



Scottish Diabetes Survey 2011

**Scottish Diabetes Survey
Monitoring Group**

Foreword

The Scottish Diabetes Survey 2011 data reflects many aspects of the quality of diabetes care across the whole of Scotland.

The information in this Survey is a powerful tool for the diabetes community. The diabetes Managed Clinical Network in each NHS Board in particular, will find it useful in helping identify what is needed to further improve the quality of diabetes care.

Research is also a key aspect of informing high quality diabetes care. The data collected will continue to be used for epidemiological research providing useful information to help develop and plan services and improve outcomes for people living with diabetes across Scotland. For example, we now know that we spend around £ 301 million each year in Scotland providing inpatient diabetes care. This has encouraged a focus on preventing admission and improving care for those admitted.

The quality and the completeness of the data included within the survey is the highest it has ever been. Most of the data contained in the Survey is extracted from our national award-winning diabetes IT system SCI-DC. Data on SCI-DC can also be viewed by GP practices and hospitals and now, through our “My Diabetes My Way” website, people who have registered can review their own data to support them self manage their diabetes.

This year, the Survey includes charts that will enable each NHS Board to quickly review their information in comparison to others. As in previous years, the Survey shows an ongoing increase in the prevalence of diabetes, however the Survey also illustrates some significant improvements in diabetes care:

- More people than ever before are having their foot risk recorded and are accessing retinopathy screening.
- There is an increase in the percentage of people with type 1 and type 2 diabetes with good blood pressure.
- There has been a decrease in the percentage of people with diabetes having ever smoked.
- The recording of ethnicity is now more complete, which is important given that some minority ethnic communities are more at risk of developing diabetes.

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

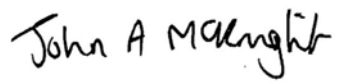
- The number of people with diabetes continues to increase by around 10,000 each year, presenting greater organisational and resource pressures.
- The Survey notes that 37.3% of people with type 1 diabetes have poor glycaemic control.
- While the overall screening for retinopathy and foot disease has improved, screening for retinopathy and foot disease is better for people with type 2 diabetes, than for people with type 1 diabetes. One in five people with type 1 diabetes do not have a record of eye screening within the last 15 months.
- There remains 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 diabetes Managed Clinical Networks where appropriate.

We also wish to encourage further reflection on the information provided in the Survey and are actively seeking comparisons with similar information from other European countries to share learning and improve understanding.

The Survey will also assist the Scottish Diabetes Group to drive progress with the Scottish Diabetes Action 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 safe and effective and person centred care.

A handwritten signature in black ink that reads "John A McKnight". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

John A McKnight
Chairman
Scottish Diabetes Survey Monitoring Group

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Executive Summary

This report presents the results of the 2011 Scottish Diabetes Survey. The survey¹ collates data 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 2011, we report that:

- There were 247,278 people diagnosed with diabetes in Scotland recorded on local diabetes registers at the start of 2011. This represents 4.7% of the population (compared to 4.6% in England²) and is more than the total population of some of the health boards in Scotland;
- Crude prevalence of diabetes ranged from 4.07% to 5.50% across NHS Boards (table 3);
- 88% (217,514) of all people registered with diabetes had type 2 diabetes (table 13);
- 11.4% of all registered people had type 1 diabetes. The number of people registered with type 1 diabetes increased from 26,294 in 2006 to 28,272;
- 0.6% (1,492) were recorded as having “other” types of diabetes, including maturity onset diabetes of the young (MODY) and those with unknown diabetes type (table 13);
- 36.6% of patients with a recorded BMI and type 1 diabetes and 31.7% of those with a recorded BMI and type 2 diabetes were overweight (BMI 25-30), while 24.5% of those with type 1 and 55.4% of those with type 2 were obese (BMI 30 or above, tables 18 and 19);
- 86.0% (type 1) and 91.8% (type 2) had an HbA_{1c} recorded in the previous 15 months. Of these, 22.0% and 62.1% had a result < 58mmol/mol (7.5%), the target reported in previous surveys (tables 20, 22 and 23) - the figure for all types of diabetes in England was 64.9%²;
- 85.5% of those with type 1 and 94.1% of those with type 2 diabetes had their blood pressure recorded in the previous 15 months. Of these, 46.5% and 31.7% respectively had a systolic BP measurement of ≤ 130/80 mmHg (tables 29, 32 and 34); in England 36.4 % of patients² had blood pressure control within broadly similar targets;
- Cholesterol was recorded in 89.2% of patients within the previous 15 months, and the target of ≤5 mmol/l was achieved in 70.8% of those with type 1 and 80.7% of those with type 2 diabetes (tables 38, 39 and 40) compared to 77.6% in England²;
- 25.1% (type 1) and 18.5% (type 2) were current smokers (tables 43 and 44);
- 1,067 (3.8%) of those with type 1 and 22,204 (10.2%) of those with type 2 diabetes have had a myocardial infarction and survived, and 2.6% and 7.1% respectively have undergone cardiac revascularisation (tables 46 and 48)
- 292 (1%) of those with type 1 and 1,009 (0.5%) of those with type 2 diabetes have been recorded as having end stage renal failure (table 57);
- 85.6% of people with diabetes had had eye screening in the previous 15 months (table 59);
- 1,847 (0.8%) people with diabetes were reported to be blind, though not all cases were due to diabetes (tables 64 and 65);
- 58.2% of patients with type 1 diabetes and 77.2% of those with type 2 had their foot pulses checked in the previous 15 months (table 66);
- 232 (0.8%) of those with type 1 and 1,127 (0.5%) of those with type 2 diabetes have had a lower limb amputation (table 70)

¹ Full details of the 2011 survey questions are available at <http://www.sci-diabetes.scot.nhs.uk/wp-content/uploads/2012/05/ScottishDiabetesSurvey2011GuidelinesFINAL.pdf>

² National Diabetes Audit 2010-2011 for England. Available at: http://www.ic.nhs.uk/webfiles/Services/NCASP/Diabetes/201011%20annual%20reports/National_Diabetes_Audit_2010_2011_Report1_Care_Processes_And_Treatment_Targets.pdf

SCI-DC Data Sources

SCI-DC Network 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 January 2012 is as follows:

- 1015 general practices across Scotland (EMIS, Vision, GPASS)
- 39 hospital diabetes clinics (SCI-DC Clinical)
- 7 regions linking to SCI Store (laboratory data)
- National Diabetic Retinopathy Screening (DRS) System (eye assessments and images)
- Community Health Index (master patient identifier)
- Direct web entry
- Patient administration form
- Clinical review form
- Foot risk assessment form
- Diabetes Specialist Nurse form
- Data validation system

Registration onto the system can be initiated via the primary and secondary care feeds, registration onto the DRS system, the patient administration form or the data validation system. As part of the DRS registration process, GP's are expected to review their SCI-DC lists periodically to ensure that all patients eligible for screening are included.

At present, SCI-DC are, via its National Implementation Group, encouraging those boards that have not yet activated their SCI Store link to do so to ensure the completeness of their laboratory data. Although transcribed versions of these data are received from practice and clinic systems, data accuracy and completeness cannot be guaranteed and so a SCI Store link is essential. The current SCI Store Implementation matrix is shown below.

Table 1. Progress towards links from SCI Store to SCI-DC.

Region	Implementation Requested	Status	Comments
Ayrshire and Arran	Yes	Live	
Borders	Yes	Region contacted with documentation	Have confirmed that they will proceed.
Dumfries and Galloway	No	n/a	Will discuss as part of the SCI-Diabetes implementation
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	n/a	GGC noted intention to implement.
Highland	Yes	n/a	
Lanarkshire	Yes	n/a	
Lothian	Yes	In Test	
Orkney	No	n/a	Will discuss as part of the SCI-Diabetes implementation
Shetland	Yes	Live	
Tayside	Yes	Live	
Western Isles	Yes	Live	

In addition to incoming feeds, SCI-DC data is also transferred to external systems

- National Diabetic Retinopathy Screening System (to maintain the call-recall system)
- My Diabetes My Way: Patient Access (patients accessing their own information)
- Back-Population of 700 GP systems (in support of a single-point of data entry). The implementation matrix for back-population is shown below:

Table 2. Progress towards back-population of GP systems from SCI-DC.

Region	01/01/2012	Total Practices	Percentage	Comments
Ayrshire & Arran	36	56	64%	
Borders	0	23	0%	
Dumfries & Galloway	23	34	68%	
Fife	48	58	83%	
Forth Valley	57	57	100%	
Glasgow	239	266	90%	
Grampian	51	82	62%	
Highland	7	102	7%	7 Highland Practices represented in a pilot. Wider rollout is awaiting assessment of pilot.
Lanarkshire	98	99	99%	
Lothian	61	126	48%	
Orkney	6	12	50%	
Tayside	65	68	96%	
Western Isles	8	10	80%	
Shetland	1	10	10%	
Total	700	1015	69%	

More information about SCI-DC is available at:

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

The full details of the questions and definitions used in data collection for the 2011 Scottish Diabetes Survey are available at:

<http://www.sci-diabetes.scot.nhs.uk/wp-content/uploads/2012/05/ScottishDiabetesSurvey2011GuidelinesFINAL.pdf>

Prevalence

At the beginning of 2012 there were 247,248 people with known diabetes in Scotland recorded on local diabetes registers, which represents a crude prevalence of 4.74% of the population. In the 2010 Scottish Diabetes Survey, 237,468 people (4.6%) 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 2 diabetes, related to rising levels of overweight and obesity
- 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 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

Variation between health 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.

Note that figures presented in this report may differ from those shown in the Scottish Diabetes Research Network (SDRN) Annual report for 2011 as the figures for the SDRN report are based on data which were correct at 31st October 2011, while the current report is based on data that relate to the end of the year.

Table 3. Crude and age-adjusted prevalence of diabetes (all types), 2011, Scotland, by NHS Board, ranked by age adjusted prevalence.

NHS Board	Population	Number on diabetes register at end of 2011	Crude prevalence	Age adjusted prevalence
Western Isles	26,190	1,241	4.74%	4.08%
Highland	310,830	14,365	4.62%	4.12%
Borders	112,870	5,493	4.87%	4.26%
Orkney	20,110	973	4.84%	4.32%
Shetland	22,400	999	4.46%	4.38%
Grampian	550,620	24,040	4.37%	4.43%
Lothian	836,711	34,024	4.07%	4.46%
Dumfries & Galloway	148,190	8,168	5.51%	4.63%
Tayside	402,641	20,066	4.98%	4.66%
Fife	364,945	18,192	4.98%	4.86%
Forth Valley	293,386	14,201	4.84%	4.88%
Greater Glasgow & Clyde	1,203,870	56,712	4.71%	5.01%
Ayrshire & Arran	366,860	20,175	5.50%	5.06%
Lanarkshire	562,477	28,629	5.09%	5.20%
Scotland	5,222,100	247,278	4.74%	

Age adjusted prevalence based on direct age/sex standardisation using 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 2011 survey uses diabetes data from 2011 but population estimates from 2010. 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.

For example, the Dumfries & Galloway prevalence is nearly 14.5% above the Scottish average. But if we were to adjust that for the age of the population, the Dumfries & Galloway prevalence would actually be lower than the Scottish average (as shown in figure 2). Other reasons for differences in observed prevalence were given at the start of this section.

Figure 1 Crude diabetes prevalence (all types) by NHS Health Board, Scotland, 2011. Vertical capped lines show 95% confidence intervals.

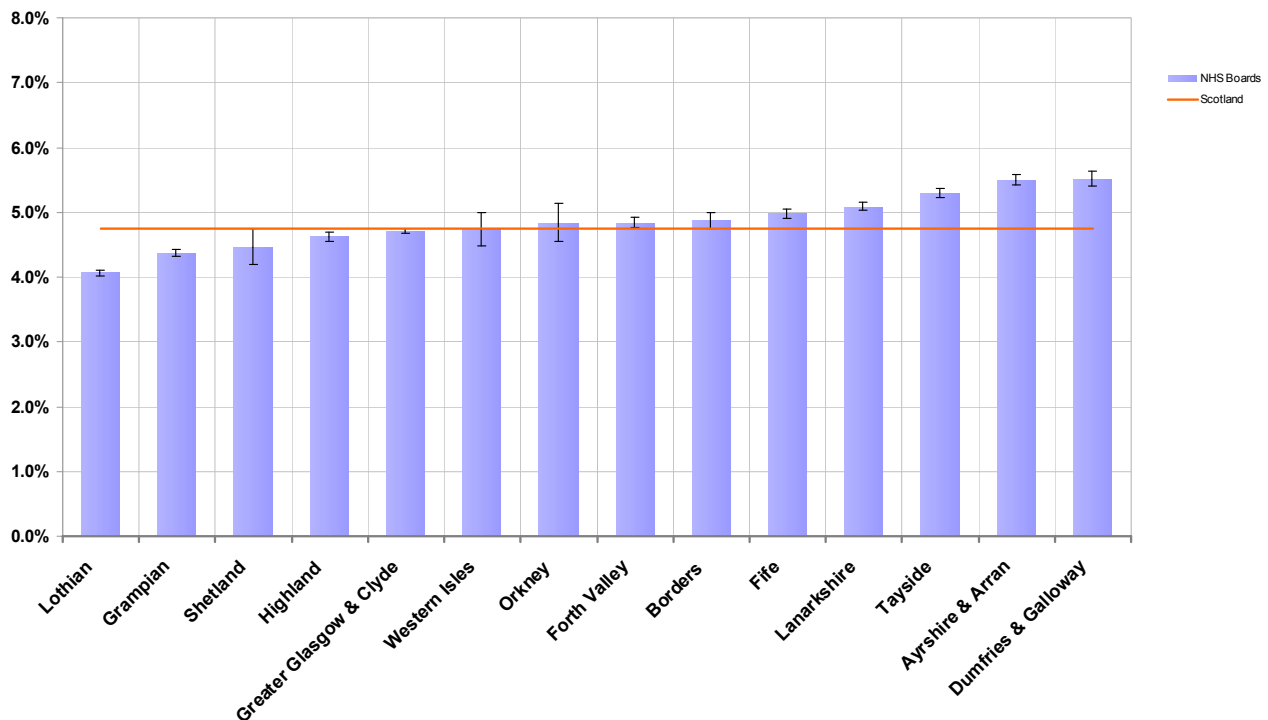


Figure 2 Age-adjusted diabetes prevalence (all types) by NHS Health Board, Scotland, 2011, ranked by prevalence. Vertical capped lines show 95% confidence intervals.

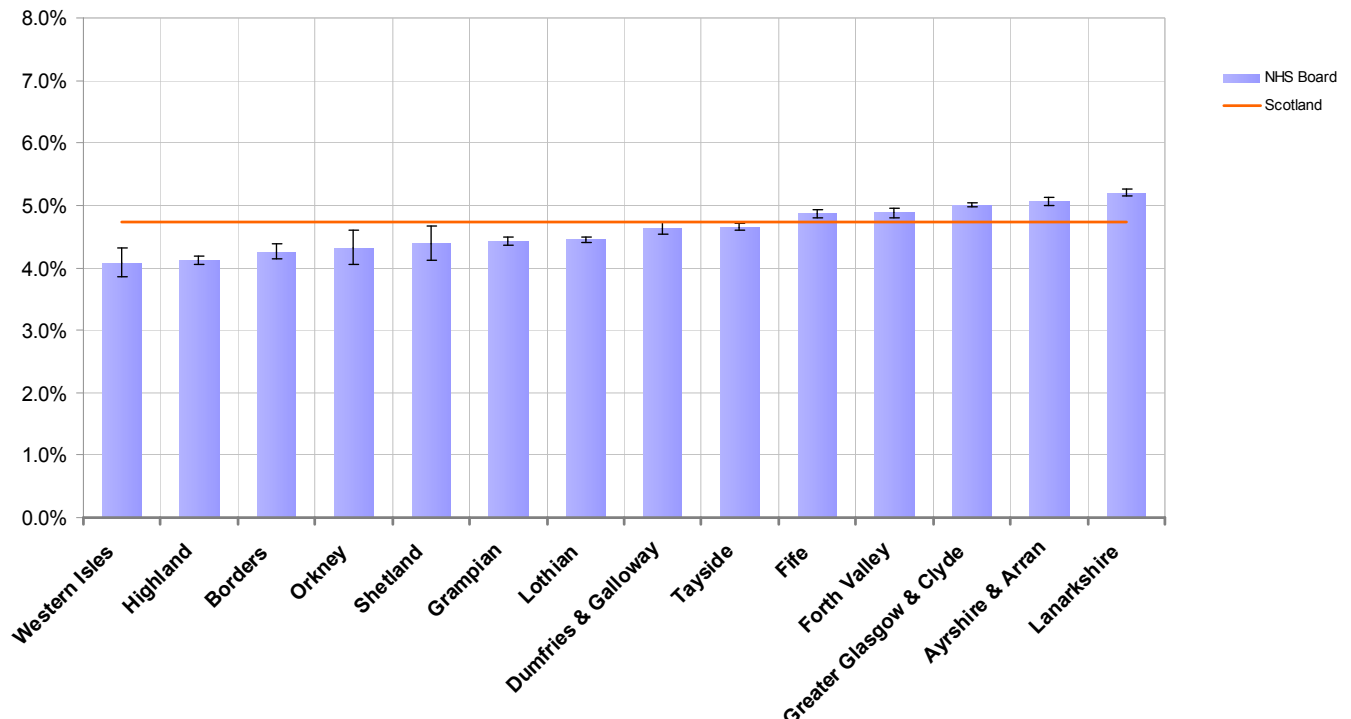


Figure 3 Number of people with all types of diabetes in each NHS Health Board in 2011.

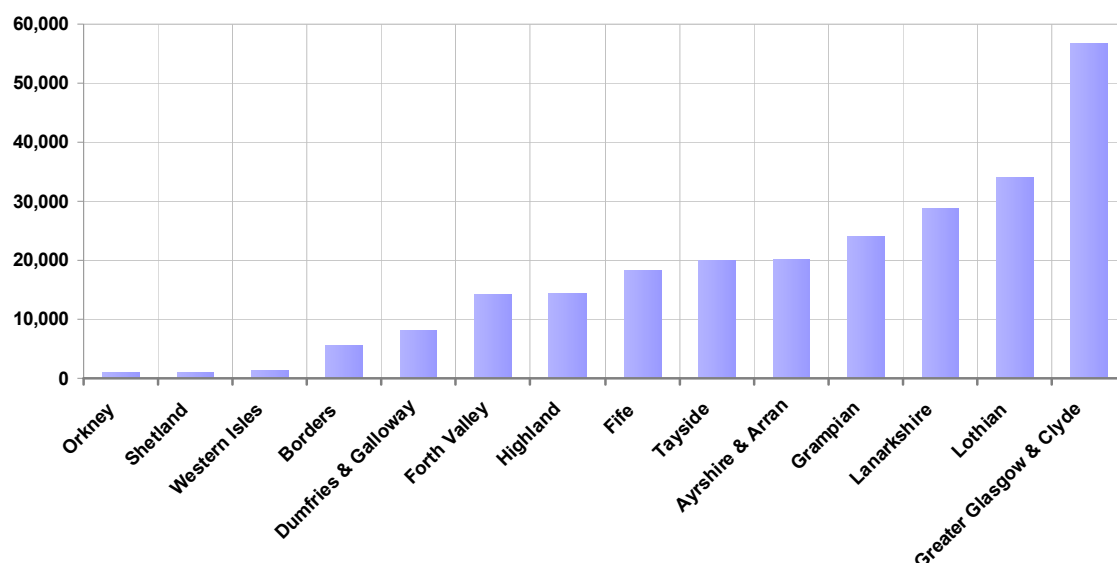


Figure 4 Number of people recorded with diabetes (all types), Scotland 2001 – 2011.

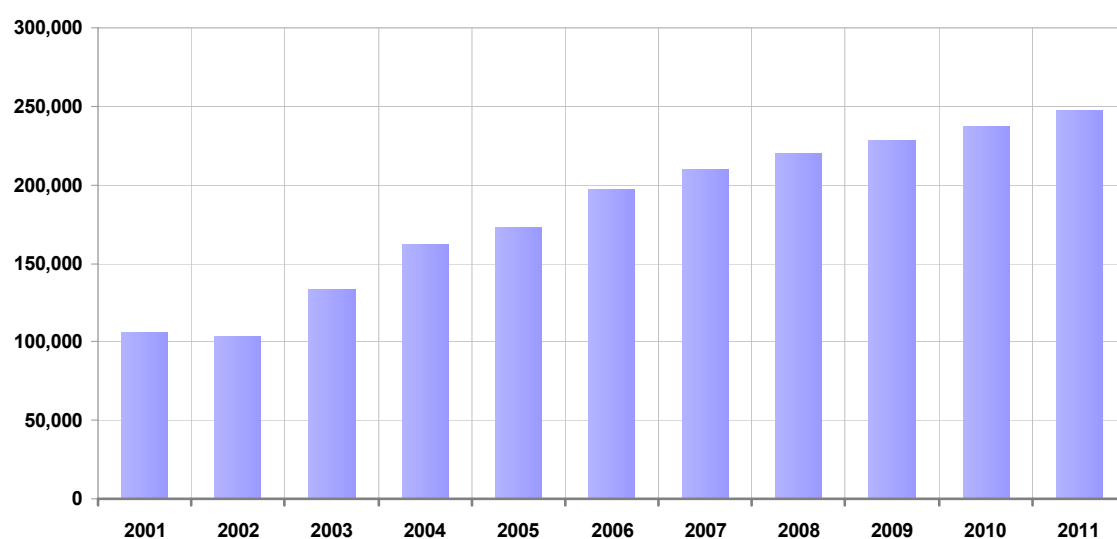


Table 4. Number of people with diabetes (all types) included in Scottish Diabetes Surveys 2007 – 2011

Survey	Diabetes register	Crude prevalence	Increase	(%) Increase	Absolute increase
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%

Note: SCI-DC achieved complete coverage of Health Board areas in 2006.

Between 2001 and 2006, the increase in numbers was partly due to improved recording as SCI-DC was being implemented. The increase observed since 2007 is more likely to reflect a real increase in numbers.

Table 5. Number of new cases and incidence (per 100,000 population per year) of Type 1 diabetes by age, Scotland 2008-2011.

Age	2008		2009		2010		2011		
	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
<10	133	24	148	27	145	26	563,578	166	29
10-19	264	42	258	41	268	43	611,694	244	40
20-29	159	24	168	24	177	25	711,906	205	29
30-39	140	21	145	22	127	20	646,100	129	20
40-49	130	16	92	12	93	12	791,643	114	14
50-59	57	8	71	11	69	10	690,198	63	9
60-69	52	10	44	8	50	9	582,260	37	6
≥70	23	4	28	5	29	5	624,721	15	2
Total	958	19	954	18	958	18	5,222,100	973	19

Note that these are crude incidence figures that have been calculated retrospectively using SCI-DC data and therefore may be slightly affected by factors such as post-survey patient migration and on-going validation of diabetes classification. See also the footnote on population estimates at Table 1.

Table 6. Number of new cases and incidence (per 100,000 population per year) of Type 2 diabetes by age, Scotland 2008-2011.

Age	2008		2009		2010		2011		
	Cases	Rate	Cases	Rate	Cases	Rate	Population	Cases	Rate
<10	0	0	2	0	0	0	563,578	0	0
10-19	21	3	22	4	18	3	611,694	10	2
20-29	163	24	164	24	166	24	711,906	163	23
30-39	865	127	797	120	755	116	646,100	730	113
40-49	2,451	310	2,667	335	2,555	321	791,643	2,552	322
50-59	4,235	628	4,411	653	4,287	629	690,198	4,106	595
60-69	4,998	917	5,286	944	4,870	851	582,260	4,741	814
≥70	5,255	874	5,278	867	4,925	799	624,721	4,667	747
Total	17,988	350	18,627	360	17,576	338	5,222,100	16,969	325

Please note that these are crude incidence figures that have been calculated retrospectively using SCI-DC data and therefore may be slightly affected by factors such as post-survey patient migration and on-going validation of diabetes classification. See also the footnote on population estimates at Table 1.

Table 7. Number of new cases of type 1 diabetes and crude incidence rate for all ages (cases per 100,000 population per year) by NHS Board, 2008-2011, ranked by rate in 2011.

NHS Board	2008		2009		2010		2011	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Western Isles	5	19	4	15	6	23	3	11
Dumfries & Galloway	24	16	29	20	26	18	20	13
Shetland	4	18	5	23	6	27	3	13
Tayside	75	19	57	14	71	18	58	14
Borders	19	17	16	14	20	18	17	15
Lothian	144	18	136	17	155	19	136	16
Greater Glasgow & Clyde	209	18	218	18	205	17	221	18
Ayrshire & Arran	72	20	70	19	69	19	68	19
Lanarkshire	108	19	127	23	103	18	110	20
Grampian	103	19	115	21	123	23	117	21
Forth Valley	62	22	50	17	64	22	61	21
Fife	61	17	56	16	53	15	80	22
Highland	66	21	69	22	53	17	74	24
Orkney	6	30	2	10	4	20	5	25
Scotland	958	19	954	18	958	18	973	19

Please note that these are crude incidence figures that have been calculated retrospectively using SCI-DC data and therefore may be slightly affected by factors such as post-survey patient migration and on-going validation of diabetes classification. See also the footnote on population estimates at Table 1.

Table 8. Number of new cases of type 2 diabetes and crude incidence rate for all ages (cases per 100,000 population per year) by NHS Board, 2008-2011, ranked by rate in 2011.

NHS Board	2008		2009		2010		2011	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Lothian	2,278	281	2,211	270	1,988	241	2191	262
Western Isles	86	327	96	366	101	386	71	271
Grampian	1,796	336	2,063	382	1,721	316	1596	290
Forth Valley	953	330	970	334	973	334	876	299
Greater Glasgow & Clyde	4,154	348	4,039	338	3,952	330	3,801	316
Highland	1,075	348	1,136	367	1,122	361	1010	325
Fife	1,307	363	1,315	363	1,296	357	1235	338
Borders	428	384	411	366	428	380	384	340
Lanarkshire	2,076	371	2,302	410	2,081	370	1,976	351
Shetland	63	287	74	337	75	338	82	366
Tayside	1,499	380	1,614	407	1,670	418	1,544	383
Dumfries & Galloway	561	378	669	450	589	397	573	387
Ayrshire & Arran	1,635	446	1,660	452	1,521	414	1,545	421
Orkney	77	388	67	337	59	296	85	423
Scotland	17,988	350	18,627	360	17,576	338	16,969	325

Please note that these are crude incidence figures that have been calculated retrospectively using SCI-DC data and therefore may be slightly affected by factors such as post-survey patient migration and on-going validation of diabetes classification. See also the footnote on population estimates at Table 1.

Undiagnosed diabetes

Type 2 diabetes develops gradually and those affected may have no symptoms resulting in undiagnosed type 2 diabetes. The Association of Public Health Observatories (APHO) diabetes prevalence model estimates the proportion of people with undiagnosed diabetes for each health board area (table 9). The estimate is produced by extrapolating numbers of cases from population surveys. As these estimates cannot take account of all relevant factors they should be treated with caution as rough indications of the numbers with undiagnosed diabetes. The diagnosis of diabetes is largely based on levels of blood glucose or HbA_{1c} and the criteria used for diagnosis obviously affect the number of cases which are diagnosed or undiagnosed – stricter criteria mean fewer undiagnosed cases while broader criteria increase the numbers. Definitions based on glucose or HbA_{1c} produce different estimates. Note that the figures given here are higher than those given in the 2010 report because the earlier report used the PBS estimation model. More details are at:

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

Table 9. Estimated percentage of total population with undiagnosed diabetes, by NHS Board, 2010, based on APHO prevalence model.

