

Posterngate Surgery

Diabetes Audit

2004-05

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Introduction

This year, we have repeated the diabetes audit in a similar fashion to that in previous years. This is the latest in a series of detailed audits of Diabetes care within the Practice. As a Practice we have continued to see a rise in the numbers of people diagnosed with Diabetes, and the rate increase shows no real sign of slowing down. The numbers are now causing the Practice some problems in terms of the Annual Reviews. Some of these have slipped to 14 months because so many new patients have been picked up, but many patients cancelled, often at the last minute, which has left us with no time to fill the slots available. This continues to be an area we need to address in the next 12 months.

During the 12 months covered by this, Dr Hildore left the Practice. Dr Stockley has taken over her role in the clinics. Lorraine Duffy also left, and her work was shared between Denise Weston, Margaret Kelk and Dianne Butterworth. These changes did not lead to any great hiccoughs in the running of the clinics.

During the year, Dr Stockley and Dianne Butterworth received training on Insulin starts and this remains an area that we recognise as developing over time.

Clinics have become more streamlined with the intention of passing of the checks to the Nurses, leaving the GPs to concentrate on their role as care planners. This will develop further in the next 12 months.

We have not carried out any planned screening other than those patients who are being checked for clinical reasons. Despite this numbers have grown at a similar rate to previous years.

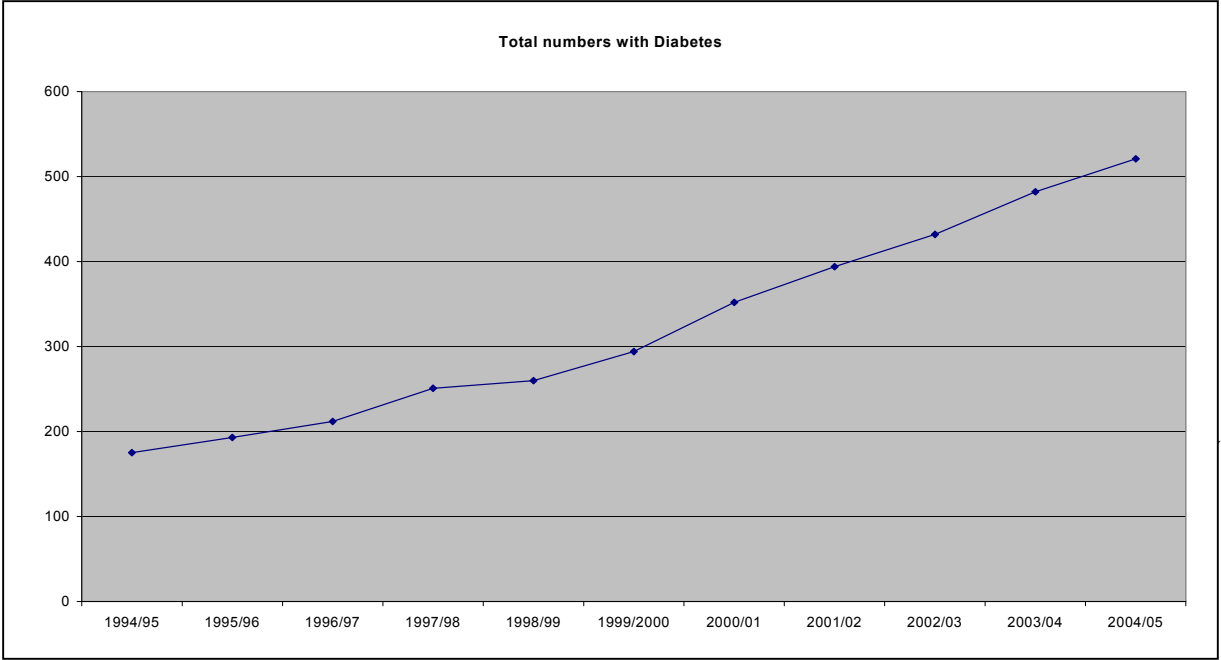
This also represented the 1st year of the Quality and Outcomes framework (QoF). The Practice was always well placed to achieve high scores in Diabetes and we managed to attain the full 99 points. There were particular areas that had to be followed up, specifically those attending the hospital clinics where we had insufficient information such as Microalbumin levels. The Practice recognised that it was our responsibility to follow these up and it was not the hospital's role to ensure we reached maximum points. However this did lead to greater inconvenience to patients at times.

