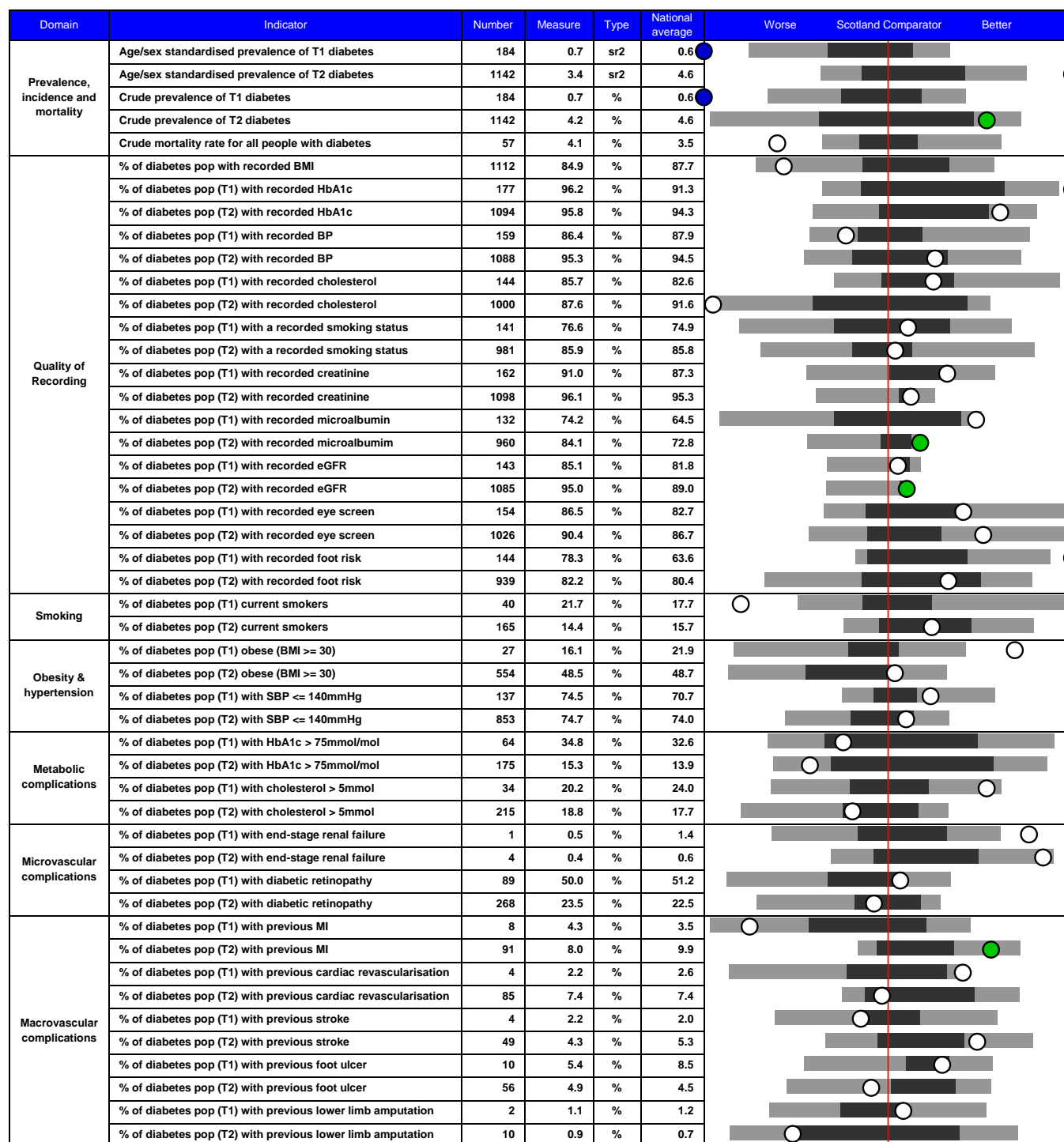


Spine chart key: % percent
sr2=age-sex standardised rate per 100 population

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

'Worse' Area ← Scotland Average → 'Better' Area
 5th percentile 25th percentile 75th percentile 95th percentile

Diabetes Health Board Spine Chart (Western Isles) 2014



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