NHS Board	Estimated % of population undiagnosed
Fife	0.7%
Forth Valley	0.7%
Grampian	0.8%
Lanarkshire	0.8%
Ayrshire & Arran	0.9%
Greater Glasgow & Clyde	0.9%
Lothian	0.9%
Tayside	0.9%
Borders	1.0%
Orkney	1.3%
Dumfries & Galloway	1.6%
Highland	1.9%
Shetland	1.9%
Western Isles	2.7%
Scotland	0.9%

Duration of Diabetes

The date of diagnosis was recorded for 99.8% of patients, of which 6.8% have had diabetes for less than one year and 9.3% have had diabetes for 20 years or more.

Table 10 Duration of diabetes (years since diagnosis) by type of diabetes, Scotland, 2011.

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	875	3.1%	15,799	7.3%	16,674	6.8%
1-4	3,618	12.8%	66,312	30.5%	69,930	28.5%
5-9	4,500	16.0%	67,699	31.2%	72,199	29.4%
10-14	4,399	15.6%	39,080	18.0%	43,479	17.7%
15-19	3,739	13.3%	16,467	7.6%	20,206	8.2%
20-24	3,069	10.9%	7,054	3.3%	10,123	4.1%
25-29	2,422	8.6%	2,811	1.3%	5,233	2.1%
30-34	2,053	7.3%	969	0.5%	3,022	1.2%
35-39	1,430	5.1%	405	0.2%	1,835	0.8%
40-44	964	3.4%	212	0.1%	1,176	0.5%
45-49	585	2.1%	107	0.1%	692	0.3%
≥50	540	1.9%	208	0.1%	748	0.3%
Total	28,194	100.0%	217,123	100.0%	245,317	100.0%

Note: Excludes patients where date of diagnosis not known (Type 1 = 78; Type 2 = 391)

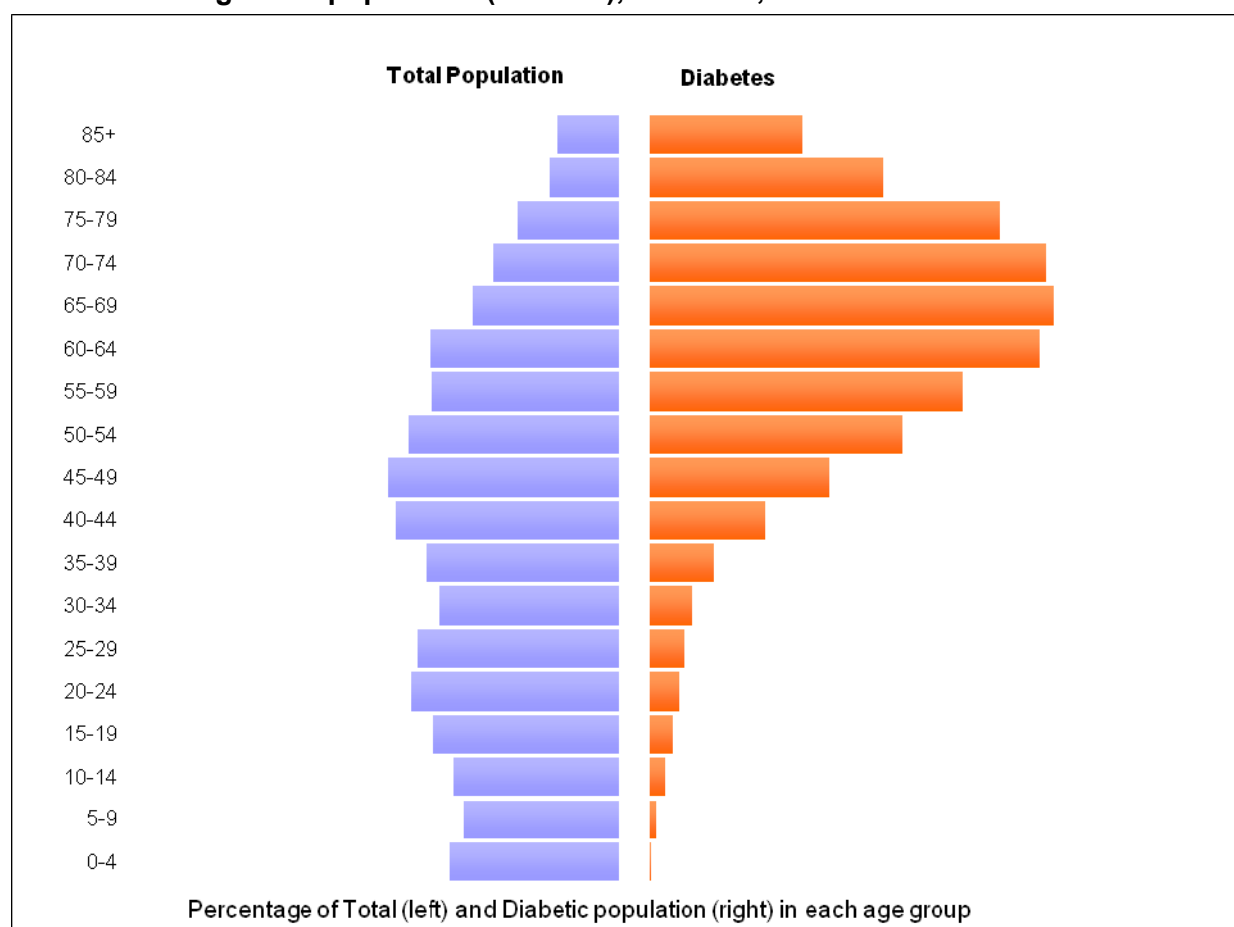
Sex

A greater proportion of those with diagnosed diabetes are men; 56.1% compared with 43.9% in those with type 1 diabetes and 55% compared with 45% in those with type 2 diabetes. This ratio is relatively unchanged from 2001.

Age

Type 2 diabetes is more common in older people; 125,625 (51.1%) of all the people reported in the survey are aged 65 years or older. Figure 5 shows the age distribution of people with diabetes compared with that of the general population; note that this figure reflects the older age pattern of people with type 2 diabetes as these form the majority of the diabetes 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. Age distribution of people recorded with diabetes (right side) compared with age distribution of general population (left side), Scotland, 2011.



Note: the graph shows the percentage of the total population who are in each band (left half) and the percentage of the total population with diabetes who are in each band (right half).

Table 11. 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		
	No.	%	cum. %	No.	%	cum. %
0-4	103	0.4%	0.4%	1	0.0%	0.0%
5-9	495	1.8%	2.1%	4	0.0%	0.0%
10-14	1,233	4.4%	6.5%	8	0.0%	0.0%
15-19	1,866	6.6%	13.1%	48	0.0%	0.0%
20-24	2,184	7.7%	20.8%	219	0.1%	0.1%
25-29	2,228	7.9%	28.7%	575	0.3%	0.4%
30-34	2,165	7.7%	36.3%	1,387	0.6%	1.0%
35-39	2,466	8.7%	45.1%	2,845	1.3%	2.3%
40-44	2,945	10.4%	55.5%	6,504	3.0%	5.3%
45-49	2,939	10.4%	65.9%	11,786	5.4%	10.7%
50-54	2,677	9.5%	75.3%	17,977	8.3%	19.0%
55-59	2,063	7.3%	82.6%	23,592	10.8%	29.9%
60-64	1,630	5.8%	88.4%	30,221	13.9%	43.8%
65-69	1,238	4.4%	92.8%	31,758	14.6%	58.4%
70-74	876	3.1%	95.9%	31,492	14.5%	72.8%
75-79	673	2.4%	98.3%	28,008	12.9%	85.7%
80-84	346	1.2%	99.5%	18,770	8.6%	94.3%
≥85	145	0.5%	100.0%	12,319	5.7%	100.0%
Scotland	28,272	100.0%	100.0%	217,514	100.0%	100.0%

Mortality

Table 12. The percentage of the diabetes population (all diabetes types) who have died within the last year, by NHS Board, Scotland 2011, ranked by mortality.

NHS Board	Deaths	
	Total	% of population
Western Isles	37	2.90%
Ayrshire & Arran	644	3.09%
Lanarkshire	995	3.36%
Forth Valley	495	3.37%
Lothian	1,203	3.41%
Dumfries & Galloway	292	3.45%
Greater Glasgow & Clyde	2,078	3.53%
Grampian	895	3.59%
Fife	710	3.76%
Highland	569	3.81%
Tayside	807	3.87%
Orkney	40	3.95%
Borders	228	3.99%
Shetland	42	4.03%
Scotland	9,035	3.52%

*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 (217,514 or 88%). The proportion of people with diabetes who have type 1 diabetes has fallen from 18.2% in 2002 to 11.4% in 2011, probably largely due to relatively 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; 28,272 in 2011). This reflects the rising incidence of type 1 diabetes in children 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. An appendix to this report provides details about how diabetes type was determined in the SCI-DC data.

Figure 6 Type of diabetes

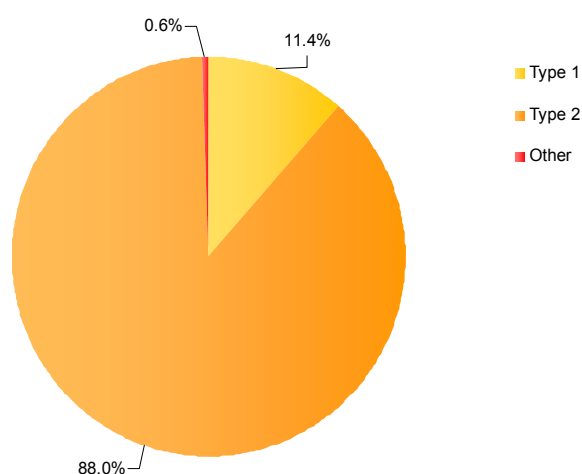


Table 13 Numbers of people with diabetes and percentage in each diabetes type, by NHS board, Scotland 2011, ranked by the percentage with type 2 diabetes.

NHS Board	Type 1		Type 2		Other types of diabetes	Total
Western Isles	182	14.7%	1058	85.3%	1	1,241
Highland	1,758	12.2%	12,479	86.9%	128	14,365
Grampian	3,053	12.7%	20,902	86.9%	85	24,040
Lothian	4,175	12.3%	29,551	86.9%	298	34,024
Shetland	124	12.4%	871	87.2%	4	999
Lanarkshire	3,513	12.3%	24,998	87.3%	118	28,629
Orkney	120	12.3%	853	87.7%	0	973
Borders	614	11.2%	4,846	88.2%	33	5,493
Forth Valley	1,606	11.3%	12,528	88.2%	67	14,201
Greater Glasgow and Clyde	6,180	10.9%	50,005	88.2%	527	56,712
Dumfries & Galloway	893	10.9%	7,236	88.6%	39	8,168
Ayrshire & Arran	2,221	11.0%	17,919	88.8%	35	20,175
Fife	1,969	10.8%	16,164	88.9%	59	18,192
Tayside	1,864	9.3%	18,104	90.2%	98	20,066
Scotland	28,272	11.4%	217,514	88.0%	1,492	247,278

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 77.5% of the registered diabetic population. The completeness of this information fell from 37% in 2002 to 24.4% in 2006, increased to 33.3% in 2007 and again to 69.59% in 2010. Type 2 diabetes is much more common in South Asian than White ethnic groups and tends to present at an earlier age.

Table 14. Completeness of recording of ethnic group by NHS board (type 1 and type 2 combined), Scotland, 2011, ranked by completeness.

NHS Board	Ethnic group identified	
	Number	Percentage
Greater Glasgow and Clyde	54,615	97.2%
Shetland	927	93.2%
Dumfries & Galloway	7,315	90.0%
Lanarkshire	25,007	87.7%
Western Isles	1068	86.1%
Forth Valley	12,102	85.6%
Highland	12,154	85.4%
Tayside	15,676	78.5%
Lothian	24,921	73.9%
Orkney	676	69.5%
Borders	3,653	66.9%
Grampian	14,567	60.8%
Fife	8,732	48.2%
Ayrshire & Arran	8,984	44.6%
Scotland	190,397	77.5%

Table 15. Completeness of recording of ethnic group, 2002-2011 (Type 1 and type 2 combined).

Year	Number identified	Percentage identified
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%

Body Mass Index

Body Mass Index (BMI) was recorded for 88.7% of patients with type 1 or type 2 diabetes in the previous 15 months. This is an increase from 82.0% recorded in 2010 but a slight decrease from the 89.7% recorded in 2009. Of the 88.7% with a record of BMI, 32.2% were overweight (BMI 25-29.9kg/m²) and 52.0% were obese (BMI 30kg/m² or over).

Despite type 2 diabetes being more prevalent in obese patients, 12.4% of those with type 2 diabetes had normal weight (BMI 18.5-24.9kg/m²) and 31.7% were overweight (BMI 25-29.9 kg/m²).

Table 16. Proportion of people with diabetes who had a record of BMI within the previous 15 months, by NHS Board and diabetes type, 2011, ranked by completeness for type 2.

NHS Board	Type 1 diabetes BMI percentage recorded	Type 2 diabetes BMI percentage recorded	Total recorded	Total not recorded
Orkney	89.6%	93.7%	902	66
Borders	91.7%	93.2%	5,056	378
Grampian	90.0%	92.6%	22,003	1,843
Tayside	87.7%	92.0%	18,230	1,669
Ayrshire & Arran	85.6%	91.6%	18,245	1,815
Lothian	91.7%	90.9%	30,554	3,055
Highland	84.3%	90.4%	12,708	1,463
Greater Glasgow & Clyde	87.9%	88.0%	49,098	6,874
Dumfries & Galloway	85.0%	87.9%	7,090	1,007
Shetland	94.1%	87.6%	875	115
Western Isles	86.4%	86.7%	1,070	165
Lanarkshire	77.8%	85.8%	24,067	4,300
Forth Valley	81.2%	85.4%	11,962	2,120
Fife	84.8%	83.8%	15,168	2,902
Scotland	86.4%	86.1%	217,028	27,772

Note: Excludes children under 12 years of age (n = 986)

Table 17. Proportion of people with diabetes (types 1 and 2 combined) with a record of BMI in the previous 15 months, Scotland 2001 – 2011.

Year	BMI recorded
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 children under 12 years of age (n = 986)

Table 18. Percentage of people with type 1 diabetes (and a record of BMI in the last 15 months) who are in each BMI category (by NHS board), 2011.

NHS Board	BMI						Total recorded	Not known
	<18.5	18.5- 24.9	25-29.9	30-34.9	35-39.9	≥40		
Shetland	0.9%	30.4%	36.6%	25.0%	6.3%	0.9%	112	7
Tayside	2.2%	37.2%	37.3%	17.3%	4.4%	1.6%	1,575	220
Fife	2.8%	34.2%	37.1%	17.8%	6.2%	1.9%	1,618	289
Highland	2.1%	33.7%	39.1%	18.2%	5.0%	1.9%	1,426	266
Lothian	2.7%	38.0%	36.1%	15.8%	5.3%	2.0%	3,722	336
Western Isles	2.0%	35.9%	37.9%	17.6%	4.6%	2.0%	153	24
Forth Valley	2.9%	38.1%	35.7%	15.8%	5.6%	2.1%	1,261	293
Greater Glasgow & Clyde	3.0%	37.8%	36.1%	16.2%	4.8%	2.1%	5,240	729
Grampian	2.3%	37.0%	38.2%	15.0%	5.2%	2.3%	2,649	295
Lanarkshire	3.0%	33.8%	34.8%	18.2%	7.3%	2.9%	2,622	748
Orkney	1.0%	39.8%	30.1%	17.5%	8.7%	2.9%	103	12
Dumfries & Galloway	2.7%	33.3%	36.3%	17.9%	6.8%	3.0%	733	129
Ayrshire & Arran	2.7%	35.5%	36.4%	16.4%	5.8%	3.2%	1,832	309
Borders	1.5%	28.9%	40.0%	16.7%	8.3%	4.6%	540	49
Scotland	2.6%	36.2%	36.6%	16.6%	5.6%	2.3%	23,586	3,706

Note: Excludes children under 12 years of age (n = 980)

Table 19. Proportion of people with type 2 diabetes who are in each BMI category (by NHS board), 2011.

NHS Board	BMI						Total recorded	Not known
	<18.5	18.5-24.9	25-29.9	30-34.9	35-39.9	≥40		
Grampian	0.5%	12.5%	32.3%	29.9%	15.2%	9.6%	19,354	1,548
Greater Glasgow & Clyde	0.7%	13.5%	32.8%	29.1%	14.3%	9.7%	43,858	6,145
Highland	0.4%	12.3%	32.1%	30.5%	15.1%	9.7%	11,282	1,197
Western Isles	3.2%	9.6%	29.8%	31.5%	15.9%	10.0%	917	141
Tayside	0.6%	12.4%	31.5%	29.9%	15.5%	10.1%	16,655	1,449
Dumfries & Galloway	0.6%	11.7%	32.7%	29.7%	15.1%	10.2%	6,357	878
Ayrshire & Arran	0.5%	12.9%	31.9%	29.3%	15.2%	10.3%	16,413	1,506
Lanarkshire	0.5%	12.0%	30.7%	30.2%	16.2%	10.3%	21,445	3,552
Borders	0.8%	12.0%	31.6%	30.0%	15.2%	10.4%	4,516	329
Lothian	0.7%	12.5%	30.8%	29.2%	16.1%	10.7%	26,832	2,719
Orkney	0.9%	7.1%	31.7%	33.3%	16.1%	10.9%	799	54
Forth Valley	0.5%	11.0%	31.1%	29.9%	15.8%	11.7%	10,701	1,827
Fife	0.5%	10.7%	30.2%	29.4%	16.8%	12.5%	13,550	2,613
Shetland	0.7%	10.0%	28.4%	26.2%	20.6%	14.2%	763	108
Scotland	0.6%	12.4%	31.7%	29.6%	15.4%	10.3%	193,442	24,066

Note: Excludes children under 12 years of age (n = 6)

Glycaemic Control

91.1% of patients had an HbA_{1c} recorded in the previous 15 months. In 57.8% 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. 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%).

Figure 7. Percentage of patients with diabetes with a recording of HbA_{1c} within the previous 15 months by NHS Board and diabetes type, Scotland, 2011 (note that Y axis is interrupted at 50%, horizontal lines show figures for Scotland as a whole and bars are ranked by figures for type 2 diabetes).

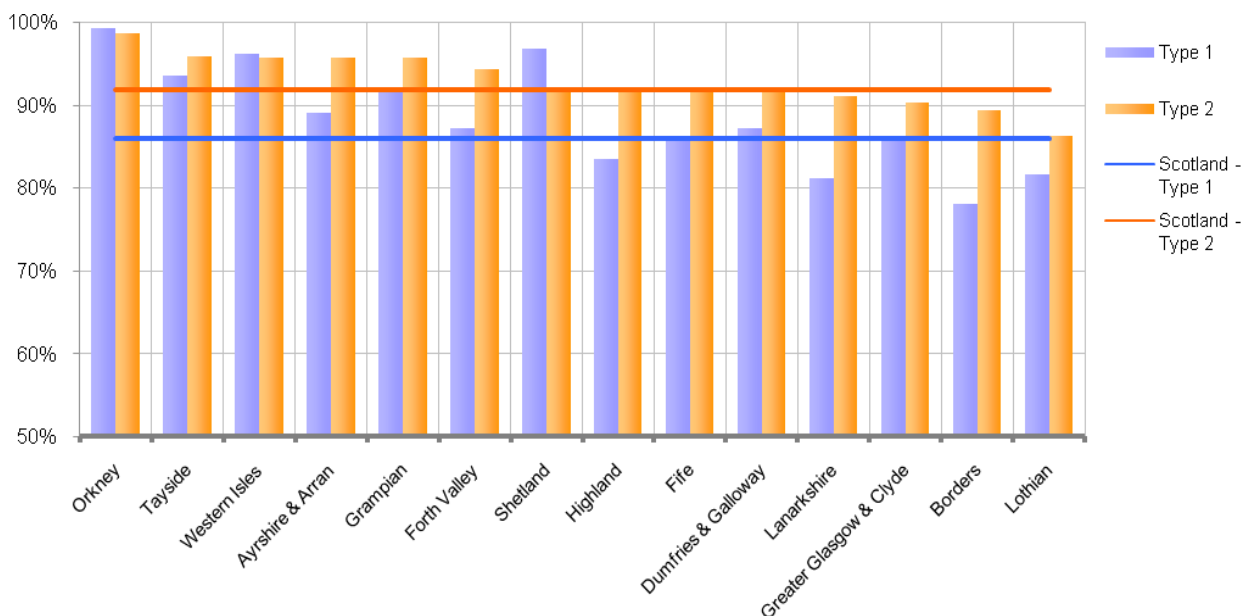


Table 20. Percentage of people with diabetes who had a record of HbA1c within the previous 15 months, by diabetes type and NHS board, 2011, ranked by figures for type 2.

NHS Board	Type 1 diabetes			Type 2 diabetes			Total recorded
	Recorded within previous 15 months (n, %)		Not recorded	Recorded within previous 15 months (n, %)		Not recorded	
Orkney	119	99.2%	1	841	98.6%	12	960
Tayside	1,742	93.5%	122	17,336	95.8%	768	19,078
Western Isles	175	96.2%	7	1,013	95.7%	45	1,188
Ayrshire & Arran	1,979	89.1%	242	17,146	95.7%	773	19,125
Grampian	2,806	91.9%	247	19,983	95.6%	919	22,789
Forth Valley	1,400	87.2%	206	11,813	94.3%	715	13,213
Shetland	120	96.8%	4	803	92.2%	68	923
Highland	1,467	83.4%	291	11,488	92.1%	991	12,955
Fife	1,699	86.3%	270	14,838	91.8%	1,326	16,537
Dumfries & Galloway	778	87.1%	115	6,616	91.4%	620	7,394
Lanarkshire	2,849	81.1%	664	22,753	91.0%	2,245	25,602
Greater Glasgow & Clyde	5,292	85.6%	888	45,162	90.3%	4,843	50,454
Borders	479	78.0%	135	4,331	89.4%	515	4,810
Lothian	3,404	81.5%	771	25,503	86.3%	4,048	28,907
Scotland	24,309	86.0%	3,963	199,626	91.8%	17,888	223,935

Table 21. Percentage of people with diabetes (type 1 and type 2 combined) with a record of HbA_{1c} in previous 15 months, Scotland, 2004-2011.

Year	Recorded within previous 15 months
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 8. Percentage of people with Type 1 diabetes in each HbA_{1c} category for HbA_{1c} recorded in the previous 15 months, by NHS Board, 2011, ranked by proportion with HbA_{1c} over 75 mmol/mol.

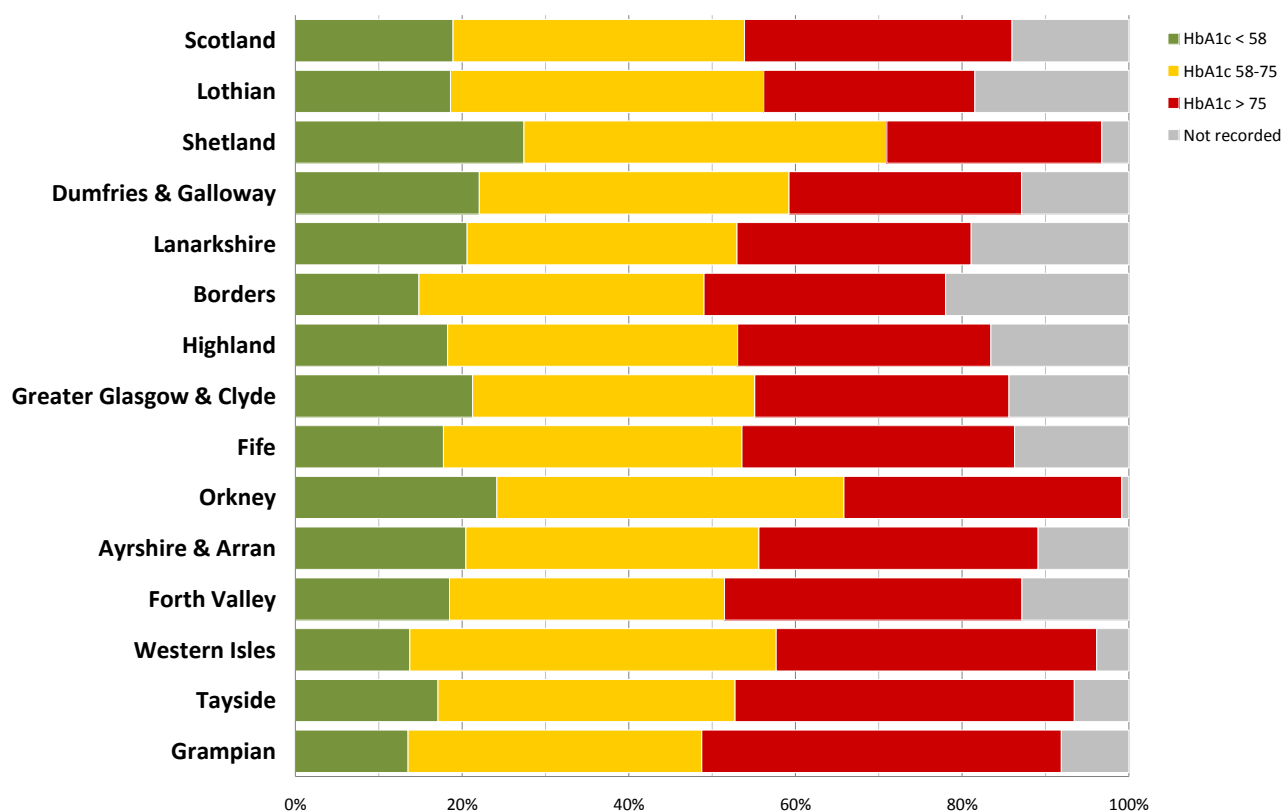


Figure 9 Percentage of people with Type 2 diabetes in each HbA_{1c} category for HbA_{1c} recorded in the previous 15 months, ranked by percentage with HbA_{1c} over 75mmol/mol (9%).