The other area of difficulty in the QoF work was the exception coding for people in whom undertaking reviews was inappropriate. These were usually people in Nursing homes who could not co-operate with the checks, or persistent non-attenders. Our feeling was that even those excepted from QoF needed to be considered for checks on an individual basis in case they could benefit from some aspect of the care provided.

Clinic capacity remains an issue, and we will need to review how clinics are run to ensure best use of time.

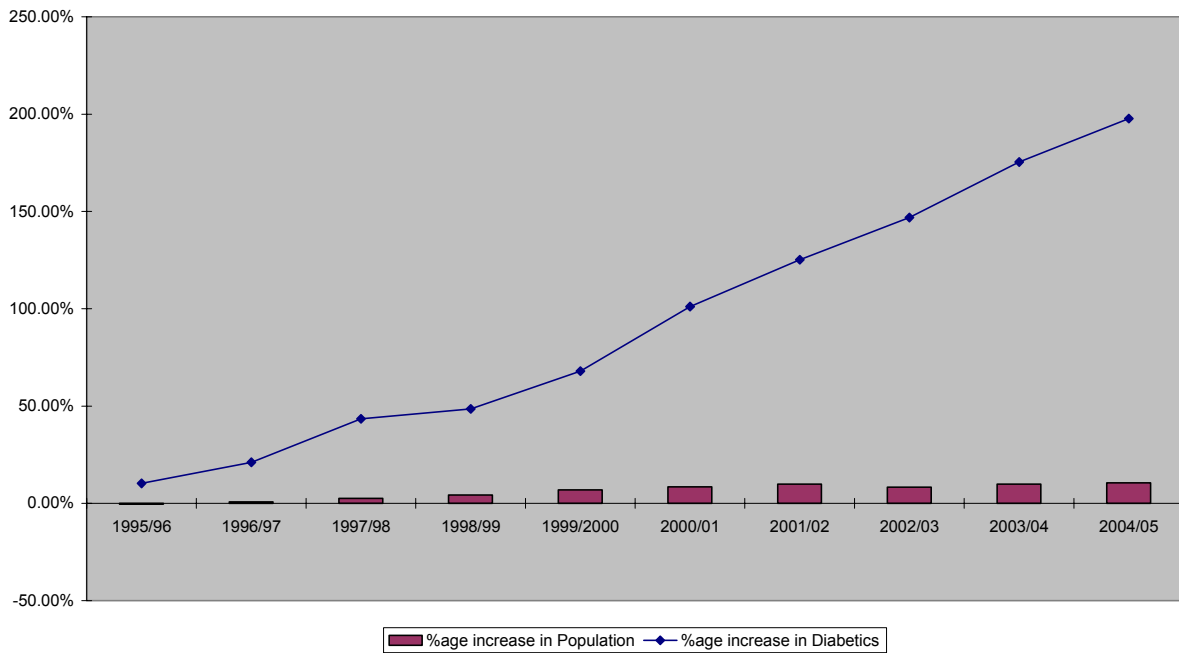
Numbers of Patients

During the year, the overall number of patients diagnosed as having Diabetes increased from 482 to 521, a slightly smaller rise than in previous years, with an additional overall total of 39 people. However we actually picked up 71 new patients in total, but more people with Diabetes died (see below), and some will have moved elsewhere during the year.



For an additional 10% of patients over this time, we have seen a 200% rise in people diagnosed, a phenomenal change.