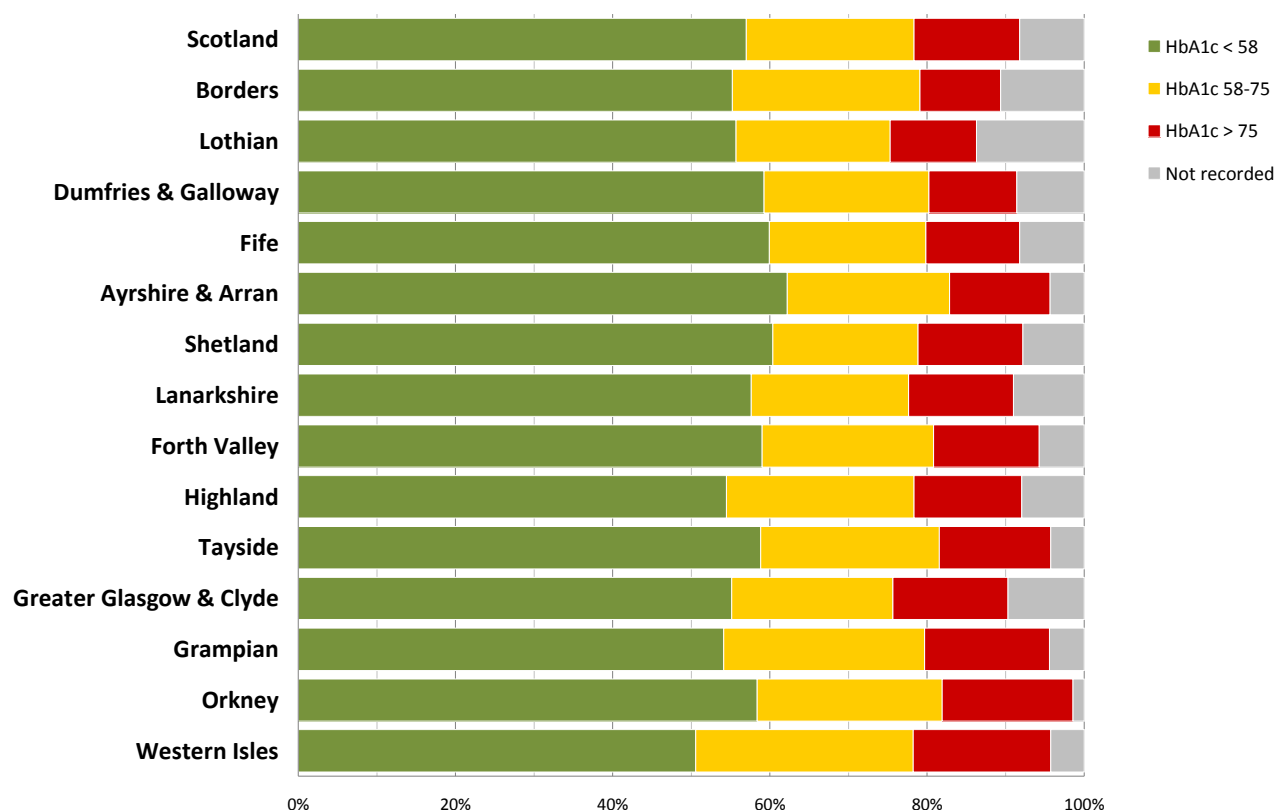


Table 22. Type 1 diabetes: HbA_{1c} category as a percentage of patients with HbA_{1c} recorded in previous 15 months, by NHS Board, ranked by proportion with HbA_{1c} over 75mmol/mol (9%).

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	34	28.3%	54	45.0%	32	26.7%	120	4
Lothian	777	22.8%	1,569	46.1%	1,058	31.1%	3,404	771
Dumfries & Galloway	197	25.3%	332	42.7%	249	32.0%	778	115
Orkney	29	24.4%	50	42.0%	40	33.6%	119	1
Lanarkshire	724	25.4%	1,137	39.9%	988	34.7%	2,849	664
Greater Glasgow & Clyde	1,314	24.8%	2,093	39.6%	1,885	35.6%	5,292	888
Highland	321	21.9%	612	41.7%	534	36.4%	1,467	291
Borders	91	19.0%	210	43.8%	178	37.2%	479	135
Ayrshire & Arran	454	22.9%	781	39.5%	744	37.6%	1,979	242
Fife	350	20.6%	705	41.5%	644	37.9%	1,699	270
Western Isles	25	14.3%	80	45.7%	70	40.0%	175	7
Forth Valley	297	21.2%	530	37.9%	573	40.9%	1,400	206
Tayside	319	18.3%	664	38.1%	759	43.6%	1,742	122
Grampian	413	14.7%	1,076	38.3%	1,317	46.9%	2,806	247
Scotland	5,345	22.0%	9,893	40.7%	9,071	37.3%	24,309	3,963

Table 23. 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
Borders	2,676	61.8%	1,158	26.7%	497	11.5%	4,331	515
Dumfries & Galloway	4,289	64.8%	1,517	22.9%	810	12.2%	6,616	620
Lothian	16,464	64.6%	5,790	22.7%	3,249	12.7%	25,503	4,048
Fife	9,690	65.3%	3,220	21.7%	1,928	13.0%	14,838	1,326
Ayrshire & Arran	11,149	65.0%	3,701	21.6%	2,296	13.4%	17,146	773
Forth Valley	7,396	62.6%	2,730	23.1%	1,687	14.3%	11,813	715
Shetland	526	65.5%	161	20.0%	116	14.4%	803	68
Lanarkshire	14,408	63.3%	5,006	22.0%	3,339	14.7%	22,753	2,245
Tayside	10,653	61.5%	4,115	23.7%	2,568	14.8%	17,336	768
Highland	6,797	59.2%	2,982	26.0%	1,709	14.9%	11,488	991
Greater Glasgow & Clyde	27,574	61.1%	10,263	22.7%	7,325	16.2%	45,162	4,843
Grampian	11,319	56.6%	5,338	26.7%	3,326	16.6%	19,983	919
Orkney	498	59.2%	201	23.9%	142	16.9%	841	12
Western Isles	535	52.8%	293	28.9%	185	18.3%	1,013	45
Scotland	123,974	62.1%	46,475	23.3%	29,177	14.6%	199,626	17,888

Table 24. Number and percentage of people with diabetes (type 1 and type 2 combined; limited to those with a record of HbA_{1c}) in each HbA_{1c} category, Scotland, 2004-2011.

Year	HbA _{1c} < 58 (7.5%) N, %		HbA _{1c} 58-75 (7.5-9.0%) N, %		HbA _{1c} >75 (9.0%) N, %		Total recorded	Not known
2011	129,319	57.8	56,368	25.2	38,248	17.1	223,935	21,851
2010	127,900	59.2	52,357	24.3	35,639	16.5	215,896	20,293
2009	119,474	58.9	50,092	24.7	33,330	16.4	202,896	23,735
2008	114,540	58.0	51,754	26.2	31,289	15.8	197,583	22,380
2007	114,594	57.0	52,987	26.4	33,397	16.6	200,978	8,728
2006	103,066	56.0	49,711	27.0	31,145	16.9	183,922	12,879
2005	79,865	52.2	45,273	29.6	27,869	18.2	153,007	15,734
2004	58,377	50.1	35,796	30.7	22,199	19.1	116,472	19,182

Table 25. Type 1 diabetes: HbA_{1c} category as percent of all those with HbA_{1c} recorded in previous 15 months (HbA_{1c} in mmol/mol), by NHS Board, 2011, 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	15.8%	12.5%	20.0%	12.5%	12.5%	26.7%	120	4
Lothian	13.2%	9.6%	14.0%	16.4%	15.7%	31.1%	3,404	771
Dumfries & Galloway	12.1%	13.2%	10.7%	14.3%	17.7%	32.0%	778	115
Orkney	15.1%	9.2%	10.1%	13.4%	18.5%	33.6%	119	1
Lanarkshire	16.3%	9.1%	12.2%	12.6%	15.1%	34.7%	2,849	664
Greater Glasgow & Clyde	16.0%	8.9%	11.7%	12.8%	15.0%	35.6%	5,292	888
Highland	12.7%	9.1%	13.9%	11.7%	16.2%	36.4%	1,467	291
Borders	12.1%	6.9%	11.9%	12.1%	19.8%	37.2%	479	135
Ayrshire & Arran	13.3%	9.7%	12.3%	13.2%	13.9%	37.6%	1,979	242
Fife	11.0%	9.6%	12.4%	13.9%	15.2%	37.9%	1,699	270
Western Isles	7.4%	6.9%	13.1%	19.4%	13.1%	40.0%	175	7
Forth Valley	12.8%	8.4%	10.7%	12.2%	14.9%	40.9%	1,400	206
Tayside	9.9%	8.4%	10.6%	12.6%	14.9%	43.6%	1,742	122
Grampian	7.6%	7.1%	10.5%	12.2%	15.7%	46.9%	2,806	247
Scotland	13.0%	9.0%	12.1%	13.3%	15.4%	37.3%	24,309	3,963

Table 26. Type 2 diabetes: HbA_{1c} category as percent of all those with HbA_{1c} recorded in previous 15 months (HbA_{1c} in mmol/mol), by NHS Board, 2011, 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
Borders	42.4%	19.3%	14.1%	7.8%	4.8%	11.5%	4,331	515
Dumfries & Galloway	49.1%	15.7%	10.6%	7.3%	5.1%	12.2%	6,616	620
Lothian	48.6%	15.9%	11.0%	6.9%	4.9%	12.7%	25,503	4,048
Fife	49.2%	16.2%	10.2%	6.7%	4.8%	13.0%	14,838	1,326
Ayrshire & Arran	49.3%	15.7%	9.9%	6.8%	4.9%	13.4%	17,146	773
Forth Valley	47.1%	15.5%	10.6%	7.4%	5.1%	14.3%	11,813	715
Shetland	50.8%	14.7%	10.1%	5.1%	4.9%	14.4%	803	68
Lanarkshire	48.4%	14.9%	9.9%	6.9%	5.2%	14.7%	22,753	2,245
Tayside	45.5%	16.0%	11.4%	7.5%	4.9%	14.8%	17,336	768
Highland	42.4%	16.7%	12.6%	7.6%	5.7%	14.9%	11,488	991
Greater Glasgow & Clyde	46.1%	15.0%	10.4%	7.0%	5.4%	16.2%	45,162	4,843
Grampian	39.6%	17.0%	12.2%	8.5%	6.0%	16.6%	19,983	919
Orkney	46.6%	12.6%	12.1%	7.3%	4.5%	16.9%	841	12
Western Isles	36.1%	16.7%	13.7%	8.1%	7.1%	18.3%	1,013	45
Scotland	46.3%	15.8%	10.9%	7.2%	5.2%	14.6%	199,626	17,888

Table 27. Mean HbA_{1c} (mmol/mol) recorded in 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
Ayrshire & Arran	74	71	77	79	82	69	71	72	73	66	68	56
Dumfries & Galloway	69	69	66	78	85	74	70	71	70	65	67	56
Fife	81	73	75	82	77	74	70	72	72	68	65	56
Forth Valley	79	71	71	85	83	80	73	73	69	63	60	56
Lothian	67	65	70	78	74	72	69	69	69	65	67	56
Shetland	64	67	73	84	75	72	68	65	59	63	-	56
Borders	-	77	76	77	75	74	77	73	72	65	71	57
Greater Glasgow & Clyde	61	62	64	77	74	68	68	71	69	66	60	57
Lanarkshire	70	61	72	78	73	70	68	68	68	66	65	57
Orkney	64	75	72	84	85	64	69	68	70	62	82	57
Highland	72	65	71	81	79	72	75	71	68	65	60	58
Tayside	81	76	80	85	83	78	73	73	74	68	62	58
Grampian	84	74	77	85	82	77	74	76	73	74	78	59
Western Isles	-	69	70	77	85	81	68	75	71	71	46	61

Table 28. Numbers (and percentages) of people with type 1 diabetes on insulin pumps by age and NHS Board.

NHS Board	Number of people <18 on an insulin pump and percentage of <18 T1DM Population		Number of people >18 on an insulin pump and percentage of >18 T1DM Population	
Ayrshire and Arran	18	7.8%	17	0.9%
Borders	17	23.0%	34	6.2%
Dumfries and Galloway	2	2.5%	21	2.6%
Fife	19	9.5%	113	6.4%
Forth Valley	12	6.9%	33	2.3%
Grampian	22	7.0%	50	1.8%
Greater Glasgow & Clyde	50	8.4%	45	0.8%
Highland	0	0.0%	29	1.8%
Lanarkshire	0	0.0%	56	1.8%
Lothian	39	10.7%	169	4.4%
Orkney	4	25.0%	1	1.0%
Shetland	0	0.0%	2	1.9%
Tayside	58	29.4%	72	4.3%
Western Isles	0	0.0%	1	0.6%
Scotland	241	8.4%	643	2.5%

Cardiovascular Risk

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

Blood Pressure

93.2% of people with diabetes had their BP recorded within the previous 15 months, of which 70.8% had a systolic BP less than or equal to 140mmHg, suggesting reasonable control of blood pressure. However, this target level is under review.

Figure 10. Percentage of people with diabetes (by diabetes type) with a recording of BP in 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%).

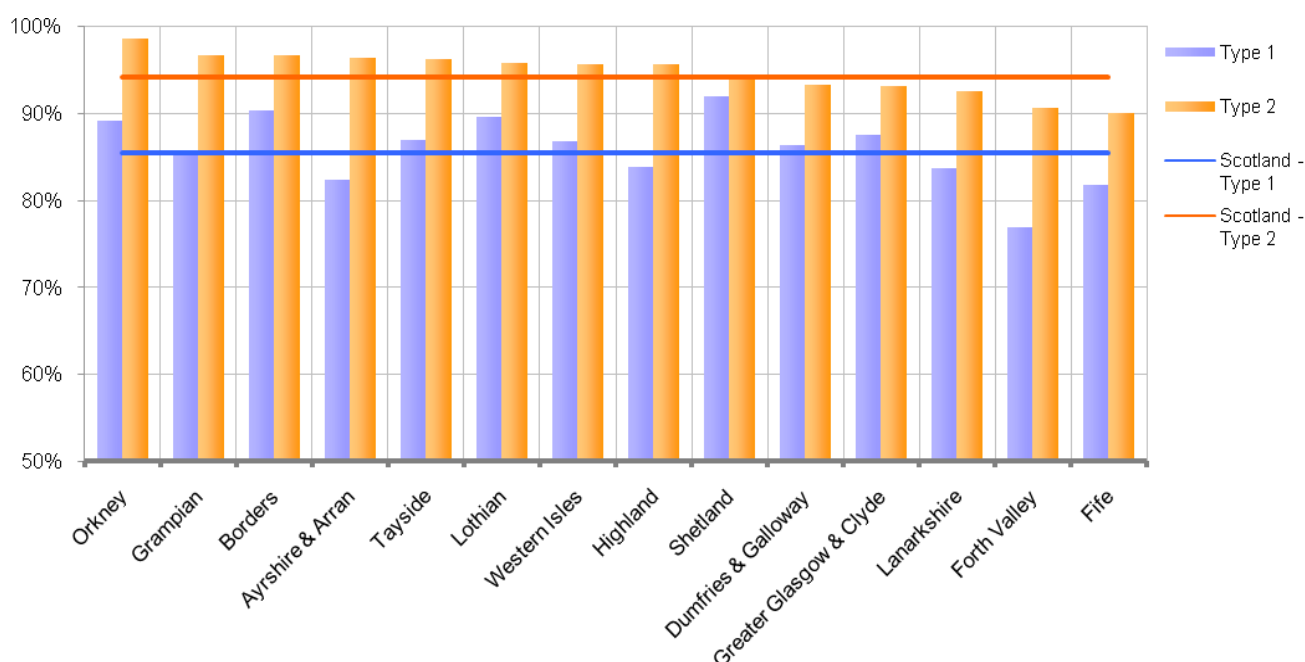


Table 29. Percentage of people with diabetes with a recording of BP in previous 15 months, by NHS Board and diabetes type, ranked by figures for type 2 diabetes.

NHS Board	Recorded within previous 15 months			
		Type 1 diabetes	Type 2 diabetes	
Orkney	107	89.2%	841	98.6%
Grampian	2,616	85.7%	20,213	96.7%
Borders	554	90.2%	4681	96.6%
Ayrshire & Arran	1,829	82.4%	17,257	96.3%
Tayside	1,619	86.9%	17,424	96.2%
Lothian	3,736	89.5%	28,307	95.8%
Western Isles	158	86.8%	1012	95.7%
Highland	1,474	83.9%	11,927	95.6%
Shetland	114	91.9%	817	93.8%
Dumfries & Galloway	771	86.3%	6746	93.2%
Greater Glasgow & Clyde	5,404	87.4%	46,535	93.1%
Lanarkshire	2,940	83.7%	23,131	92.5%
Forth Valley	1,234	76.8%	11,345	90.6%
Fife	1,609	81.7%	14,546	90.0%
Scotland	24,165	85.5%	204,782	94.1%

Table 30. Percentage of people with diabetes (Type 1 and Type 2 combined) with a record of BP within the previous 15 months, Scotland, 2002-2011.

Year	Measured within previous 15 months
2011	93.2%
2010	93.4%
2009	93.9%
2008	90.8%
2007	89.7%
2006	88.9%
2005	84.3%
2004	77.7%
2003	51.6%
2002	66.8%

Figure 11. Percentage of people with Type 1 diabetes with most recent systolic blood pressure (SBP) \leq 140 mmHg in the last 15 months by NHS Board. Horizontal line indicates level for Scotland as a whole.

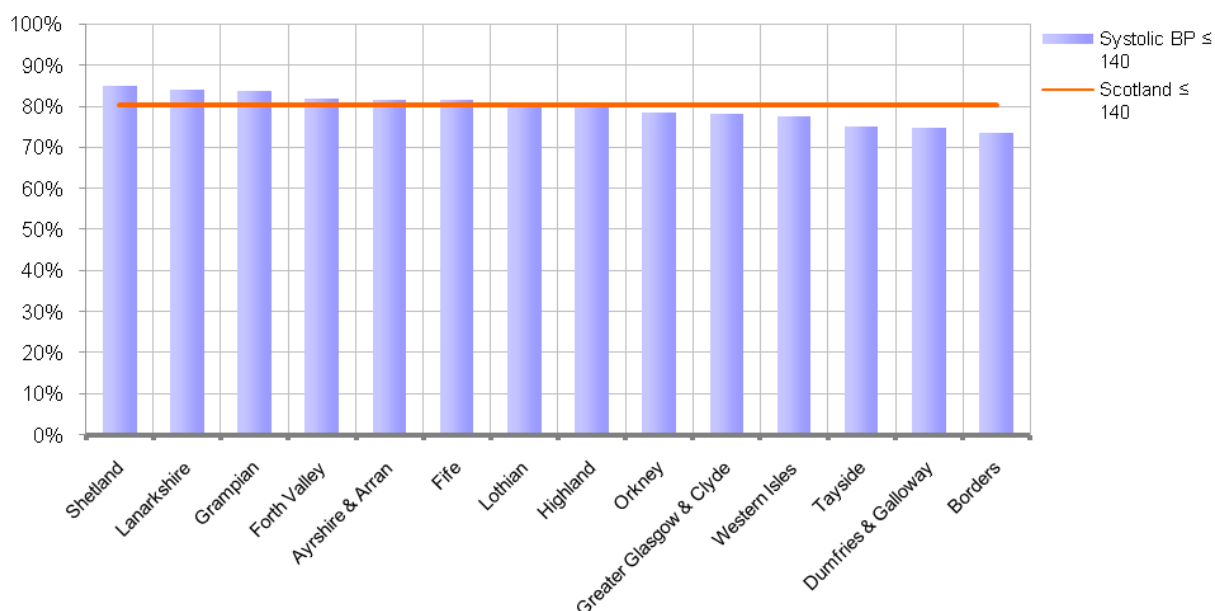


Figure 12. Percentage of people with Type 1 diabetes with most recent blood pressure in the last 15 months ≤ 130 mmHg (systolic) and ≤ 80 mmHg (diastolic), by NHS Board. Horizontal line indicates level for Scotland as a whole.

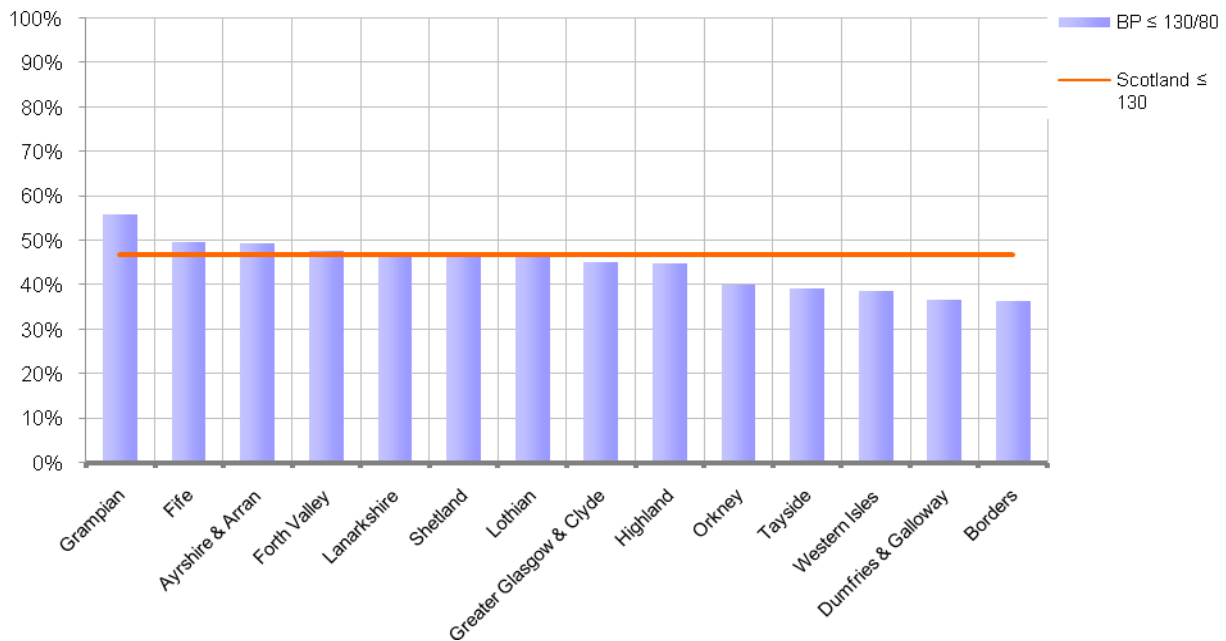


Figure 13. Percentage of people with Type 2 diabetes with most recent systolic blood pressure (SBP) ≤ 140 mmHg in the last 15 months by NHS Board. Horizontal line indicates level for Scotland as a whole.

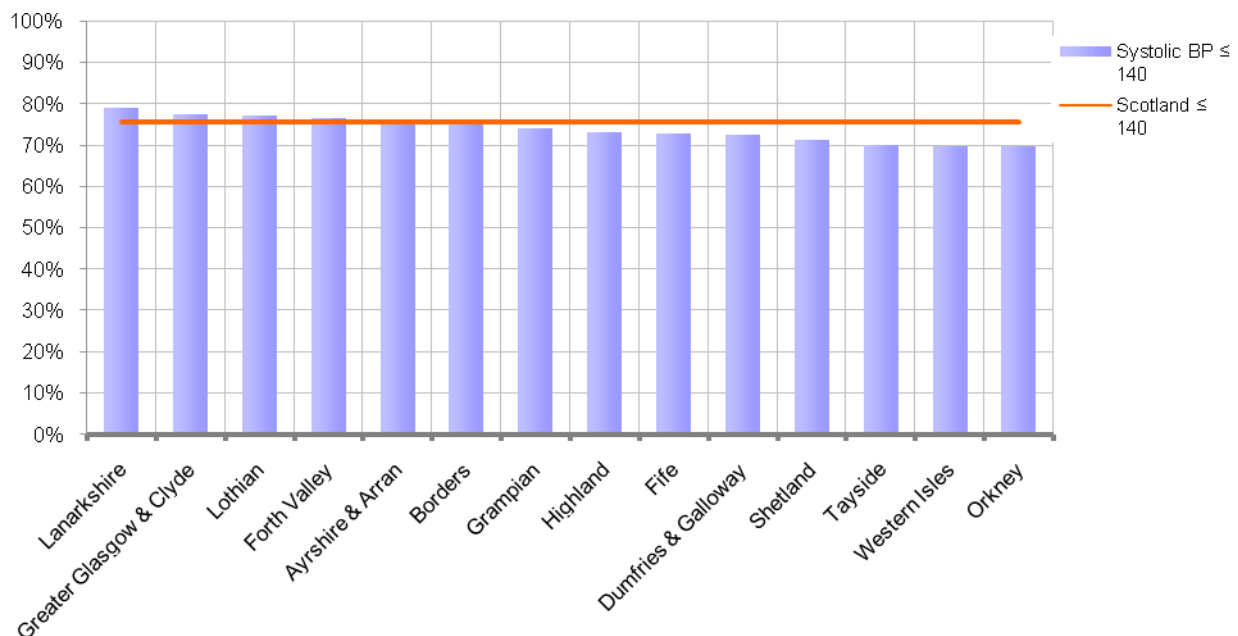


Figure 14. Percentage of people with Type 2 diabetes with most recent blood pressure in the last 15 months ≤ 130 mmHg (systolic) and ≤ 80 mmHg (diastolic), by NHS Board. Horizontal line indicates level for Scotland as a whole.

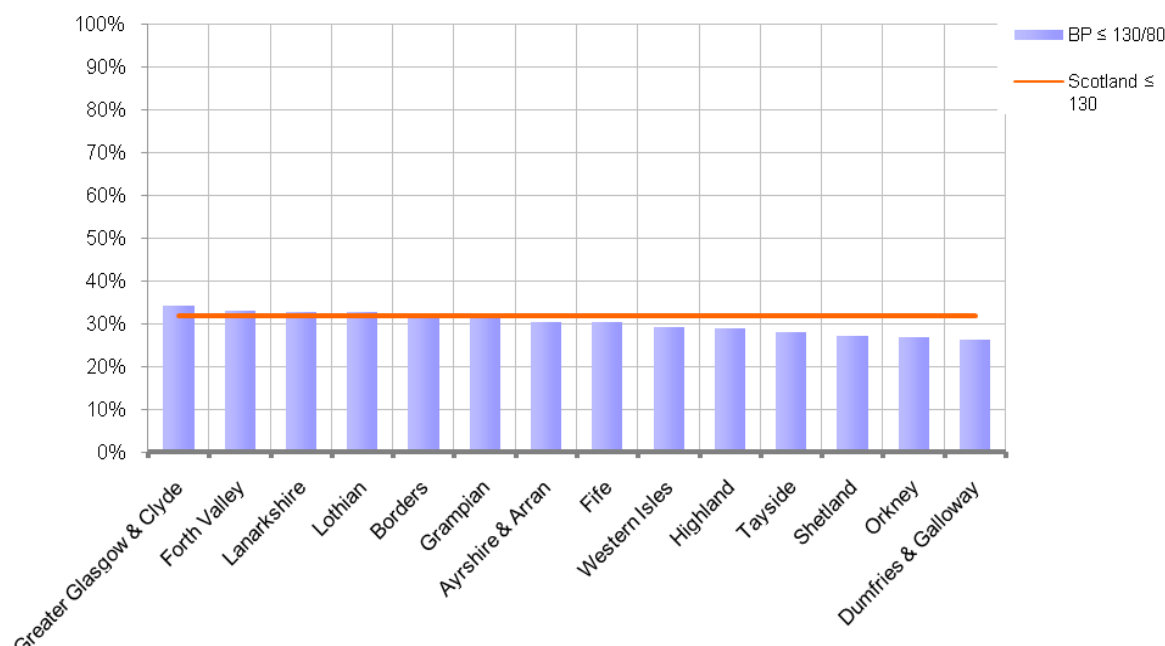


Table 31 Percentage of people with Type 1 diabetes with systolic blood pressure (SBP) ≤ 140 mmHg by NHS Board, ranked by percentage > 140 .

NHS Board	Systolic BP ≤ 140		Systolic BP > 140		Total recorded	Not recorded (n,%)	
Shetland	97	85.1%	17	14.9%	114	10	8.1%
Lanarkshire	2,467	83.9%	473	16.1%	2,940	573	16.3%
Grampian	2,191	83.8%	425	16.2%	2,616	437	14.3%
Forth Valley	1,012	82.0%	222	18.0%	1,234	372	23.2%
Ayrshire & Arran	1,491	81.5%	338	18.5%	1,829	392	17.6%
Fife	1,310	81.4%	299	18.6%	1,609	360	18.3%
Lothian	3,027	81.0%	709	19.0%	3,736	439	10.5%
Highland	1,194	81.0%	280	19.0%	1,474	284	16.2%
Orkney	84	78.5%	23	21.5%	107	13	10.8%
Greater Glasgow & Clyde	4,230	78.3%	1,174	21.7%	5,404	776	12.6%
Western Isles	[120]	77.4%	[35]	22.6%	[155]	[40]	20.5%
Tayside	1,215	75.0%	404	25.0%	1,619	245	13.1%
Dumfries & Galloway	578	74.9%	194	25.1%	772	121	13.5%
Borders	408	73.6%	146	26.4%	554	60	9.8%
Scotland	[19,424]	80.4%	[4,739]	19.6%	[24,163]	[4,122]	14.6%

Note. Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded). Because of technical issues figures for Western Isles are estimates based on data extracted from SCI-Diabetes in May 2012; the numbers in square brackets therefore do not correspond to figures given elsewhere in this report. The Scotland figures should be regarded as approximate. Note that differences between boards in this and other tables may be partly due to differences in population age structure.

Table 32. Percentage of people with Type 1 diabetes with systolic blood pressure (SBP) <130 mmHg AND diastolic blood pressure (DBP) ≤80mmHg, by NHS Board (denominator those with recording of SBP and DBP within the previous 15 months) , ranked by percentage > 130/80.

NHS Board	BP ≤ 130/80		BP > 130/80		Total recorded	Not recorded	
Grampian	1,463	55.9%	1,153	44.1%	2,616	437	14.3%
Fife	798	49.6%	811	50.4%	1,609	360	18.3%
Ayrshire & Arran	901	49.3%	928	50.7%	1,829	392	17.6%
Forth Valley	587	47.6%	647	52.4%	1,234	372	23.2%
Lanarkshire	1,382	47.0%	1,558	53.0%	2,940	573	16.3%
Shetland	53	46.5%	61	53.5%	114	10	8.1%
Lothian	1,729	46.3%	2,007	53.7%	3,736	439	10.5%
Greater Glasgow & Clyde	2,439	45.1%	2,965	54.9%	5,404	776	12.6%
Highland	662	44.9%	812	55.1%	1,474	284	16.2%
Orkney	43	40.2%	64	59.8%	107	13	10.8%
Tayside	636	39.3%	983	60.7%	1,619	245	13.1%
Western Isles	[60]	38.7%	[95]	61.3%	[155]	[40]	20.5%
Dumfries & Galloway	284	36.8%	487	63.2%	772	122	13.6%
Borders	201	36.3%	353	63.7%	554	60	9.8%
Scotland	[11,238]	46.5%	[12,924]	53.5%	[24,163]	[4,123]	14.6%

Note. Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded). Because of technical issues figures for Western Isles are estimates based on data extracted from SCI-Diabetes in May 2012; the numbers in square brackets therefore do not correspond to figures given elsewhere in this report. The Scotland figures should be regarded as approximate. Note that differences between boards in this and other tables may be partly due to differences in population age structure.

Table 33. Percentage of people with Type 2 diabetes with systolic blood pressure (SBP) ≤ 140 mmHg by NHS Board (denominator those with recording of SBP within the previous 15 months) , ranked by percentage > 140.

NHS Board	Systolic BP ≤ 140		Systolic BP > 140		Total recorded	Not recorded	
Lanarkshire	18,228	78.8%	4,903	21.2%	23,131	1,867	7.5%
Greater Glasgow & Clyde	36,006	77.4%	10,529	22.6%	46,535	3,470	6.9%
Lothian	21,817	77.1%	6,490	22.9%	28,307	1,244	4.2%
Forth Valley	8,687	76.6%	2,658	23.4%	11,345	1,183	9.4%
Ayrshire & Arran	13,159	76.3%	4,098	23.7%	17,257	662	3.7%
Borders	3,528	75.4%	1,153	24.6%	4,681	165	3.4%
Grampian	14,982	74.1%	5,231	25.9%	20,213	689	3.3%
Highland	8,701	73.0%	3,226	27.0%	11,927	552	4.4%
Fife	10,563	72.6%	3,983	27.4%	14,546	1,618	10.0%
Dumfries & Galloway	4,883	72.4%	1,863	27.6%	6,746	490	6.8%
Shetland	582	71.2%	235	28.8%	817	54	6.2%
Tayside	12,176	69.9%	5,248	30.1%	17,424	680	3.8%
Orkney	586	69.7%	255	30.3%	841	12	1.4%
Western Isles	[703]	69.7%	[305]	30.3%	[1008]	[80]	7.4%
Scotland	[154,601]	75.5%	[50,177]	24.5%	[204,778]	[12,766]	5.9%

Note. Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded). Because of technical issues figures for Western Isles are estimates based on data extracted from SCI-Diabetes in May 2012; the numbers in square brackets therefore do not correspond to figures given elsewhere in this report. The Scotland figures should be regarded as approximate. Note that differences between boards in this and other tables may be partly due to differences in population age structure.

Table 34. Percentage of people with Type 2 diabetes with systolic blood pressure (SBP) <130 mmHg AND diastolic blood pressure (DBP) ≤80mmHg, by NHS Board (denominator those with recording of SBP and DBP within the previous 15 months) , ranked by percentage > 130/80.

NHS Board	BP ≤ 130/80		BP > 130/80		Total recorded	Not recorded	
Greater Glasgow & Clyde	15,941	34.3%	30,594	65.7%	46,535	3,470	6.9%
Forth Valley	3,749	33.0%	7,596	67.0%	11,345	1,183	9.4%
Lanarkshire	7,591	32.8%	15,540	67.2%	23,131	1,867	7.5%
Lothian	9,238	32.6%	19,069	67.4%	28,307	1,244	4.2%
Borders	1,473	31.5%	3,208	68.5%	4,681	165	3.4%
Grampian	6,297	31.2%	13,916	68.8%	20,213	689	3.3%
Ayrshire & Arran	5,269	30.5%	11,988	69.5%	17,257	662	3.7%
Fife	4,440	30.5%	10,106	69.5%	14,546	1,618	10.0%
Western Isles	[294]	29.2%	[714]	70.8%	[1008]	[80]	7.4%
Highland	3,464	29.0%	8,463	71.0%	11,927	552	4.4%
Tayside	4,907	28.2%	12,517	71.8%	17,424	680	3.8%
Shetland	223	27.3%	594	72.7%	817	54	6.2%
Orkney	227	27.0%	614	73.0%	841	12	1.4%
Dumfries & Galloway	1,780	26.4%	4,966	73.6%	6,746	490	6.8%
Scotland	[64,893]	31.7%	[139,885]	68.3%	[204,778]	[12,766]	5.9%

Note. Restricted to most recent value recorded in the previous 15 months – those recorded longer ago than that were classed as missing (not recorded). Because of technical issues figures for Western Isles are estimates based on data extracted from SCI-Diabetes in May 2012; the numbers in square brackets therefore do not correspond to figures given elsewhere in this report. The Scotland figures should be regarded as approximate. Note that differences between boards in this and other tables may be partly due to differences in population age structure.

Table 35. Percentage of people with diabetes (type 1 and type 2 combined) with systolic blood pressure (SBP) ≤ 140 mmHg (denominator those with recording of SBP within the previous 15 months), Scotland, 2004-2011.

Year	Total	Systolic BP ≤ 140	Systolic BP > 140	Not recorded
2011	228,948	70.8%	22.4%	6.9%
2010	220,615	70.0%	23.4%	6.6%
2009	212,857	70.5%	23.4%	6.1%
2008	199,650	66.6%	24.2%	9.2%
2007	204,166	71.1%	26.3%	2.6%
2006	188,424	68.0%	27.7%	4.3%
2005	155,269	63.7%	28.4%	7.9%
2004	122,467	57.0%	34.0%	9.0%

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 36. Mean BP recorded in previous 15 months in people with type 1 diabetes aged <40 years, by NHS Board, 2011, ranked by mean systolic BP.

NHS Board	Mean systolic BP	Mean diastolic BP
Grampian	119	70
Ayrshire & Arran	120	72
Orkney	121	73
Fife	121	74
Lanarkshire	121	74
Highland	122	74
Lothian	122	74
Shetland	123	72
Forth Valley	124	74
Greater Glasgow & Clyde	124	74
Dumfries & Galloway	124	76
Tayside	125	74
Western Isles	125	76
Borders	126	73

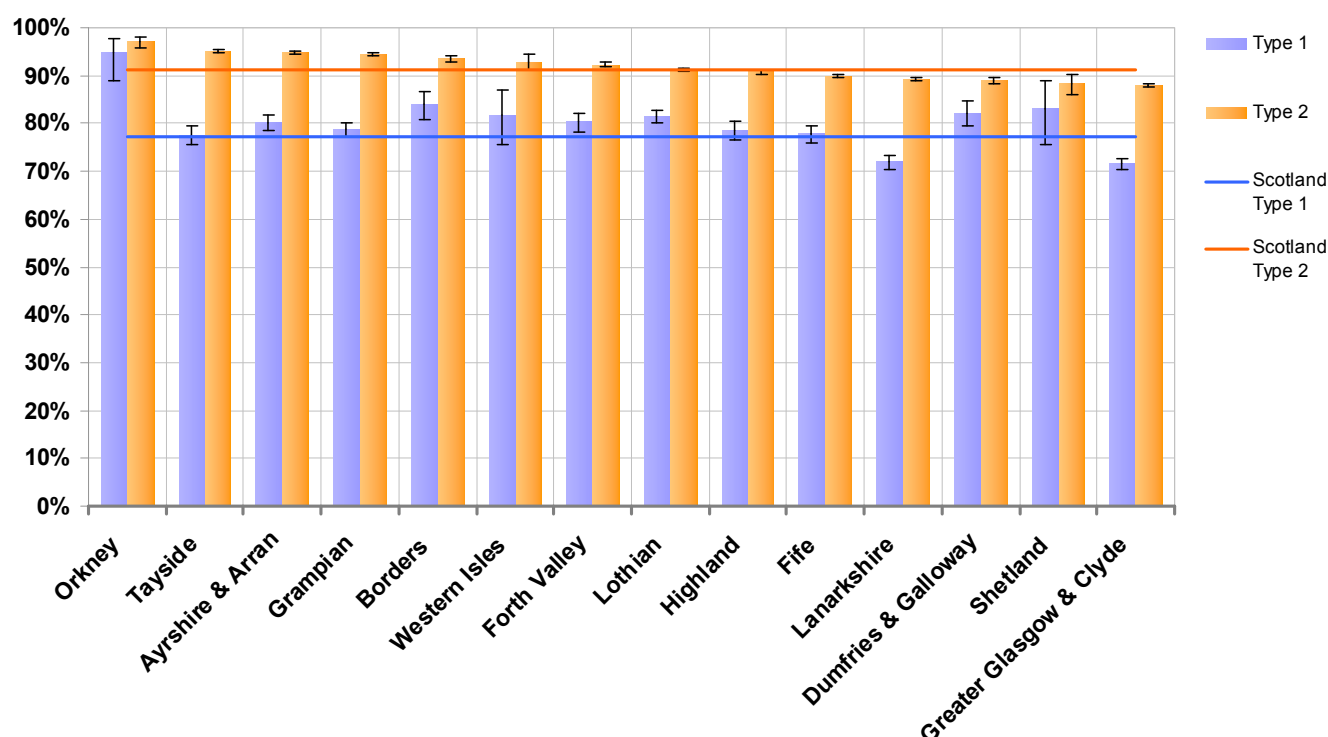
Table 37. Mean BP recorded in previous 15 months in people with type 2 diabetes aged 50-60 years, by NHS Board, 2011, ranked by mean systolic BP.

NHS Board	Mean systolic BP	Mean diastolic BP
Greater Glasgow & Clyde	131	77
Lothian	131	78
Fife	132	79
Forth Valley	132	78
Grampian	132	78
Lanarkshire	132	77
Ayrshire & Arran	133	78
Borders	133	77
Highland	133	78
Western Isles	133	79
Dumfries & Galloway	134	79
Tayside	134	78
Orkney	135	80
Shetland	135	80

Cholesterol

Cholesterol was recorded in 89.2% of people with type 1 or type 2 diabetes within the previous 15 months. Total cholesterol was found to be less than or equal to the target of 5.0mmol/l in 88.2% of patients with a recorded result.

Figure 15. Percentage of people with diabetes with a record of cholesterol within the previous 15 months by diabetes type and NHS Board, 2011. Horizontal lines indicate figures for Scotland as a whole and capped lines show 95% confidence intervals.



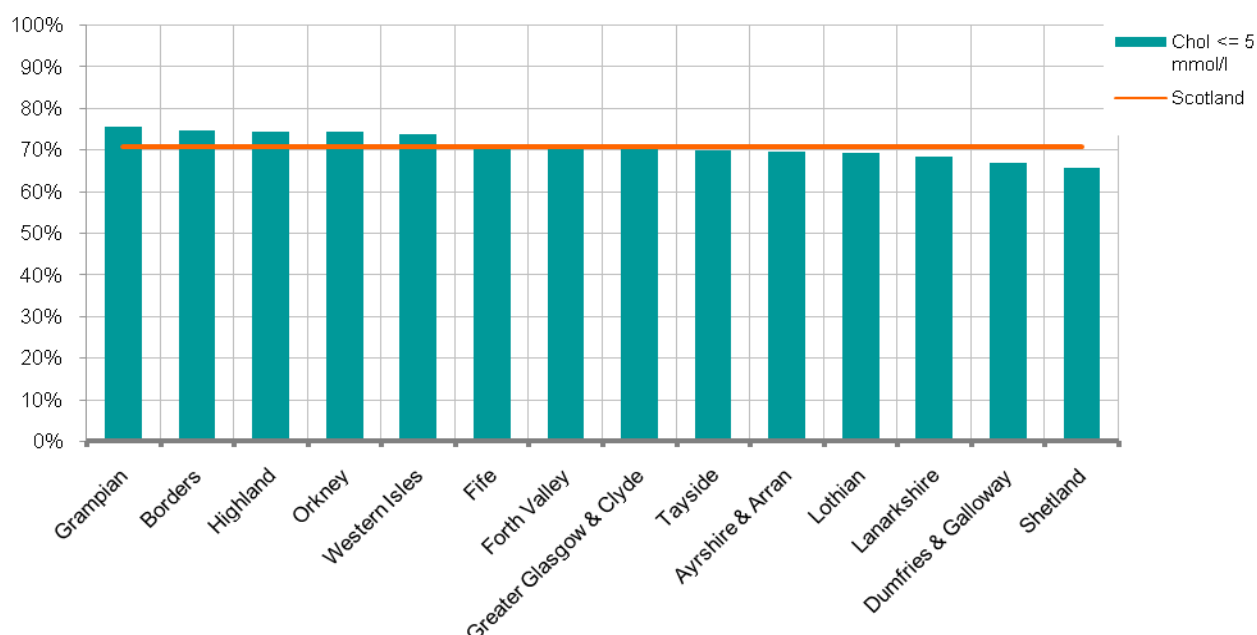
Note: Excludes children under 12 years (n=986)

Table 38. Percentage of people with diabetes (Type 1 and Type 2 combined) with a record of cholesterol within the previous 15 months, Scotland, 2002-2011.

Year	Recorded within previous 15 months
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%

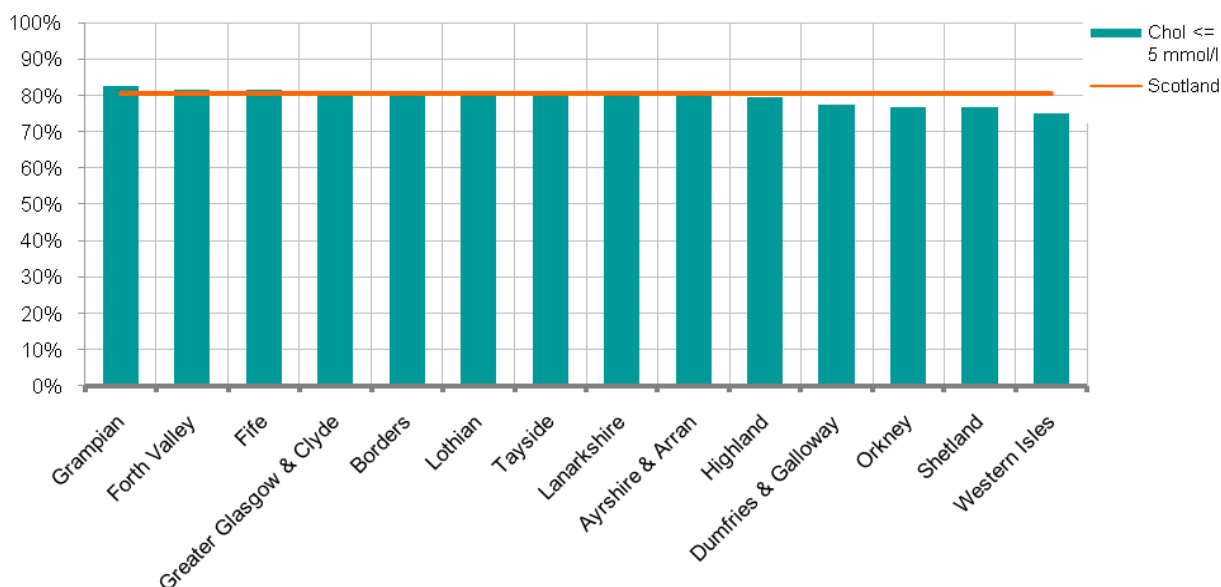
Note: Excludes children under 12 years of age (n=986).

Figure 16. Percentage of people with Type 1 diabetes 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 12 years (n=980)

Figure 17. Percentage of people with Type 2 diabetes 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 12 years (n= 6)

Table 39. Percentage of people with Type 1 diabetes 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
Grampian	2,316	75.6%	20.6%
Borders	495	74.5%	15.3%
Highland	1,328	74.5%	20.7%
Orkney	109	74.3%	5.0%
Western Isles	145	73.8%	17.6%
Fife	1,484	71.3%	21.5%
Forth Valley	1,248	70.7%	19.1%
Greater Glasgow & Clyde	4,271	70.5%	27.5%
Tayside	1,394	69.9%	21.5%
Ayrshire & Arran	1,718	69.4%	19.0%
Lothian	3,306	69.1%	18.0%
Lanarkshire	2,422	68.5%	27.0%
Dumfries & Galloway	708	66.8%	17.2%
Shetland	99	65.7%	16.1%
Scotland	21,043	70.8%	22.1%

Note: Excludes children under 12 years of age (n=980)

Table 40. Percentage of people with Type 2 diabetes 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
Grampian	19,752	82.6%	5.5%
Forth Valley	11,565	81.6%	7.7%
Fife	14,534	81.5%	10.1%
Greater Glasgow & Clyde	43,956	81.2%	12.1%
Borders	4,527	81.0%	6.6%
Lothian	26,978	80.8%	8.7%
Tayside	17,210	80.2%	4.9%
Lanarkshire	22,309	80.1%	10.8%
Ayrshire & Arran	16,969	79.8%	5.3%
Highland	11,332	79.4%	9.2%
Dumfries & Galloway	6,440	77.6%	11.0%
Orkney	828	76.9%	2.9%
Shetland	770	76.9%	11.6%
Western Isles	983	75.2%	7.1%
Scotland	198,153	80.7%	8.9%

Note: Excludes children under 12 years of age (n=6)

Table 41. 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 known		Total
2011	174,832	71.1%	44,364	18.0%	25,604	10.4%	245,786
2010	169,367	72.0%	41,391	17.6%	24,440	10.4%	235,198
2009	157,434	69.8%	37,650	16.7%	30,551	13.5%	225,635
2008	157,938	72.1%	39,107	17.9%	21,858	10.0%	218,903
2007	159,843	76.6%	40,552	19.4%	8,257	4.0%	208,652
2006	143,999	73.6%	38,614	19.7%	13,104	6.7%	195,717
2005	113,542	67.6%	37,631	22.4%	16,680	9.9%	167,853
2004	78,688	54.0%	39,051	26.8%	27,952	19.2%	145,691

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 children under 12 years of age (n=986)

Table 42. Mean total cholesterol recorded in previous 15 months in people with type 2 diabetes aged ≥ 50 -60 years, by NHS Board, 2011, ranked by mean cholesterol.

NHS Board	Mean total cholesterol (mmol/l)
Fife	4.4
Forth Valley	4.4
Grampian	4.4
Lothian	4.4
Ayrshire & Arran	4.5
Greater Glasgow & Clyde	4.5
Highland	4.5
Lanarkshire	4.5
Shetland	4.5
Tayside	4.5
Borders	4.6
Dumfries & Galloway	4.6
Orkney	4.6
Western Isles	4.6

Smoking status

Smoking status was recorded for 95.9% of the diabetic population. Almost 1 in 5 people with diabetes were recorded as being current smokers.

Figure 18. Smoking status as a percentage of all those with Type 1 diabetes, by NHS Board, ranked by current smoking status.

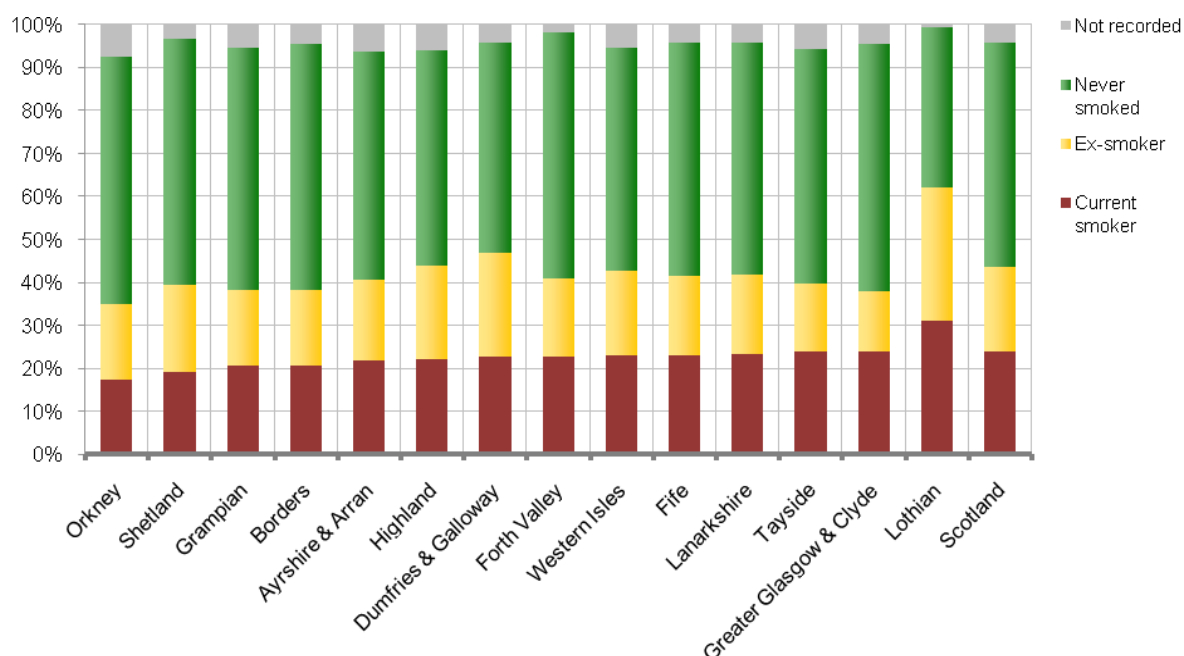


Figure 19 Smoking status as a percentage of all those with Type 2 diabetes, by NHS Board.

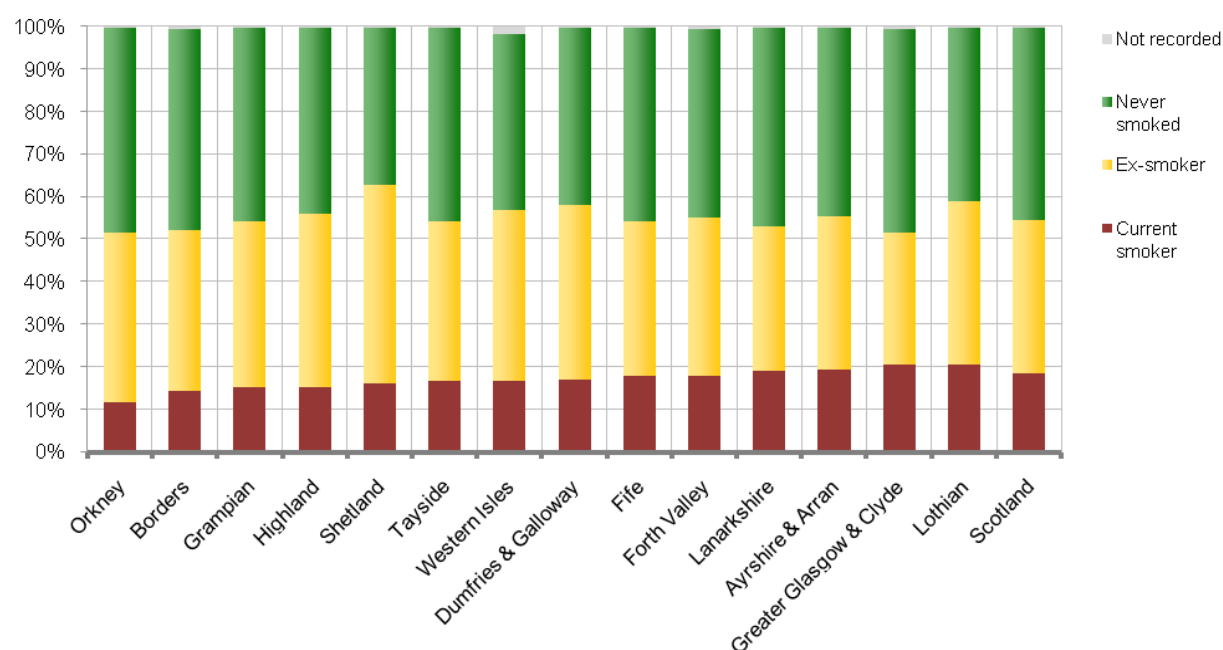


Table 43. Percentage of people with type 1 diabetes who were recorded as current, ex- or never-smokers, by NHS Board (denominator those with recording of smoking status); ranked by proportion who are current smokers.

NHS Board	No with known status	Current smoker	Ex-smoker	Never smoked	% recorded
Orkney	111	18.9%	18.9%	57.5%	92.5%
Shetland	120	20.0%	20.8%	57.3%	96.8%
Borders	586	21.7%	18.4%	57.2%	95.4%
Grampian	2,892	21.7%	18.7%	56.5%	94.7%
Forth Valley	1,579	23.2%	18.6%	57.2%	98.3%
Ayrshire & Arran	2,081	23.5%	20.1%	52.9%	93.7%
Highland	1,653	23.7%	22.9%	50.2%	94.0%
Dumfries & Galloway	855	23.9%	25.0%	48.9%	95.7%
Fife	1,885	24.2%	19.3%	54.1%	95.7%
Western Isles	172	24.4%	20.9%	51.6%	94.5%
Lanarkshire	3,363	24.5%	19.3%	53.7%	95.7%
Greater Glasgow & Clyde	5,901	25.0%	14.7%	57.6%	95.5%
Tayside	1,761	25.3%	16.9%	54.7%	94.5%
Lothian	4,144	31.3%	31.3%	37.1%	99.3%
Scotland	27,103	25.1%	20.3%	52.4%	95.9%

Table 44. Percentage of people with type 2 diabetes 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	851	11.8%	40.0%	48.3%	99.8%
Borders	4,819	14.5%	38.0%	47.6%	99.4%
Grampian	20,858	15.2%	39.0%	45.8%	99.8%
Highland	12,437	15.4%	40.6%	44.0%	99.7%
Shetland	870	16.0%	46.8%	37.2%	99.9%
Tayside	18,028	16.8%	37.7%	45.5%	99.6%
Western Isles	1,039	17.1%	40.9%	42.0%	98.2%
Dumfries & Galloway	7,202	17.2%	41.2%	41.6%	99.5%
Fife	16,106	17.8%	36.6%	45.6%	99.6%
Forth Valley	12,467	18.1%	37.2%	44.7%	99.5%
Lanarkshire	24,939	19.0%	34.2%	46.9%	99.8%
Ayrshire & Arran	17,886	19.4%	36.0%	44.6%	99.8%
Greater Glasgow & Clyde	49,627	20.7%	31.4%	47.9%	99.2%
Lothian	29,509	20.7%	38.2%	41.1%	99.9%
Scotland	216,638	18.5%	36.2%	45.3%	99.6%

Table 45. 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), Scotland, 2004-2011.

Year	Current smoker	Ex-smoker	Never smoked	Not recorded
2011	19.1%	34.1%	46.0%	0.8%
2010	19.1%	34.7%	45.2%	1.0%
2009	19.5%	35.5%	45.0%	1.1%
2008	19.2%	35.0%	44.0%	1.8%
2007	19.3%	34.0%	43.4%	3.3%
2006	19.0%	33.0%	41.8%	6.3%
2005	19.5%	30.0%	41.6%	8.9%
2004	19.2%	28.4%	40.5%	11.9%

Note: Data for years 2001 to 2011 are calculated as a percentage of all registered and not recorded patients

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.

In this section, the data presented include both screening performance and recording of prevalent complications. The purpose of screening is to detect changes early and intervene to prevent further deterioration.

Myocardial infarction

23,271 (9.5%) of registered patients have a record of a previous MI. Others will have had an MI but not survived. Validation of these data is needed. There have been improvements in recording, increased use of procedures and better survival following an MI in recent years.

Table 46. 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	
Shetland	4	3.2%	57	6.5%
Dumfries & Galloway	33	3.7%	623	8.6%
Orkney	5	4.2%	78	9.1%
Western Isles	6	3.3%	103	9.7%
Grampian	97	3.2%	2,047	9.8%
Fife	71	3.6%	1,595	9.9%
Ayrshire & Arran	96	4.3%	1,798	10.0%
Forth Valley	55	3.4%	1,259	10.0%
Highland	73	4.2%	1,268	10.2%
Lothian	132	3.2%	3,021	10.2%
Borders	27	4.4%	503	10.4%
Lanarkshire	173	4.9%	2,606	10.4%
Greater Glasgow & Clyde	226	3.7%	5,223	10.4%
Tayside	69	3.7%	2,023	11.2%
Scotland	1,067	3.8%	22,204	10.2%

Note: these data are as reported and have not been validated.

Table 47. Percentage of people with diabetes (type 1 and type 2 combined) who are recorded as having had a previous myocardial infarction (MI), Scotland, 2001-2011.

Year of Survey	Myocardial infarction
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

16,272 (6.6%) people included in the survey have a record of having undergone cardiac revascularisation.

Table 48. 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	
Shetland	3	2.4%	35	4.0%
Western Isles	2	1.1%	58	5.5%
Dumfries & Galloway	27	3.0%	427	5.9%
Fife	33	1.7%	971	6.0%
Ayrshire & Arran	53	2.4%	1,168	6.5%
Forth Valley	38	2.4%	827	6.6%
Orkney	1	0.8%	57	6.7%
Highland	50	2.8%	865	6.9%
Tayside	51	2.7%	1,267	7.0%
Borders	15	2.4%	346	7.1%
Grampian	72	2.4%	1,560	7.5%
Lothian	103	2.5%	2,207	7.5%
Lanarkshire	127	3.6%	1,892	7.6%
Greater Glasgow & Clyde	160	2.6%	3,857	7.7%
Scotland	735	2.6%	15,537	7.1%

Table 49. Percentage of people with diabetes recorded as having ever had cardiac revascularisation, Scotland, 2001-2011.

Year of Survey	Cardiac Revascularisation
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

12,118 (4.9%) people with diabetes were recorded as having had a cerebrovascular accident (stroke), an increase in numbers but a similar percentage to that in previous surveys (5.0% in 2010 and 5.1% in each year between 2006 and 2009).

Table 50. Percentage of people with diabetes who were recorded as 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	
Orkney	1	0.8%	31	3.6%
Shetland	2	1.6%	32	3.7%
Dumfries & Galloway	20	2.2%	297	4.1%
Grampian	46	1.5%	925	4.4%
Western Isles	2	1.1%	47	4.4%
Lanarkshire	82	2.3%	1,234	4.9%
Highland	42	2.4%	625	5.0%
Fife	49	2.5%	810	5.0%
Forth Valley	32	2.0%	631	5.0%
Ayrshire & Arran	55	2.5%	961	5.4%
Greater Glasgow & Clyde	117	1.9%	2,793	5.6%
Tayside	38	2.0%	1,068	5.9%
Lothian	94	2.3%	1,775	6.0%
Borders	15	2.4%	294	6.1%
Scotland	595	2.1%	11,523	5.3%

Kidney Disease

Serum creatinine

Serum creatinine was recorded for 91.2% of patients.

Table 51. 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	Type 1 diabetes		Type 2 diabetes		Total
	Recorded within previous 15 months				
Ayrshire & Arran	1,905	89.0%	17,403	97.1%	19,308
Tayside	1,592	88.7%	17,568	97.0%	19,160
Western Isles	159	89.8%	1,025	96.9%	1,184
Grampian	2,561	87.0%	20,227	96.8%	22,788
Forth Valley	1,356	87.3%	12,011	95.9%	13,367
Orkney	109	94.8%	812	95.2%	921
Shetland	107	89.9%	819	94.0%	926
Fife	1,591	83.4%	15,066	93.2%	16,657
Lanarkshire	2,567	76.2%	22,973	91.9%	25,540
Lothian	3,309	81.5%	26,643	90.2%	29,952
Greater Glasgow & Clyde	4,511	75.6%	44,851	89.7%	49,362
Dumfries & Galloway	727	84.3%	6,426	88.8%	7,153
Borders	501	85.1%	4,265	88.0%	4,766
Highland	1,328	78.5%	10,922	87.5%	12,250
Scotland	22,323	81.8%	201,011	92.4%	223,334

Note: Excludes children under 12 years of age (n=986)

Table 52. Percentage of people with diabetes (type 1 and type 2 combined) who have a record of serum creatinine within the previous 15 months, 2002-2011.

Year	Recorded within previous 15 months	Total eligible population
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
2002	63.5%	97,246

Note: Excludes children under 12 years of age (n=986)

*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

The table below shows information on the recording of microalbuminuria. Note that there are data quality issues for some boards and that not all boards have decided to collect data on microalbuminuria for those with type 2 diabetes.

Table 53. Number and percentage of people with diabetes who have a record of a urinary microalbumin value available on SCI-DC 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		
Grampian	1,861	63.2%	17,620	84.3%	19,481
Western Isles	136	76.8%	871	82.3%	1,007
Tayside	1,152	64.2%	14,409	79.6%	15,561
Orkney	86	74.8%	644	75.5%	730
Fife	1,220	64.0%	12,122	75.0%	13,342
Highland	900	53.2%	8,798	70.5%	9,698
Lanarkshire	1,719	51.0%	17,451	69.8%	19,170
Ayrshire & Arran	1,137	53.1%	12,408	69.2%	13,545
Lothian	2,345	57.8%	19,347	65.5%	21,692
Greater Glasgow & Clyde	3,185	53.4%	31,280	62.6%	34,465
Forth Valley	794	51.1%	7,754	61.9%	8,548
Shetland	77	64.7%	513	58.9%	590
Dumfries & Galloway	192	22.3%	2,375	32.8%	2,567
Borders	354	60.1%	88	1.8%	442
Scotland	15,158	55.5%	145,680	67.0%	160,838

Note: Excludes children under 12 years of age (n=986)

Table 54. Number and percentage of people with diabetes who have a record of eGFR available on SCI-DC 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		
Tayside	1,298	78.0%	17,333	95.7%	18,631
Grampian	2,359	86.2%	19,885	95.1%	22,244
Borders	493	91.1%	4,562	94.2%	5,055
Highland	1,218	78.1%	10,917	87.5%	12,135
Shetland	97	89.8%	747	85.8%	844
Western Isles	82	50.6%	755	71.4%	837
Greater Glasgow & Clyde	2,804	50.2%	33,726	67.5%	36,530
Lothian	1,257	32.9%	15,826	53.6%	17,083
Fife	485	27.4%	6,085	37.7%	6,570
Forth Valley	283	19.8%	4,541	36.3%	4,824
Dumfries & Galloway	190	23.4%	2,478	34.3%	2,668
Ayrshire & Arran	451	22.7%	5,642	31.5%	6,093
Orkney	17	16.3%	156	18.3%	173
Lanarkshire	59	1.9%	301	1.2%	360
Scotland	11,093	43.7%	122,954	56.5%	134,047

Note that the figures in table 51 relate to eGFR results found on SCI-DC while the larger number of results presented in tables 52 and 53 are based on derived results calculated from information held in SCI-DC.

Due to existing data flow issues it is still not possible to present adequate figures on direct eGFR testing. It is however, possible to derive approximate eGFR values by applying the abbreviated Modification of Diet in Renal Disease (MDRD) formula to creatinine values that are available to SCI-DC. A breakdown of these by eGFR range as a percentage of the type 1 and type 2 diabetes populations is shown below.

Table 55. Type 1 diabetes: percentage of people in each eGFR category, using values derived from creatinine records on SCI-DC, by NHS Board.

NHS Board	eGFR (Derived)					Total derived	Not derived	% derived
	<15	15-29	30-44	45-59	≥60			
Shetland	0.0%	1.0%	0.0%	2.0%	97.0%	100	8	92.6%
Grampian	0.2%	1.3%	2.0%	4.1%	92.3%	2,448	288	89.5%
Lothian	0.4%	1.2%	2.3%	4.6%	91.4%	3,191	627	83.6%
Western Isles	0.0%	1.3%	3.2%	4.5%	90.9%	154	8	95.1%
Tayside	0.7%	1.8%	2.7%	5.1%	89.8%	1,484	181	89.1%
Greater Glasgow & Clyde	0.5%	1.7%	3.1%	5.5%	89.2%	4,305	1282	77.1%
Orkney	0.0%	2.0%	5.1%	4.0%	88.9%	99	5	95.2%
Highland	0.5%	1.2%	3.8%	6.1%	88.4%	1,289	270	82.7%
Lanarkshire	0.7%	1.6%	4.1%	7.5%	86.2%	2,516	606	80.6%
Dumfries & Galloway	0.4%	1.3%	4.0%	8.2%	86.1%	718	95	88.3%
Fife	0.7%	1.3%	3.8%	8.2%	85.9%	1,483	286	83.8%
Borders	0.4%	2.0%	5.7%	7.3%	84.6%	493	48	91.1%
Ayrshire & Arran	1.2%	1.7%	4.4%	8.2%	84.6%	1,807	177	91.1%
Forth Valley	0.4%	1.4%	4.4%	10.6%	83.2%	1,289	142	90.1%
Scotland	0.5%	1.5%	3.3%	6.3%	88.4%	21,376	4,023	84.2%

Note that the figures in table 51 relate to eGFR results found on SCI-DC while the larger number of results presented in tables 52 and 53 are based on derived results calculated from information held in SCI-DC.

Table 56. Type 2 diabetes: percentage of people in each eGFR category, using values derived from creatinine records on SCI-DC, by NHS Board.

NHS Board	eGFR (Derived)					Total derived	Not derived	% derived
	<15	15-29	30-44	45-59	≥60			
Grampian	0.2%	1.3%	4.7%	9.9%	83.8%	20,226	674	96.8%
Shetland	0.1%	1.7%	6.1%	8.3%	83.8%	819	52	94.0%
Greater Glasgow & Clyde	0.4%	1.8%	5.5%	10.6%	81.8%	44,849	5,148	89.7%
Orkney	0.9%	1.6%	6.2%	10.0%	81.4%	812	41	95.2%
Lanarkshire	0.3%	1.6%	5.8%	12.4%	79.9%	22,972	2,023	91.9%
Lothian	0.3%	1.7%	6.1%	12.2%	79.8%	26,642	2,908	90.2%
Ayrshire & Arran	0.3%	1.9%	6.1%	13.3%	78.4%	17,403	516	97.1%
Tayside	0.3%	1.8%	6.3%	13.6%	78.0%	17,568	535	97.0%
Highland	0.3%	1.9%	6.8%	14.9%	76.1%	10,922	1,557	87.5%
Dumfries & Galloway	0.4%	1.6%	7.4%	14.8%	75.8%	6,426	809	88.8%
Western Isles	0.3%	1.3%	8.1%	14.5%	75.8%	1,025	33	96.9%
Borders	0.1%	2.1%	8.4%	16.6%	72.9%	4,562	282	94.2%
Fife	0.2%	2.2%	8.8%	19.8%	69.0%	15,063	1096	93.2%
Forth Valley	0.3%	2.0%	9.3%	22.0%	66.4%	12,009	517	95.9%
Scotland	0.3%	1.8%	6.3%	13.3%	78.3%	201,298	16,191	92.6%

Note that the figures in table 51 relate to eGFR results found on SCI-DC while the larger number of results presented in tables 52 and 53 are based on derived results calculated from information held in SCI-DC.

End stage renal failure

End stage renal failure implies a need for renal dialysis or transplantation.

Table 57. Percentage of people with diabetes recorded as having end stage renal failure, by NHS board and diabetes type, ranked by percentage.

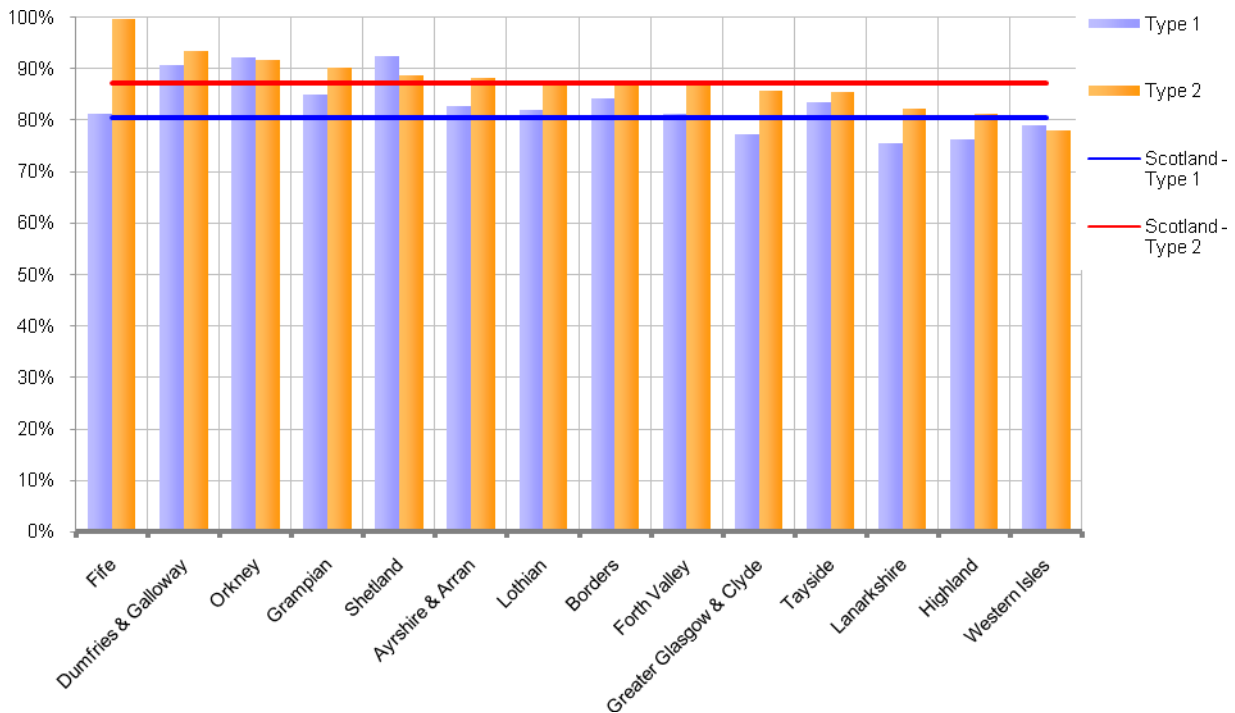
NHS Board	Recorded as having end stage renal failure			
	Type 1 diabetes		Type 2 diabetes	
Shetland	1	0.8%	1	0.1%
Orkney	2	1.7%	2	0.2%
Lanarkshire	26	0.7%	66	0.3%
Western Isles	0	0.0%	3	0.3%
Dumfries & Galloway	4	0.4%	23	0.3%
Borders	10	1.6%	19	0.4%
Fife	16	0.8%	68	0.4%
Ayrshire & Arran	34	1.5%	78	0.4%
Greater Glasgow & Clyde	54	0.9%	227	0.5%
Highland	20	1.1%	63	0.5%
Forth Valley	14	0.9%	64	0.5%
Grampian	43	1.4%	113	0.5%
Lothian	36	0.9%	171	0.6%
Tayside	32	1.7%	111	0.6%
Scotland	292	1.0%	1,009	0.5%

Diabetic Eye Disease

Diabetic retinal screening

86.5% of patients had a record of eye screening through the retinal screening service recorded on SCI-DC in the previous 15 months, including those attending ophthalmology services. More exploratory work on data accuracy needs to be carried out.

Figure 20. 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 figure for type 2.



Note: Excludes children under 12 years (n=986)

Table 58 shows the 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 opposed to those who were not screened, were not attending ophthalmology services or had no known reason for suspension recorded.

Table 58. Percentage of people with diabetes 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; 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 (T1 and T2)	
Fife	1,548	81.2%	16,106	99.6%	17,654	97.7%	416	2.3%
Dumfries & Galloway	782	90.7%	6,758	93.4%	7,540	93.1%	557	6.9%
Orkney	106	92.2%	782	91.7%	888	91.7%	80	8.3%
Grampian	2,498	84.9%	18,864	90.2%	21,362	89.6%	2,484	10.4%
Shetland	110	92.4%	773	88.7%	883	89.2%	107	10.8%
Ayrshire & Arran	1,771	82.7%	15,785	88.1%	17,556	87.5%	2,504	12.5%
Borders	496	84.2%	4,218	87.1%	4,714	86.8%	720	13.2%
Forth Valley	1,262	81.2%	10,906	87.1%	12,168	86.4%	1,914	13.6%
Lothian	3,329	82.0%	25,745	87.1%	29,074	86.5%	4,535	13.5%
Greater Glasgow & Clyde	4,617	77.3%	42,820	85.6%	47,437	84.8%	8,535	15.2%
Tayside	1,498	83.5%	15,481	85.5%	16,979	85.3%	2,920	14.7%
Lanarkshire	2,546	75.5%	20,556	82.2%	23,102	81.4%	5,266	18.6%
Highland	1,288	76.1%	10,131	81.2%	11,419	80.6%	2,752	19.4%
Western Isles	140	79.1%	825	78.0%	965	78.1%	270	21.9%
Scotland	21,991	80.6%	189,750	87.2%	211,741	86.5%	33,060	13.5%

Note: Excludes children under 12 years ($n=986$).

Table 59. 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): 2001-2011.

Year	Recorded within previous 15 months	Methods
2011	86.5%	Includes all patients aged ≥ 12 years screened by DRS* in preceding 15 months, attending ophthalmology or appropriately suspended from screening.
2010	85.4%	
2009	80.6%	
2008	71.9%	
2007	83.6%	
2006	70.8%	Includes all patients aged ≥ 12 years who had eye-screening/retinal status values from any source. This included funduscopy results from GP and hospital clinics.
2005	67.7%	
2004	60.4%	
2003	40.4%	
2002	60.3%	
2001	42.2%	

Note: Excludes children under 12 years ($n=986$). * DRS = Diabetes Retinopathy Screening using digital photography to determine retinal status

Diabetic retinopathy

28.1% of people with data available were recorded as having retinopathy in one or both eyes at some time. However, for 7.6% of patients the register did not include a record of retinopathy status. Part of the increase in recorded retinal status seen in table 63 is due to more complete recording. Tables 60 to 62 show the percentage with retinopathy both as a percentage of all patients and as a percentage of those with known retinal status.

Table 60. Last DRS or equivalent retinal status in people with Type 1 diabetes: ranked (ascending) by percentage of those with known status who had retinopathy

NHS Board	Present (% of total)	Present *	Absent (% of total)	Absent *	Unknown (% of total)	Total pop
Grampian	1,307 44.4%	48.4%	1,394 47.4%	51.6%	243 8.3%	2,944
Tayside	722 40.2%	50.7%	702 39.1%	49.3%	371 20.7%	1,795
Highland	826 48.8%	52.9%	736 43.5%	47.1%	130 7.7%	1,692
Lothian	1,936 47.7%	53.4%	1,687 41.6%	46.6%	435 10.7%	4,058
Orkney	56 48.7%	53.8%	48 41.7%	46.2%	11 9.6%	115
Western Isles	88 49.7%	55.0%	72 40.7%	45.0%	17 9.6%	177
Shetland	64 53.8%	56.6%	49 41.2%	43.4%	6 5.0%	119
Borders	285 48.4%	56.7%	218 37.0%	43.3%	86 14.6%	589
Greater Glasgow & Clyde	3,055 51.2%	57.3%	2,276 38.1%	42.7%	638 10.7%	5,969
Fife	1,000 52.4%	59.5%	681 35.7%	40.5%	226 11.9%	1,907
Lanarkshire	1,863 55.3%	61.8%	1,152 34.2%	38.2%	355 10.5%	3,370
Forth Valley	895 57.6%	62.5%	538 34.6%	37.5%	121 7.8%	1,554
Ayrshire & Arran	1,302 60.8%	69.4%	574 26.8%	30.6%	265 12.4%	2,141
Dumfries & Galloway	576 66.8%	73.2%	211 24.5%	26.8%	75 8.7%	862
Scotland	13,975 51.2%	57.5%	10,338 37.9%	42.5%	2,979 10.9%	27,292

Note: Excludes children under 12 years (n=980). * Percentage of population with known retinal status

Table 61. Last DRS or equivalent retinal status in people with Type 2 diabetes: ranked (ascending) by percentage of those with known status who had retinopathy

NHS Board	Present (% of total)	% present *	Absent (% of total)	% absent *	Unknown (% of total)	Total pop
Grampian	4,243 20.3%	21.4%	15,571 74.5%	78.6%	1,088 5.2%	20,902
Borders	963 19.9%	22.3%	3,356 69.3%	77.7%	526 10.9%	4,845
Tayside	3,600 19.9%	22.4%	12,443 68.7%	77.6%	2,061 11.4%	18,104
Lothian	6,290 21.3%	23.1%	20,918 70.8%	76.9%	2,343 7.9%	29,551
Western Isles	229 21.6%	23.7%	737 69.7%	76.3%	92 8.7%	1,058
Highland	2,750 22.0%	23.8%	8,825 70.7%	76.2%	904 7.2%	12,479
Greater Glasgow & Clyde	12,147 24.3%	25.9%	34,668 69.3%	74.1%	3,188 6.4%	50,003
Fife	3,977 24.6%	26.1%	11,252 69.6%	73.9%	934 5.8%	16,163
Shetland	218 25.0%	27.3%	580 66.6%	72.7%	73 8.4%	871
Lanark	6,975 27.9%	30.5%	15,920 63.7%	69.5%	2,102 8.4%	24,997
Orkney	244 28.6%	30.6%	554 64.9%	69.4%	55 6.4%	853
Forth Valley	3,793 30.3%	32.1%	8,020 64.0%	67.9%	715 5.7%	12,528
Ayrshire & Arran	6,228 34.8%	37.2%	10,513 58.7%	62.8%	1,178 6.6%	17,919
Dumfries & Galloway	3,211 44.4%	46.7%	3,669 50.7%	53.3%	355 4.9%	7,235
Scotland	54,868 25.2%	27.2%	147,026 67.6%	72.8%	15,614 7.2%	217,508

Note: Excludes children under 12 years (n=6). * Percentage of population with known retinal status

Table 62. Last DRS or equivalent retinal status in people with Type 1 and Type 2 diabetes combined: ranked (ascending) by percentage of those with known status who had retinopathy

NHS Board	Present (% of total)		% present *	Absent (% of total)		% absent *	Unknown (% of total)		Total pop
Grampian	5,550	23.3%	24.7%	16,965	71.1%	75.3%	1,331	5.6%	23,846
Tayside	4,322	21.7%	24.7%	13,145	66.1%	75.3%	2,432	12.2%	19,899
Borders	1,248	23.0%	25.9%	3,574	65.8%	74.1%	612	11.3%	5,434
Lothian	8,226	24.5%	26.7%	22,605	67.3%	73.3%	2,778	8.3%	33,609
Highland	3,576	25.2%	27.2%	9,561	67.5%	72.8%	1,034	7.3%	14,171
Western Isles	317	25.7%	28.2%	809	65.5%	71.8%	109	8.8%	1,235
Greater Glasgow & Clyde	15,202	27.2%	29.2%	36,944	66.0%	70.8%	3,826	6.8%	55,972
Fife	4,977	27.5%	29.4%	11,933	66.0%	70.6%	1,160	6.4%	18,070
Shetland	282	28.5%	31.0%	629	63.5%	69.0%	79	8.0%	990
Orkney	300	31.0%	33.3%	602	62.2%	66.7%	66	6.8%	968
Lanark	8,838	31.2%	34.1%	17,072	60.2%	65.9%	2,457	8.7%	28,367
Forth Valley	4,688	33.3%	35.4%	8,558	60.8%	64.6%	836	5.9%	14,082
Ayrshire & Arran	7,530	37.5%	40.4%	11,087	55.3%	59.6%	1,443	7.2%	20,060
Dumfries & Galloway	3,787	46.8%	49.4%	3,880	47.9%	50.6%	430	5.3%	8,097
Scotland	68,843	28.1%	30.4%	157,364	64.3%	69.6%	18,593	7.6%	244,800

Note: Excludes children under 12 years (n=986). * Percentage of population with known retinal status

Table 63. Last known retinopathy status (as a percentage of all, including those with unknown status) in Type 1 and Type 2 patients combined: 2003-2011.

Year	Present*	Absent	Not known	Methods
2011	28.1%	64.3%	7.6%	Quantifies the last recorded DRS or equivalent retinal assessment ever
2010	28.5%	62.3%	9.2%	
2009	20.4%	50.1%	29.5%	
2008	20.4%	48.8%	30.8%	
2007	28.7%	53.1%	18.2%	Quantifies the last recorded retinal assessment ever regardless of source or assessment method (e.g. contains GP, Hospital clinic and funduscopy values)
2006	19.5%	44.8%	35.7%	
2005	13.2%	47.8%	39.0%	
2004	14.5%	53.8%	31.7%	
2003	14.4%	50.9%	34.7%	

Note: Excludes children under 12 years in all reports. *Includes maculopathy

Blindness

1,847 (0.8%) people with diabetes were recorded as blind in 2011. However, not all of these patients lost their sight through diabetic complications.

Table 64. Number (and prevalence per 10,000 people with type 1 diabetes) who are recorded as blind, Scotland, 2011.

NHS Board	Diabetic cause		Non-diabetic cause		Not specified		Total		Total on register
Scotland	34	12.0	10	3.5	138	48.8	182	64.4	28,272

Table 65. Number (and prevalence per 10,000 people with type 2 diabetes) who are recorded as blind, by cause and NHS Board, 2011, ranked by prevalence of blindness due to diabetes.

NHS Board	Diabetic cause		Non-diabetic cause		Not specified		Total		Total on register
Borders	0	-	0	-	36	65.9	36	65.9	5,460
Grampian	0	-	2	0.8	183	76.4	185	77.2	23,955
Orkney	0	-	0	-	5	51.4	5	51.4	973
Shetland	0	-	1	10.	6	60.3	7	70.4	995
Ayrshire & Arran	2	1.0	4	2.0	107	53.1	113	56.1	20,140
Dumfries & Galloway	1	1.2	2	2.5	48	59.0	51	62.7	8,129
Highland	3	2.1	3	2.1	83	58.3	89	62.5	14,237
Greater Glasgow & Clyde	11	2.0	26	4.6	351	62.5	388	69.1	56,185
Lothian	6	1.8	29	8.6	206	61.1	241	71.5	33,726
Lanarkshire	8	2.8	14	4.9	193	67.7	215	75.4	28,511
Forth Valley	2	1.4	10	7.1	60	42.5	72	50.9	14,134
Fife	7	3.9	4	2.2	113	62.3	124	68.4	18,133
Tayside	9	4.5	18	9.0	108	54.1	135	67.6	19,968
Western Isles	1	8.1	0	-	3	24.2	4	32.3	1,240
Scotland	50	2.0	113	4.6	1,502	61.1	1,665	67.7	245,786

Foot Complications

Peripheral pulses

75% of people with Type 1 or Type 2 diabetes have had their feet checked (peripheral pulses recorded) in the previous 15 months. This is a slight decrease from 2010 where 75.9% had their feet checked.

Figure 21. Percentage of people with Type 1 diabetes who had peripheral pulses recorded within the previous 15 months.

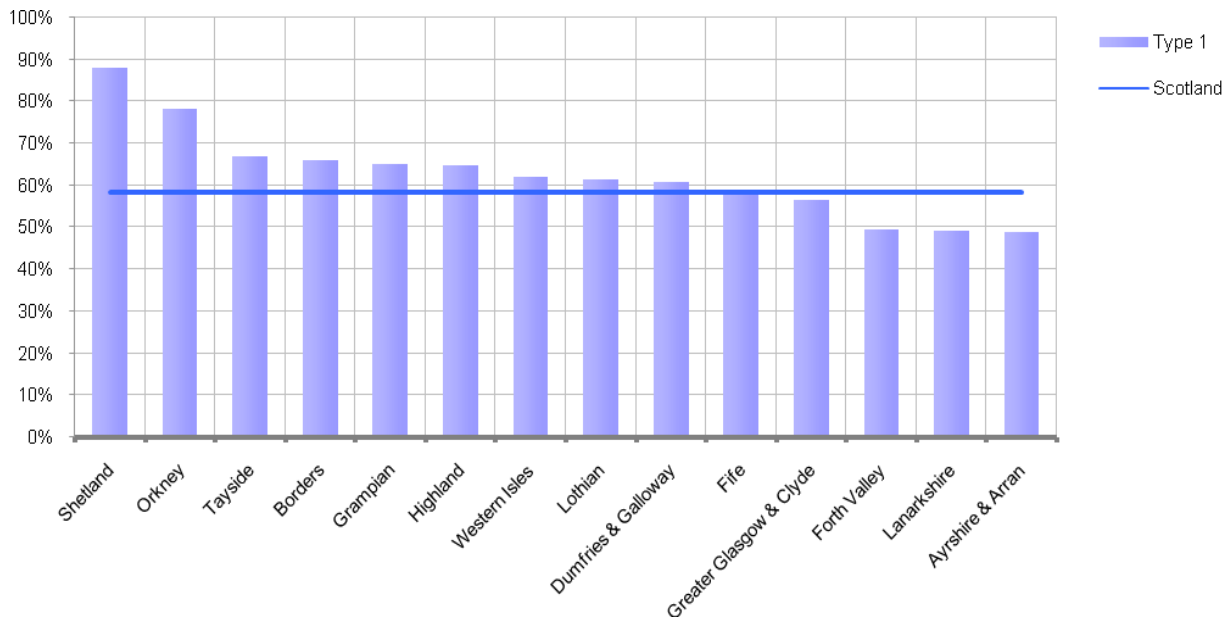


Figure 22. Percentage of people with Type 2 diabetes who had peripheral pulses recorded within the previous 15 months.

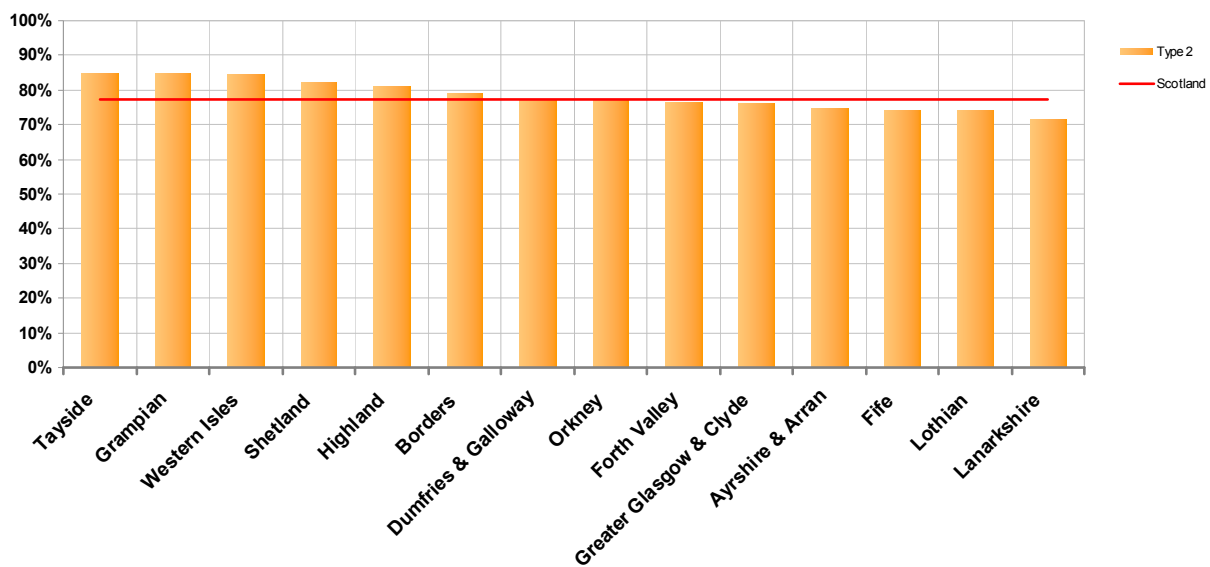


Table 66. Percentage of people with diabetes who had peripheral pulses recorded within previous 15 months, by NHS board and diabetes type, ranked by figures for type 2.

NHS Board	Recorded within previous 15 months			
	Type 1 diabetes		Type 2 diabetes	
Tayside	1,247	66.9%	15,376	84.9%
Grampian	1,990	65.2%	17,701	84.7%
Western Isles	113	62.1%	895	84.6%
Shetland	109	87.9%	717	82.3%
Highland	1,141	64.9%	10,138	81.2%
Borders	405	66.0%	3,837	79.2%
Orkney	94	78.3%	656	76.9%
Dumfries & Galloway	544	60.9%	5,567	76.9%
Forth Valley	793	49.4%	9,590	76.5%
Greater Glasgow & Clyde	3,493	56.5%	38,161	76.3%
Ayrshire & Arran	1,083	48.8%	13,346	74.5%
Fife	1,160	58.9%	12,022	74.4%
Lothian	2,567	61.5%	21,959	74.3%
Lanarkshire	1,724	49.1%	17,890	71.6%
Scotland	16,463	58.2%	167,855	77.2%

Table 67. Percentage of people with diabetes (type 1 and type 2 combined) who had peripheral pulses recorded within previous 15 months, Scotland, 2004-2009.

Year	Recorded within previous 15 months
2011	75.0%
2010	75.9%
2009	76.5%
2008	76.1%
2007	74.5%
2006	73.9%
2005	66.9%
2004	55.2%

Foot ulceration

10,496 (4.3%) people with Type 1 or Type 2 diabetes were reported to have had a foot ulcer.

Table 68. Percentage of people with diabetes with a record of ever having had a foot ulcer, by NHS board and diabetes type, ranked by figures for type 2.

NHS Board	Recorded as ever having had a foot ulcer			
	Type 1 diabetes		Type 2 diabetes	
Shetland	1	0.8%	3	0.3%
Western Isles	1	0.5%	15	1.4%
Dumfries & Galloway	28	3.1%	106	1.5%
Grampian	87	2.8%	315	1.5%
Ayrshire & Arran	100	4.5%	321	1.8%
Borders	36	5.9%	94	1.9%
Orkney	7	5.8%	17	2.0%
Highland	60	3.4%	282	2.3%
Tayside	117	6.3%	550	3.0%
Greater Glasgow & Clyde	493	8.0%	1,908	3.8%
Forth Valley	160	10.0%	544	4.3%
Fife	113	5.7%	706	4.4%
Lothian	344	8.2%	1,939	6.6%
Lanarkshire	420	12.0%	1,729	6.9%
Scotland	1,967	7.0%	8,529	3.9%

Note that these data are provisional.

Table 69. Percentage of people with diabetes (type 1 and type 2 combined) who had a record of ever having had a foot ulcer, Scotland, 2001-2011.

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

(a) excludes NHS Borders and NHS Lanarkshire

Lower limb amputation

1359 (0.6%) patients have had a lower limb amputation.

Table 70. 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 figures for type 2.

NHS Board	Recorded as ever having had a lower limb amputation			
	Type 1 diabetes		Type 2 diabetes	
Shetland	1	0.8%	2	0.2%
Borders	2	0.3%	16	0.3%
Forth Valley	12	0.7%	52	0.4%
Lanarkshire	24	0.7%	104	0.4%
Ayrshire & Arran	14	0.6%	82	0.5%
Grampian	18	0.6%	96	0.5%
Lothian	23	0.6%	149	0.5%
Fife	24	1.2%	89	0.6%
Greater Glasgow & Clyde	56	0.9%	279	0.6%
Western Isles	1	0.5%	6	0.6%
Highland	20	1.1%	76	0.6%
Dumfries & Galloway	15	1.7%	48	0.7%
Tayside	20	1.1%	121	0.7%
Orkney	2	1.7%	7	0.8%
Scotland	232	0.8%	1,127	0.5%

Table 71. Percentage of people with diabetes (type 1 and type 2 combined) who had a record of ever having had a lower limb amputation, Scotland, 2001-2011.

Year of Survey	Lower limb amputation	
2011	1359	0.6%
2010	1250	0.5%
2009	1132	0.5%
2008	1051	0.5%
2007	950	0.5%
2006	868	0.4%
2005 (a)	774	0.5%
2004	845	0.6%
2003	1014	0.8%
2002	996	1.0%
2001	908	0.9%

Note: These figures are for those who have ever had an amputation in any year, and are still alive.

(a) excludes NHS Borders and NHS Lanarkshire

Foot risk calculation

Table 72. Percentage of people with diabetes who had a foot risk score recorded in the previous 15 months, by NHS board, ranked by figure for type 2.

NHS Board	Recorded as having a foot risk score – Type 1		Recorded as having a foot risk score – Type 2	
Tayside	1,237	66.4%	15,288	84.4%
Highland	1,145	65.1%	10,171	81.5%
Shetland	108	87.1%	703	80.7%
Borders	406	66.1%	3,758	77.5%
Western Isles	107	58.8%	812	76.7%
Lanarkshire	2,007	57.1%	18,548	74.2%
Ayrshire & Arran	1,037	46.7%	13,184	73.6%
Grampian	1,742	57.1%	15,029	71.9%
Lothian	2,389	57.2%	21,205	71.8%
Orkney	79	65.8%	611	71.6%
Dumfries & Galloway	469	52.5%	4,941	68.3%
Fife	1,111	56.4%	10,871	67.3%
Greater Glasgow & Clyde	2,626	42.5%	32,078	64.1%
Forth Valley	641	39.9%	7,813	62.4%
Scotland	15,104	53.4%	155012	71.3%

Other statistics

My Diabetes My Way

“My Diabetes My Way” 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 2011. Records access is a key objective of the Scottish Diabetes Action Plan.

Table 73. Numbers of people with diabetes registered to access their clinical information using the “My Diabetes My Way” website by NHS Board, 2011, Scotland.

NHS Board	Type 1	Type 2	Total
Ayrshire & Arran	2	18	20
Borders	0	0	0
Dumfries & Galloway	2	4	6
Fife	17	47	64
Forth Valley	6	8	14
Grampian	16	39	55
Greater Glasgow & Clyde	26	29	55
Highland	9	18	27
Lanarkshire	10	18	28
Lothian	27	83	110
Orkney	0	2	2
Shetland	10	6	16
Tayside	14	35	49
Western Isles	1	3	4
TOTAL	140	310	450

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 consented to join the register by the end of 2011.

Table 74. Numbers of people with diabetes who had joined the SDRN diabetes research register by the end of 2011, by NHS Board, Scotland.

NHS Board	Type 1	Type 2	Total
Ayrshire & Arran	0	2	2
Borders	0	0	0
Dumfries & Galloway	145	759	904
Fife	64	217	281
Forth Valley	0	0	0
Grampian	128	458	586
Greater Glasgow & Clyde	383	694	1077
Highland	379	653	1032
Lanarkshire	37	145	182
Lothian	899	1758	2657
Orkney	0	0	0
Shetland	0	0	0
Tayside	250	1293	1543
Western Isles	1	0	1
TOTAL	2286	5979	8265

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Dr William Simpson
Dr Sarah Wild

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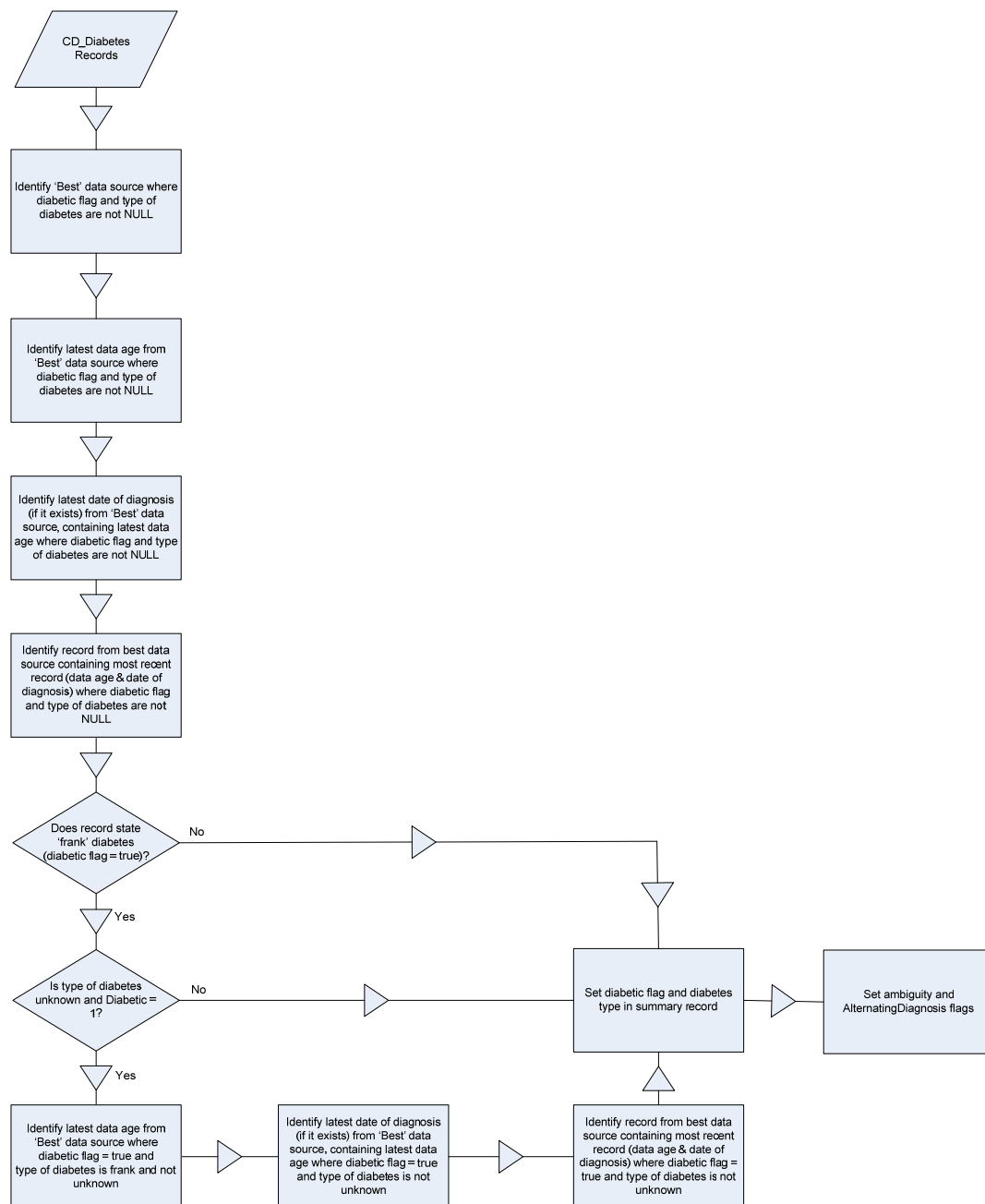
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Appendix 1: Determining Diabetes Diagnosis

The diagram below shows how 'raw' diabetes diagnosis data from multiple data sources can be manipulated to produce a 'true' diabetes type for each patient. Record identification is based on flagging the 'best' data source as defined by the priority weightings held for each in relation to diabetes diagnosis. The latest diagnosis record from the 'best' data source must be used to determine the most appropriate diabetes type. The data flow continues by determining and setting the type of diabetes or pre-diabetic condition of patient. If a patient is flagged as 'diabetes type unknown', the process above will be repeated for any other records obtained from the 'best' data source that contain a valid diabetes type. If one does not exist, then the 'diabetes type unknown' record will prevail. If there are any variations in diabetes type across any of a patient's diagnosis records, then an ambiguity flag will be set. Where a patient has multiple diagnoses identified with the same record age and date of diagnosis (as happens in some cases after practice system migration) the AlternatingDiagnosis flag will be set.



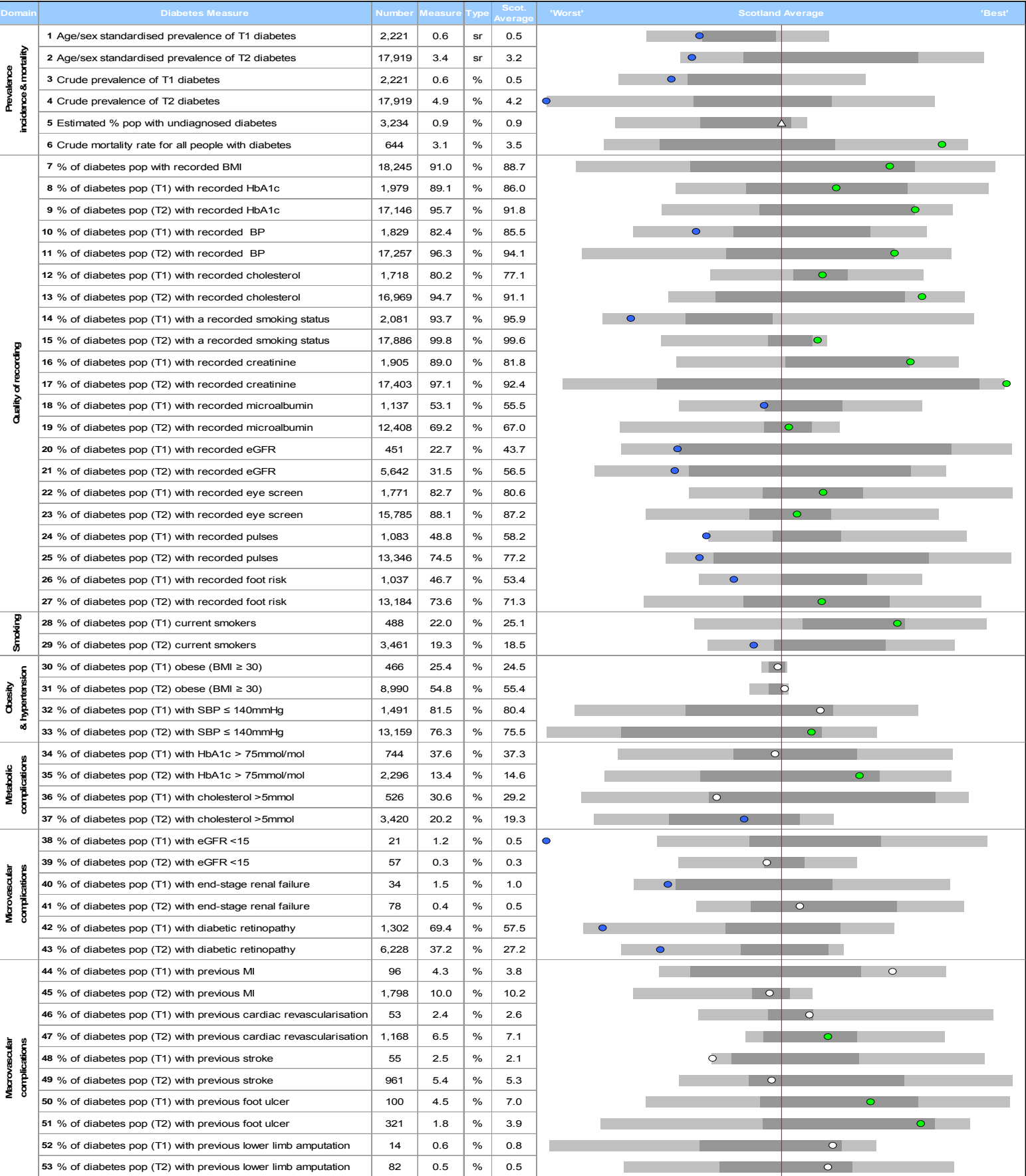
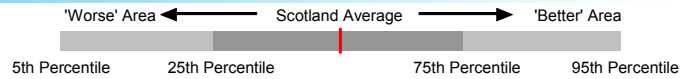
Appendix 2: Diabetes spine charts

NHS Ayrshire & Arran Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



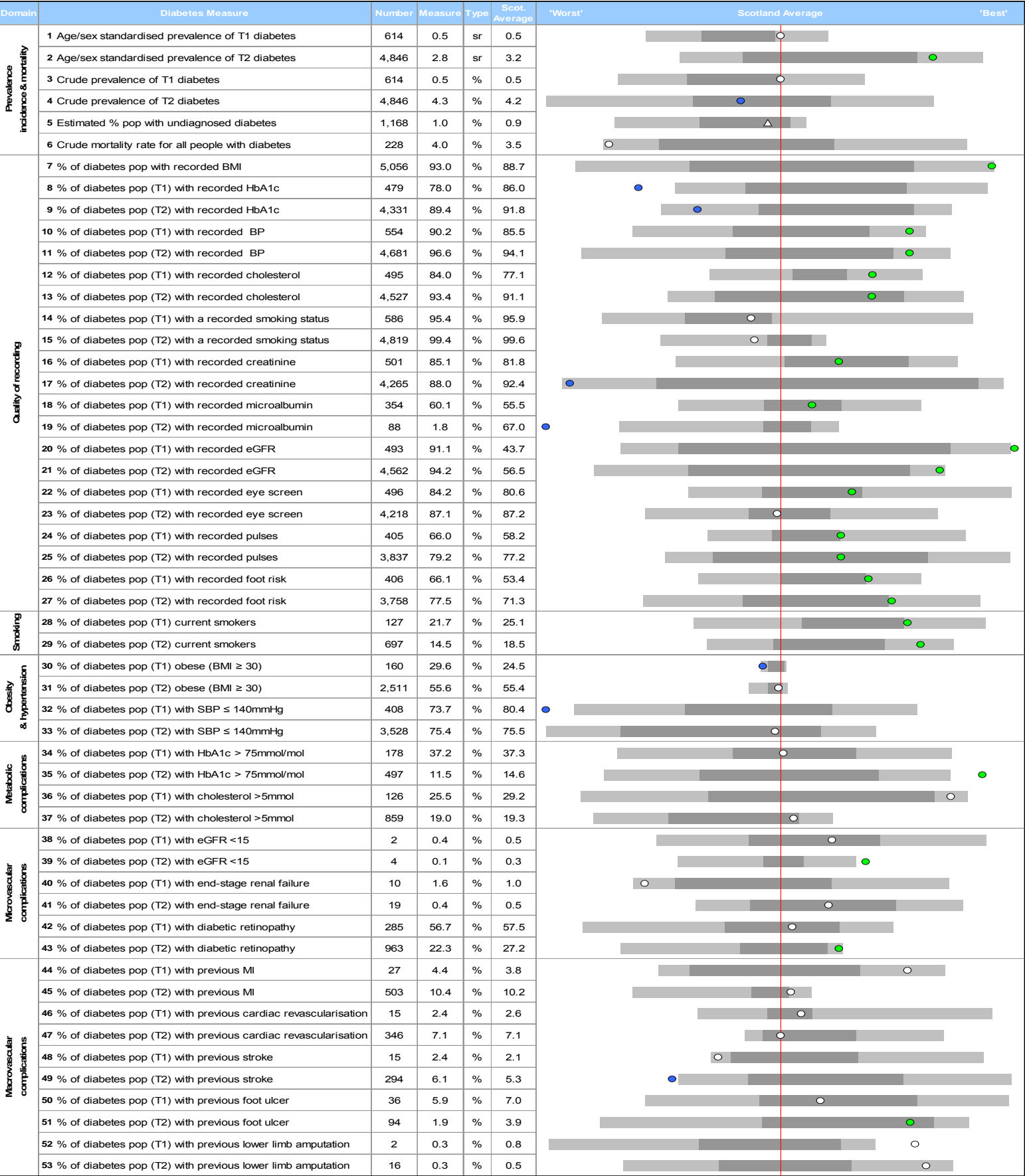
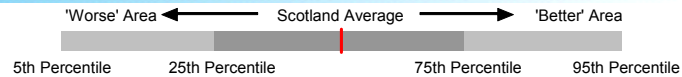
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Borders Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



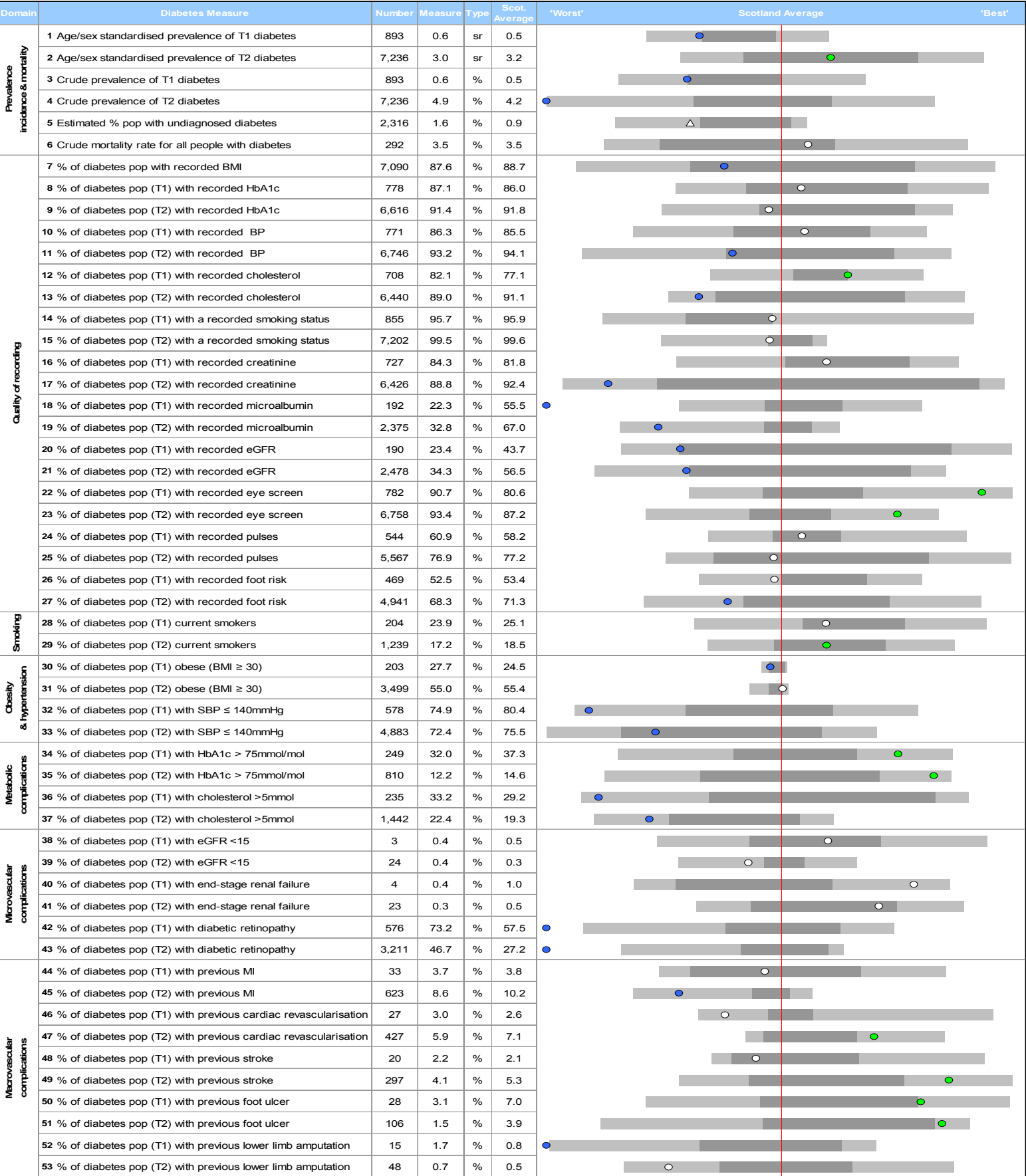
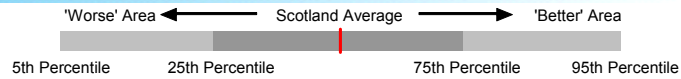
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Dumfries & Galloway Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



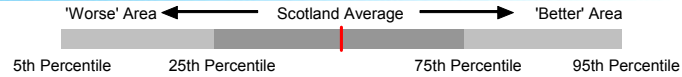
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Fife Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



Domain	Diabetes Measure	Number	Measure	Type	Scot. Average	"Worst"	Scotland Average	"Best"
Prevalence & mortality	1 Age/sex standardised prevalence of T1 diabetes	1,969	0.6	sr	0.5			
	2 Age/sex standardised prevalence of T2 diabetes	16,164	3.3	sr	3.2			
	3 Crude prevalence of T1 diabetes	1,969	0.5	%	0.5			
	4 Crude prevalence of T2 diabetes	16,164	4.4	%	4.2			
	5 Estimated % pop with undiagnosed diabetes	2,556	0.7	%	0.9			
	6 Crude mortality rate for all people with diabetes	710	3.8	%	3.5			
Quality of recording	7 % of diabetes pop with recorded BMI	15,168	83.9	%	88.7	●		
	8 % of diabetes pop (T1) with recorded HbA1c	1,699	86.3	%	86.0			
	9 % of diabetes pop (T2) with recorded HbA1c	14,838	91.8	%	91.8			
	10 % of diabetes pop (T1) with recorded BP	1,609	81.7	%	85.5			
	11 % of diabetes pop (T2) with recorded BP	14,546	90.0	%	94.1	●		
	12 % of diabetes pop (T1) with recorded cholesterol	1,484	77.8	%	77.1			
	13 % of diabetes pop (T2) with recorded cholesterol	14,534	89.9	%	91.1			
	14 % of diabetes pop (T1) with a recorded smoking status	1,885	95.7	%	95.9			
	15 % of diabetes pop (T2) with a recorded smoking status	16,106	99.6	%	99.6			
	16 % of diabetes pop (T1) with recorded creatinine	1,591	83.4	%	81.8			
	17 % of diabetes pop (T2) with recorded creatinine	15,066	93.2	%	92.4			
	18 % of diabetes pop (T1) with recorded microalbumin	1,220	64.0	%	55.5			
	19 % of diabetes pop (T2) with recorded microalbumin	12,122	75.0	%	67.0			
	20 % of diabetes pop (T1) with recorded eGFR	485	27.4	%	43.7			
	21 % of diabetes pop (T2) with recorded eGFR	6,085	37.7	%	56.5			
	22 % of diabetes pop (T1) with recorded eye screen	1,548	81.2	%	80.6			
	23 % of diabetes pop (T2) with recorded eye screen	16,106	99.6	%	87.2			●
	24 % of diabetes pop (T1) with recorded pulses	1,160	58.9	%	58.2			
	25 % of diabetes pop (T2) with recorded pulses	12,022	74.4	%	77.2			
	26 % of diabetes pop (T1) with recorded foot risk	1,111	56.4	%	53.4			
	27 % of diabetes pop (T2) with recorded foot risk	10,871	67.3	%	71.3			
Smoking	28 % of diabetes pop (T1) current smokers	456	24.2	%	25.1			
	29 % of diabetes pop (T2) current smokers	2,867	17.8	%	18.5			
Obesity & hypertension	30 % of diabetes pop (T1) obese (BMI ≥ 30)	419	25.9	%	24.5			
	31 % of diabetes pop (T2) obese (BMI ≥ 30)	7,952	58.7	%	55.4			
	32 % of diabetes pop (T1) with SBP ≤ 140mmHg	1,310	81.4	%	80.4			
	33 % of diabetes pop (T2) with SBP ≤ 140mmHg	10,563	72.6	%	75.5			
Metabolic complications	34 % of diabetes pop (T1) with HbA1c > 75mmol/mol	644	37.9	%	37.3			
	35 % of diabetes pop (T2) with HbA1c > 75mmol/mol	1,928	13.0	%	14.6			
	36 % of diabetes pop (T1) with cholesterol >5mmol	426	28.7	%	29.2			
	37 % of diabetes pop (T2) with cholesterol >5mmol	2,689	18.5	%	19.3			
Microvascular complications	38 % of diabetes pop (T1) with eGFR <15	10	0.7	%	0.5			
	39 % of diabetes pop (T2) with eGFR <15	33	0.2	%	0.3			
	40 % of diabetes pop (T1) with end-stage renal failure	16	0.8	%	1.0			
	41 % of diabetes pop (T2) with end-stage renal failure	68	0.4	%	0.5			
	42 % of diabetes pop (T1) with diabetic retinopathy	1,000	59.5	%	57.5			
	43 % of diabetes pop (T2) with diabetic retinopathy	3,977	26.1	%	27.2			
Macrovascular complications	44 % of diabetes pop (T1) with previous MI	71	3.6	%	3.8			
	45 % of diabetes pop (T2) with previous MI	1,595	9.9	%	10.2			
	46 % of diabetes pop (T1) with previous cardiac revascularisation	33	1.7	%	2.6			
	47 % of diabetes pop (T2) with previous cardiac revascularisation	971	6.0	%	7.1			
	48 % of diabetes pop (T1) with previous stroke	49	2.5	%	2.1			
	49 % of diabetes pop (T2) with previous stroke	810	5.0	%	5.3			
	50 % of diabetes pop (T1) with previous foot ulcer	113	5.7	%	7.0			
	51 % of diabetes pop (T2) with previous foot ulcer	706	4.4	%	3.9			
	52 % of diabetes pop (T1) with previous lower limb amputation	24	1.2	%	0.8			
	53 % of diabetes pop (T2) with previous lower limb amputation	89	0.6	%	0.5			

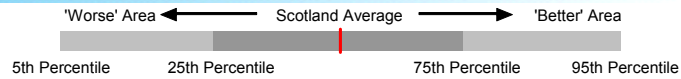
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Forth Valley Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



Domain	Diabetes Measure	Number	Measure	Type	Scot. Average	"Worst"	Scotland Average	"Best"
Prevalence & mortality	1 Age/sex standardised prevalence of T1 diabetes	1,606	0.6	sr	0.5			
	2 Age/sex standardised prevalence of T2 diabetes	12,528	3.3	sr	3.2			
	3 Crude prevalence of T1 diabetes	1,606	0.6	%	0.5			
	4 Crude prevalence of T2 diabetes	12,528	4.3	%	4.2			
	5 Estimated % pop with undiagnosed diabetes	1,933	0.7	%	0.9			
	6 Crude mortality rate for all people with diabetes	495	3.4	%	3.5			
Quality of recording	7 % of diabetes pop with recorded BMI	11,962	84.9	%	88.7			
	8 % of diabetes pop (T1) with recorded HbA1c	1,400	87.2	%	86.0			
	9 % of diabetes pop (T2) with recorded HbA1c	11,813	94.3	%	91.8			
	10 % of diabetes pop (T1) with recorded BP	1,234	76.8	%	85.5			
	11 % of diabetes pop (T2) with recorded BP	11,345	90.6	%	94.1			
	12 % of diabetes pop (T1) with recorded cholesterol	1,248	80.3	%	77.1			
	13 % of diabetes pop (T2) with recorded cholesterol	11,565	92.3	%	91.1			
	14 % of diabetes pop (T1) with a recorded smoking status	1,579	98.3	%	95.9			
	15 % of diabetes pop (T2) with a recorded smoking status	12,467	99.5	%	99.6			
	16 % of diabetes pop (T1) with recorded creatinine	1,356	87.3	%	81.8			
	17 % of diabetes pop (T2) with recorded creatinine	12,011	95.9	%	92.4			
	18 % of diabetes pop (T1) with recorded microalbumin	794	51.1	%	55.5			
	19 % of diabetes pop (T2) with recorded microalbumin	7,754	61.9	%	67.0			
	20 % of diabetes pop (T1) with recorded eGFR	283	19.8	%	43.7			
	21 % of diabetes pop (T2) with recorded eGFR	4,541	36.3	%	56.5			
	22 % of diabetes pop (T1) with recorded eye screen	1,262	81.2	%	80.6			
	23 % of diabetes pop (T2) with recorded eye screen	10,906	87.1	%	87.2			
	24 % of diabetes pop (T1) with recorded pulses	793	49.4	%	58.2			
	25 % of diabetes pop (T2) with recorded pulses	9,590	76.5	%	77.2			
	26 % of diabetes pop (T1) with recorded foot risk	641	39.9	%	53.4			
	27 % of diabetes pop (T2) with recorded foot risk	7,813	62.4	%	71.3			
Smoking	28 % of diabetes pop (T1) current smokers	367	23.2	%	25.1			
	29 % of diabetes pop (T2) current smokers	2,255	18.1	%	18.5			
Obesity & hypertension	30 % of diabetes pop (T1) obese (BMI ≥ 30)	295	23.4	%	24.5			
	31 % of diabetes pop (T2) obese (BMI ≥ 30)	6,143	57.4	%	55.4			
	32 % of diabetes pop (T1) with SBP ≤ 140mmHg	1,012	82.0	%	80.4			
	33 % of diabetes pop (T2) with SBP ≤ 140mmHg	8,687	76.6	%	75.5			
Metabolic complications	34 % of diabetes pop (T1) with HbA1c > 75mmol/mol	573	40.9	%	37.3			
	35 % of diabetes pop (T2) with HbA1c > 75mmol/mol	1,687	14.3	%	14.6			
	36 % of diabetes pop (T1) with cholesterol >5mmol	366	29.3	%	29.2			
	37 % of diabetes pop (T2) with cholesterol >5mmol	2,126	18.4	%	19.3			
Microvascular complications	38 % of diabetes pop (T1) with eGFR <15	5	0.4	%	0.5			
	39 % of diabetes pop (T2) with eGFR <15	33	0.3	%	0.3			
	40 % of diabetes pop (T1) with end-stage renal failure	14	0.9	%	1.0			
	41 % of diabetes pop (T2) with end-stage renal failure	64	0.5	%	0.5			
	42 % of diabetes pop (T1) with diabetic retinopathy	895	62.5	%	57.5			
	43 % of diabetes pop (T2) with diabetic retinopathy	3,793	32.1	%	27.2			
Macrovascular complications	44 % of diabetes pop (T1) with previous MI	55	3.4	%	3.8			
	45 % of diabetes pop (T2) with previous MI	1,259	10.0	%	10.2			
	46 % of diabetes pop (T1) with previous cardiac revascularisation	38	2.4	%	2.6			
	47 % of diabetes pop (T2) with previous cardiac revascularisation	827	6.6	%	7.1			
	48 % of diabetes pop (T1) with previous stroke	32	2.0	%	2.1			
	49 % of diabetes pop (T2) with previous stroke	631	5.0	%	5.3			
	50 % of diabetes pop (T1) with previous foot ulcer	160	10.0	%	7.0			
	51 % of diabetes pop (T2) with previous foot ulcer	544	4.3	%	3.9			
	52 % of diabetes pop (T1) with previous lower limb amputation	12	0.7	%	0.8			
	53 % of diabetes pop (T2) with previous lower limb amputation	52	0.4	%	0.5			

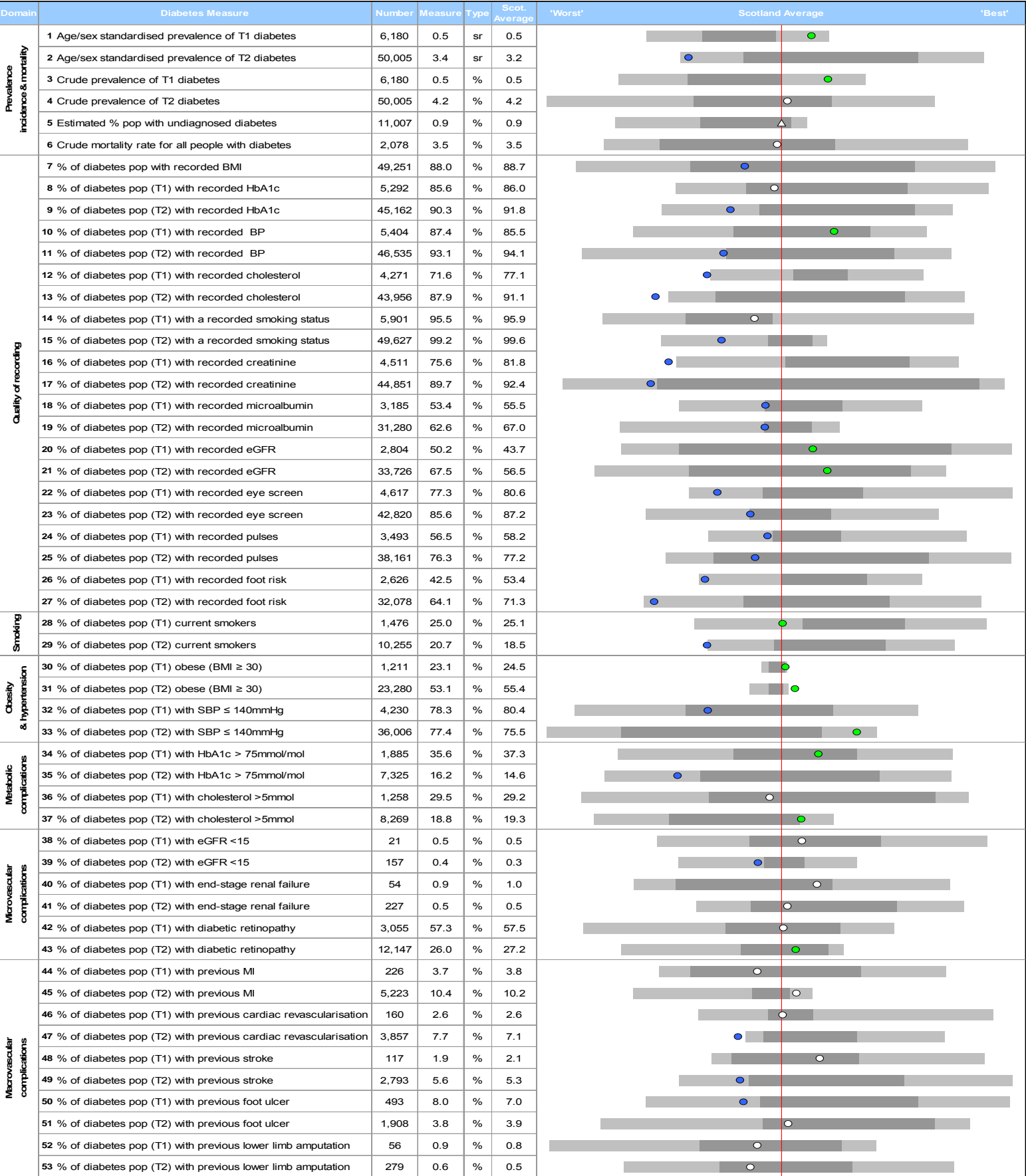
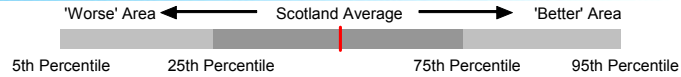
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Greater Glasgow & Clyde Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



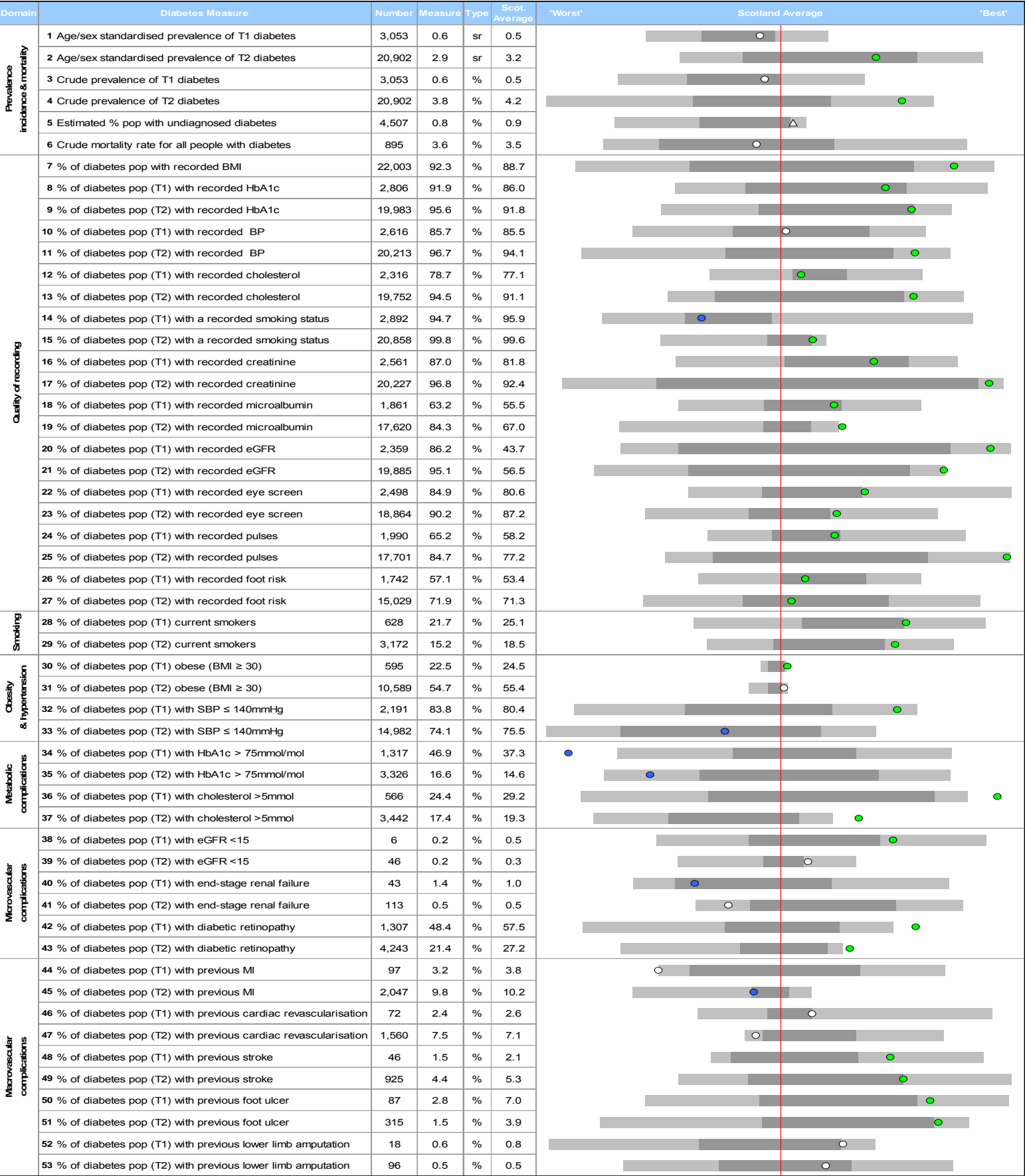
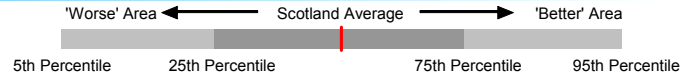
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Grampian Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



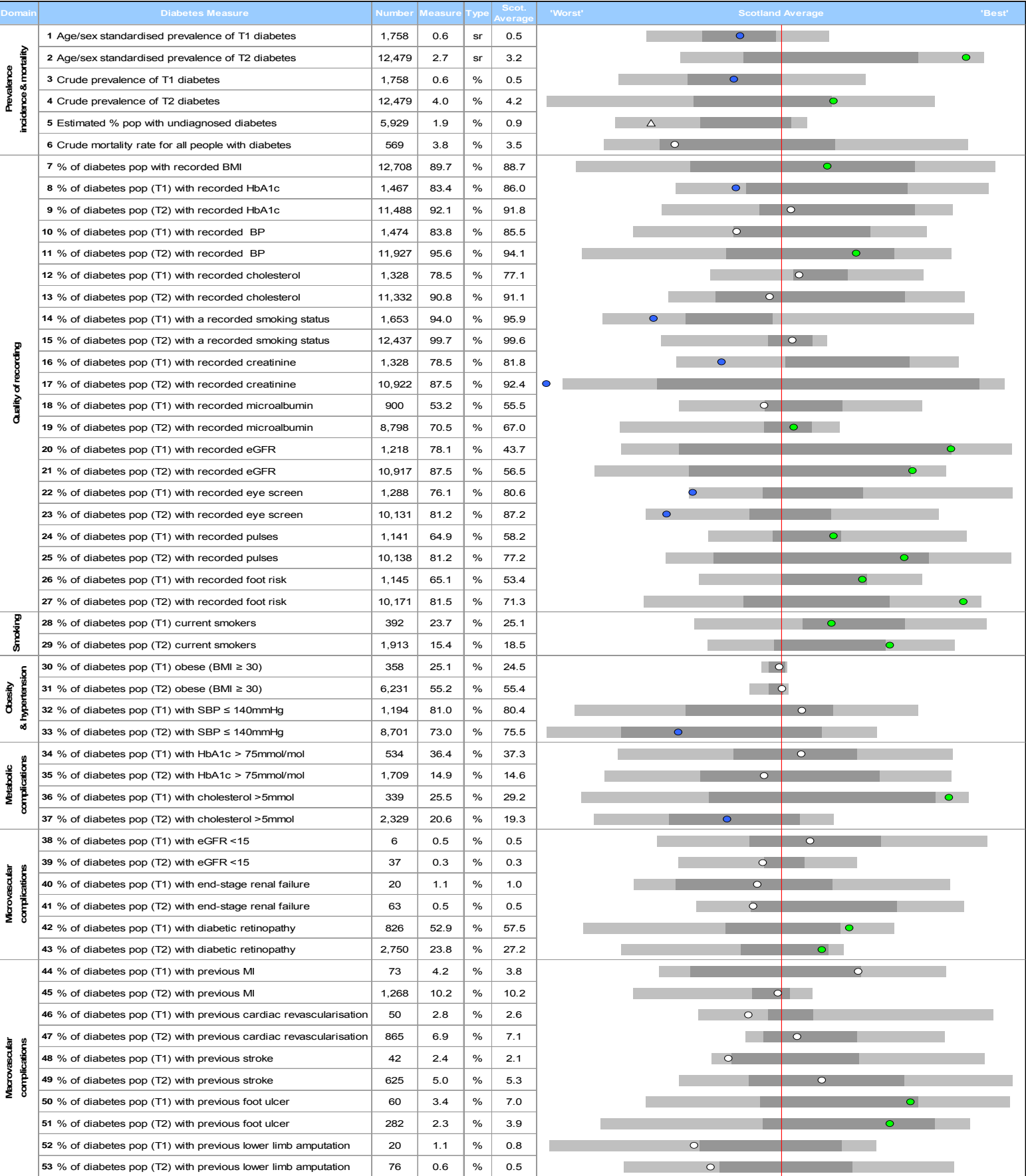
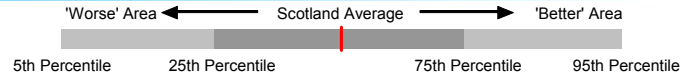
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Highland Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



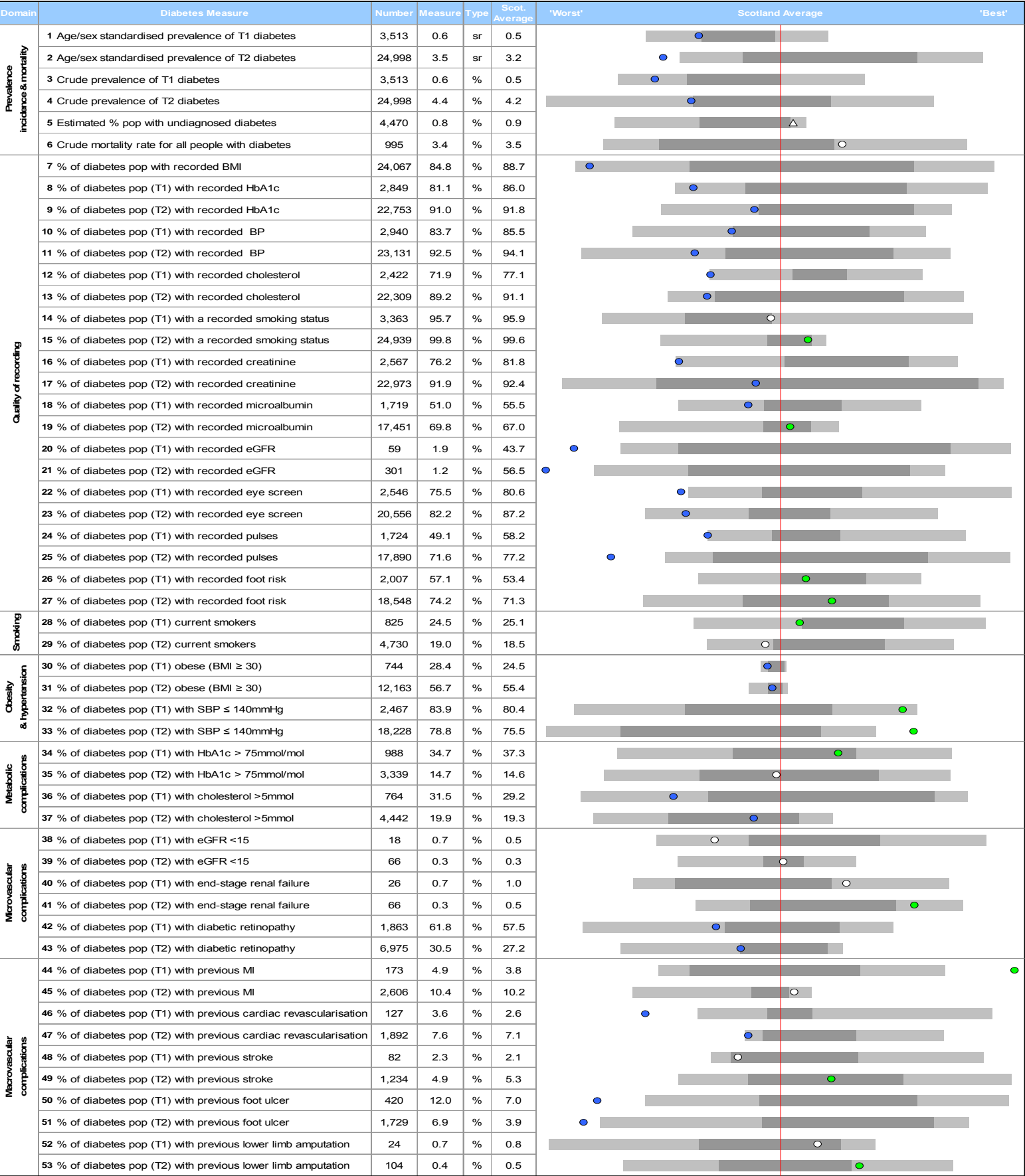
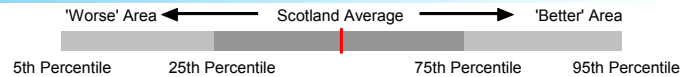
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Lanarkshire Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



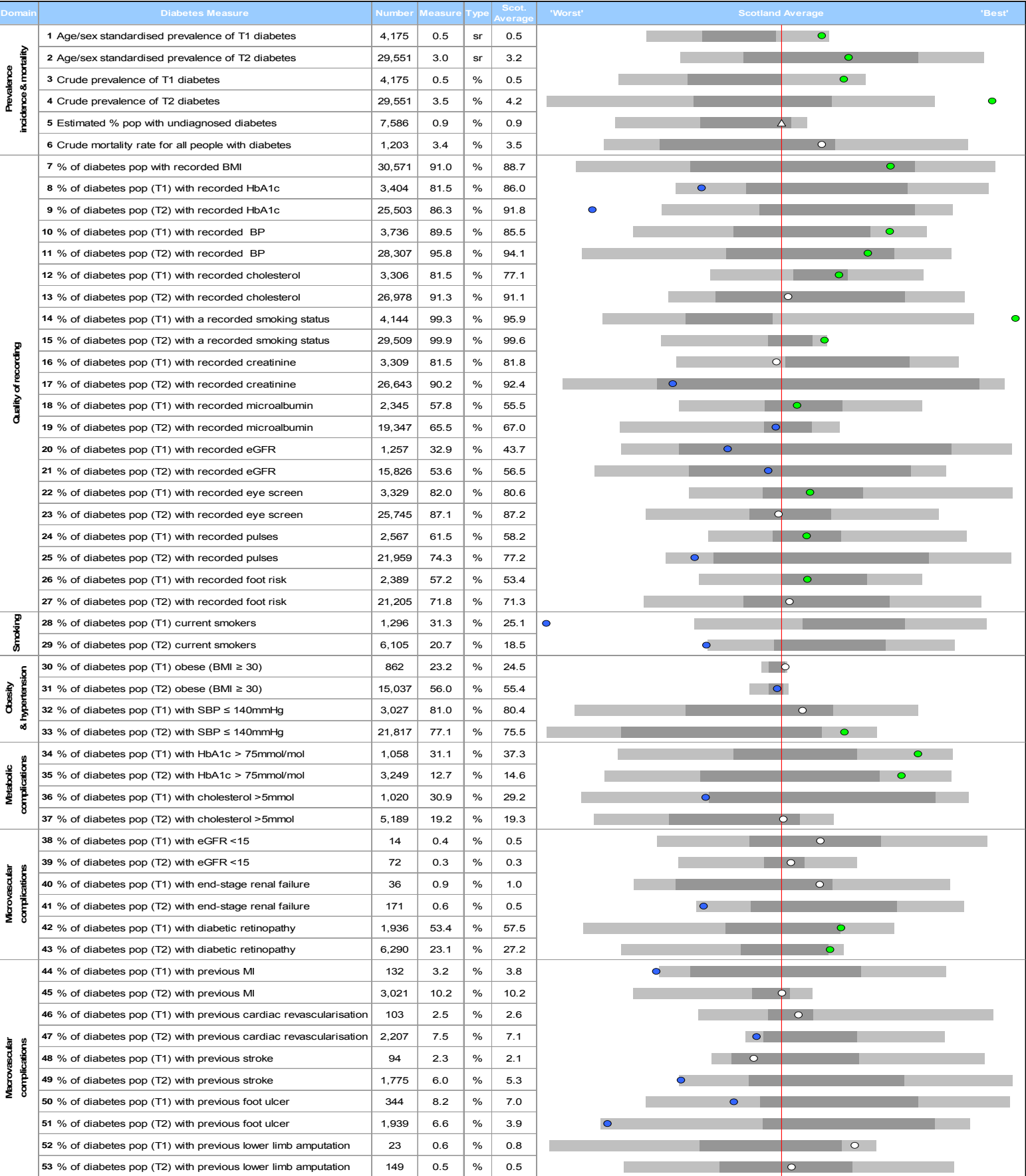
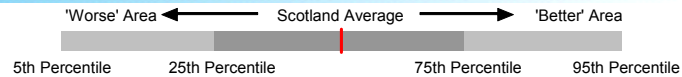
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Lothian Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



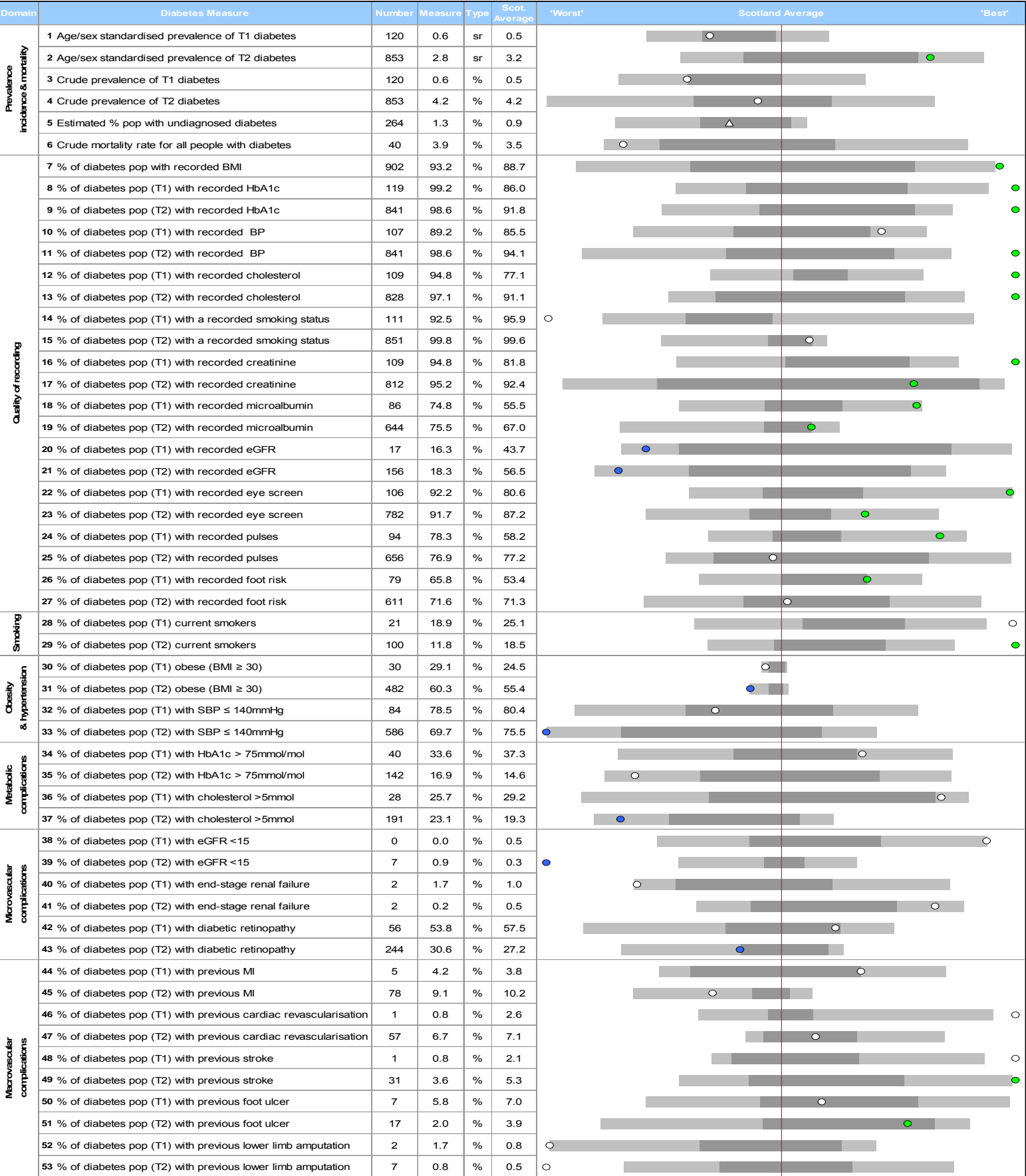
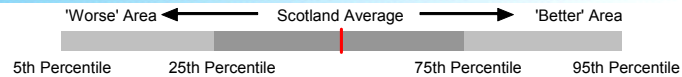
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Orkney Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



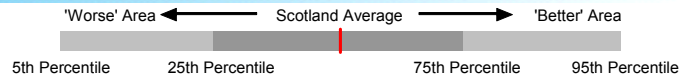
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Shetland Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



Domain	Diabetes Measure	Number	Measure	Type	Scot. Average	"Worst"	Scotland Average	"Best"
Prevalence & mortality	1 Age/sex standardised prevalence of T1 diabetes	124	0.6	sr	0.5			
	2 Age/sex standardised prevalence of T2 diabetes	871	2.9	sr	3.2			
	3 Crude prevalence of T1 diabetes	124	0.6	%	0.5			
	4 Crude prevalence of T2 diabetes	871	3.9	%	4.2			
	5 Estimated % pop with undiagnosed diabetes	416	1.9	%	0.9			
	6 Crude mortality rate for all people with diabetes	42	4.0	%	3.5			
Quality of recording	7 % of diabetes pop with recorded BMI	875	88.4	%	88.7			
	8 % of diabetes pop (T1) with recorded HbA1c	120	96.8	%	86.0			
	9 % of diabetes pop (T2) with recorded HbA1c	803	92.2	%	91.8			
	10 % of diabetes pop (T1) with recorded BP	114	91.9	%	85.5			
	11 % of diabetes pop (T2) with recorded BP	817	93.8	%	94.1			
	12 % of diabetes pop (T1) with recorded cholesterol	99	83.2	%	77.1			
	13 % of diabetes pop (T2) with recorded cholesterol	770	88.4	%	91.1			
	14 % of diabetes pop (T1) with a recorded smoking status	120	96.8	%	95.9			
	15 % of diabetes pop (T2) with a recorded smoking status	870	99.9	%	99.6			
	16 % of diabetes pop (T1) with recorded creatinine	107	89.9	%	81.8			
	17 % of diabetes pop (T2) with recorded creatinine	819	94.0	%	92.4			
	18 % of diabetes pop (T1) with recorded microalbumin	77	64.7	%	55.5			
	19 % of diabetes pop (T2) with recorded microalbumin	513	58.9	%	67.0			
	20 % of diabetes pop (T1) with recorded eGFR	97	89.8	%	43.7			
	21 % of diabetes pop (T2) with recorded eGFR	747	85.8	%	56.5			
	22 % of diabetes pop (T1) with recorded eye screen	110	92.4	%	80.6			
	23 % of diabetes pop (T2) with recorded eye screen	773	88.7	%	87.2			
	24 % of diabetes pop (T1) with recorded pulses	109	87.9	%	58.2			
	25 % of diabetes pop (T2) with recorded pulses	717	82.3	%	77.2			
	26 % of diabetes pop (T1) with recorded foot risk	108	87.1	%	53.4			
	27 % of diabetes pop (T2) with recorded foot risk	703	80.7	%	71.3			
Smoking	28 % of diabetes pop (T1) current smokers	24	20.0	%	25.1			
	29 % of diabetes pop (T2) current smokers	139	16.0	%	18.5			
Obesity & hypertension	30 % of diabetes pop (T1) obese (BMI ≥ 30)	36	32.1	%	24.5			
	31 % of diabetes pop (T2) obese (BMI ≥ 30)	465	60.9	%	55.4			
	32 % of diabetes pop (T1) with SBP ≤ 140mmHg	97	85.1	%	80.4			
	33 % of diabetes pop (T2) with SBP ≤ 140mmHg	582	71.2	%	75.5			
Metabolic complications	34 % of diabetes pop (T1) with HbA1c > 75mmol/mol	32	26.7	%	37.3			
	35 % of diabetes pop (T2) with HbA1c > 75mmol/mol	116	14.4	%	14.6			
	36 % of diabetes pop (T1) with cholesterol >5mmol	34	34.3	%	29.2			
	37 % of diabetes pop (T2) with cholesterol >5mmol	178	23.1	%	19.3			
Microvascular complications	38 % of diabetes pop (T1) with eGFR <15	0	0.0	%	0.5			
	39 % of diabetes pop (T2) with eGFR <15	1	0.1	%	0.3			
	40 % of diabetes pop (T1) with end-stage renal failure	1	0.8	%	1.0			
	41 % of diabetes pop (T2) with end-stage renal failure	1	0.1	%	0.5			
	42 % of diabetes pop (T1) with diabetic retinopathy	64	56.6	%	57.5			
	43 % of diabetes pop (T2) with diabetic retinopathy	218	27.3	%	27.2			
Macrovascular complications	44 % of diabetes pop (T1) with previous MI	4	3.2	%	3.8			
	45 % of diabetes pop (T2) with previous MI	57	6.5	%	10.2			
	46 % of diabetes pop (T1) with previous cardiac revascularisation	3	2.4	%	2.6			
	47 % of diabetes pop (T2) with previous cardiac revascularisation	35	4.0	%	7.1			
	48 % of diabetes pop (T1) with previous stroke	2	1.6	%	2.1			
	49 % of diabetes pop (T2) with previous stroke	32	3.7	%	5.3			
	50 % of diabetes pop (T1) with previous foot ulcer	1	0.8	%	7.0			
	51 % of diabetes pop (T2) with previous foot ulcer	3	0.3	%	3.9			
	52 % of diabetes pop (T1) with previous lower limb amputation	1	0.8	%	0.8			
	53 % of diabetes pop (T2) with previous lower limb amputation	2	0.2	%	0.5			

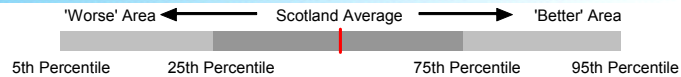
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Tayside Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



Domain	Diabetes Measure	Number	Measure	Type	Scot. Average	"Worst"	Scotland Average	"Best"
Prevalence & mortality	1 Age/sex standardised prevalence of T1 diabetes	1,864	0.5	sr	0.5			
	2 Age/sex standardised prevalence of T2 diabetes	18,104	3.2	sr	3.2			
	3 Crude prevalence of T1 diabetes	1,864	0.5	%	0.5			
	4 Crude prevalence of T2 diabetes	18,104	4.5	%	4.2			
	5 Estimated % pop with undiagnosed diabetes	3,528	0.9	%	0.9			
	6 Crude mortality rate for all people with diabetes	807	3.9	%	3.5			
Quality of recording	7 % of diabetes pop with recorded BMI	18,230	91.6	%	88.7			
	8 % of diabetes pop (T1) with recorded HbA1c	1,742	93.5	%	86.0			
	9 % of diabetes pop (T2) with recorded HbA1c	17,336	95.8	%	91.8			
	10 % of diabetes pop (T1) with recorded BP	1,619	86.9	%	85.5			
	11 % of diabetes pop (T2) with recorded BP	17,424	96.2	%	94.1			
	12 % of diabetes pop (T1) with recorded cholesterol	1,394	77.7	%	77.1			
	13 % of diabetes pop (T2) with recorded cholesterol	17,210	95.1	%	91.1			
	14 % of diabetes pop (T1) with a recorded smoking status	1,761	94.5	%	95.9			
	15 % of diabetes pop (T2) with a recorded smoking status	18,028	99.6	%	99.6			
	16 % of diabetes pop (T1) with recorded creatinine	1,592	88.7	%	81.8			
	17 % of diabetes pop (T2) with recorded creatinine	17,568	97.0	%	92.4			
	18 % of diabetes pop (T1) with recorded microalbumin	1,152	64.2	%	55.5			
	19 % of diabetes pop (T2) with recorded microalbumin	14,409	79.6	%	67.0			
	20 % of diabetes pop (T1) with recorded eGFR	1,298	78.0	%	43.7			
	21 % of diabetes pop (T2) with recorded eGFR	17,333	95.7	%	56.5			
	22 % of diabetes pop (T1) with recorded eye screen	1,498	83.5	%	80.6			
	23 % of diabetes pop (T2) with recorded eye screen	15,481	85.5	%	87.2			
	24 % of diabetes pop (T1) with recorded pulses	1,247	66.9	%	58.2			
	25 % of diabetes pop (T2) with recorded pulses	15,376	84.9	%	77.2			
	26 % of diabetes pop (T1) with recorded foot risk	1,237	66.4	%	53.4			
	27 % of diabetes pop (T2) with recorded foot risk	15,288	84.4	%	71.3			
Smoking	28 % of diabetes pop (T1) current smokers	445	25.3	%	25.1			
	29 % of diabetes pop (T2) current smokers	3,032	16.8	%	18.5			
Obesity & hypertension	30 % of diabetes pop (T1) obese (BMI ≥ 30)	367	23.3	%	24.5			
	31 % of diabetes pop (T2) obese (BMI ≥ 30)	9,245	55.5	%	55.4			
	32 % of diabetes pop (T1) with SBP ≤ 140mmHg	1,215	75.1	%	80.4			
	33 % of diabetes pop (T2) with SBP ≤ 140mmHg	12,176	69.9	%	75.5			
Metabolic complications	34 % of diabetes pop (T1) with HbA1c > 75mmol/mol	759	43.6	%	37.3			
	35 % of diabetes pop (T2) with HbA1c > 75mmol/mol	2,568	14.8	%	14.6			
	36 % of diabetes pop (T1) with cholesterol >5mmol	419	30.1	%	29.2			
	37 % of diabetes pop (T2) with cholesterol >5mmol	3,399	19.8	%	19.3			
Microvascular complications	38 % of diabetes pop (T1) with eGFR <15	10	0.7	%	0.5			
	39 % of diabetes pop (T2) with eGFR <15	52	0.3	%	0.3			
	40 % of diabetes pop (T1) with end-stage renal failure	32	1.7	%	1.0			
	41 % of diabetes pop (T2) with end-stage renal failure	111	0.6	%	0.5			
	42 % of diabetes pop (T1) with diabetic retinopathy	722	50.7	%	57.5			
	43 % of diabetes pop (T2) with diabetic retinopathy	3,600	22.4	%	27.2			
Macrovascular complications	44 % of diabetes pop (T1) with previous MI	69	3.7	%	3.8			
	45 % of diabetes pop (T2) with previous MI	2,023	11.2	%	10.2			
	46 % of diabetes pop (T1) with previous cardiac revascularisation	51	2.7	%	2.6			
	47 % of diabetes pop (T2) with previous cardiac revascularisation	1,267	7.0	%	7.1			
	48 % of diabetes pop (T1) with previous stroke	38	2.0	%	2.1			
	49 % of diabetes pop (T2) with previous stroke	1,068	5.9	%	5.3			
	50 % of diabetes pop (T1) with previous foot ulcer	117	6.3	%	7.0			
	51 % of diabetes pop (T2) with previous foot ulcer	550	3.0	%	3.9			
	52 % of diabetes pop (T1) with previous lower limb amputation	20	1.1	%	0.8			
	53 % of diabetes pop (T2) with previous lower limb amputation	121	0.7	%	0.5			

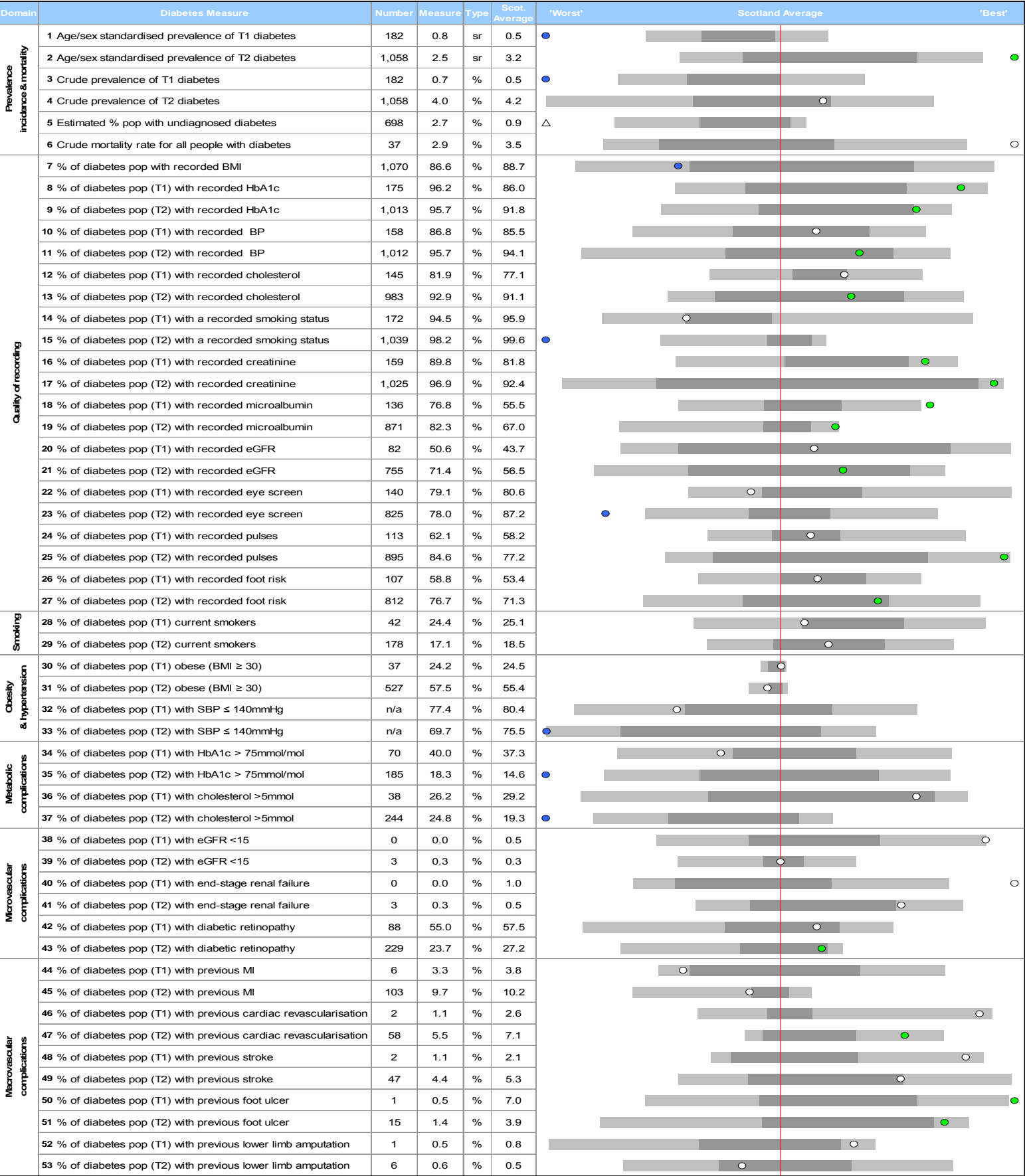
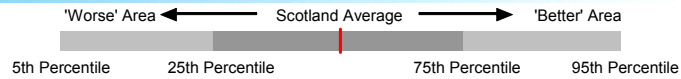
Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.

NHS Western Isles Summary



This chart compares the local value for each measure to the Scottish average and range for all Health Boards.

- Statistically significantly 'worse' than Scottish average
- Statistically not significantly different from Scottish average
- Statistically significantly 'better' than Scottish average
- △ No significance can be calculated



Note: T1 = Type 1 diabetes; T2 = Type 2 diabetes; n/a= data not available, or cannot be calculated; sr = directly standardised rate per 100 population; % = percent. Only measures one and two are age adjusted. Differences in the age composition of health board populations may partly explain differences in measures between boards. High levels of recorded smoking in some boards may reflect the fact that smoking status has not been updated for those who have stopped smoking. All measures exclude those of 'unknown' status in the denominator. Further details of diabetes measure definitions are given in the main report for the 2011 Scottish Diabetes Survey.