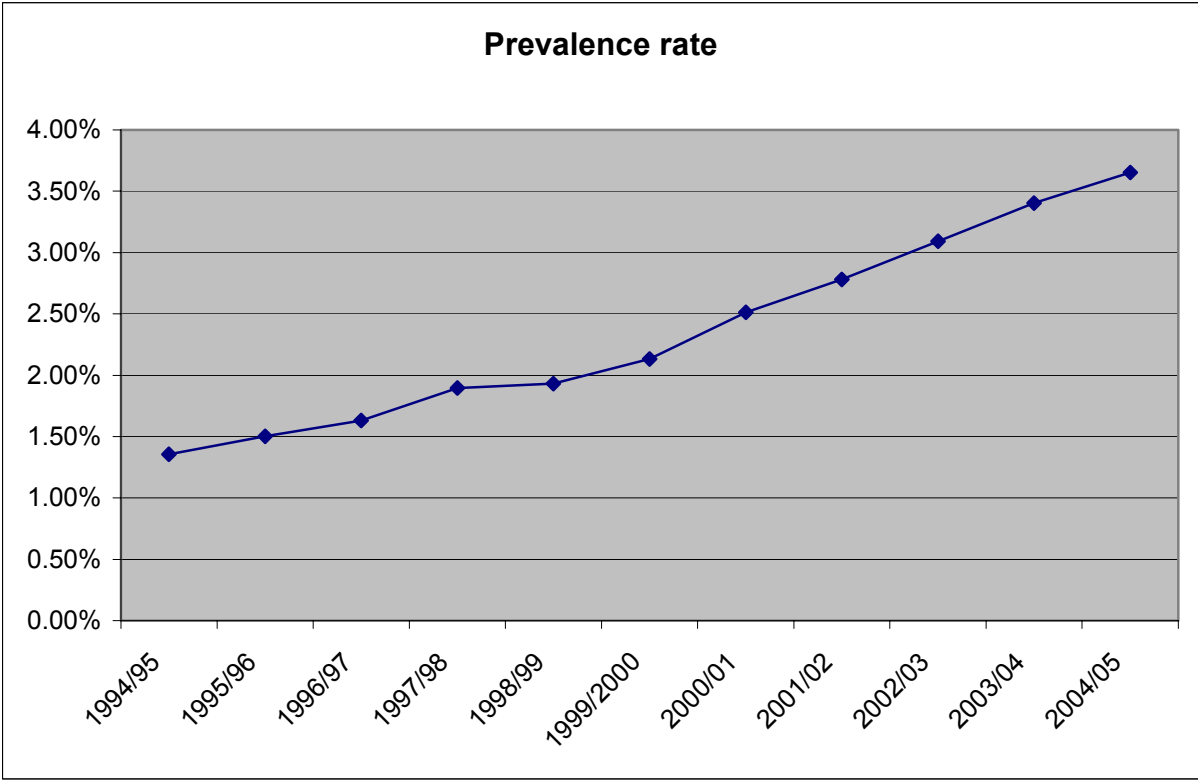
Increase in people with diabetes against increase in practice population



The overall prevalence we now can demonstrate is 3.65%. The difference between men and women is that our prevalence rate for men is 3.92% and for women 3.40%.

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05
Prevalence	1.36%	1.50%	1.63%	1.90%	1.93%	2.13%	2.51%	2.78%	3.09%	3.40%	3.65%

The Yorkshire and Humberside PHO, who lead on Diabetes, predict that in Selby, by 2010, the expected prevalence will be approximately 4.47% meaning there is almost certainly a considerable cohort of people in whom we have not detected their Diabetes. However it also means in numerical terms there are perhaps a further 100 people we need to consider! What the effect this work generates as and when these people are detected is unknown as yet!



On reviewing the data by age and sex, we see the following changes:

	5-34	35-44	45-54	55-64	65-74	75-100	Overall
2005							
Females	0.71%	1.06%	2.59%	4.67%	10.98%	12.06%	3.40%
Males	0.91%	1.79%	3.42%	7.61%	13.76%	14.15%	3.92%
2004							
Females	0%	1%	3%	5%	9%	11%	3%
Males	0%	1%	4%	7%	13%	13%	4%
2003							
Females	1%	1%	2%	5%	9%	10%	3%
Males	0%	1%	4%	6%	12%	12%	3%
2002							
Females	0%	1%	2%	5%	8%	9%	3%
Males	0%	1%	3%	6%	11%	10%	3%
2001							
Females	0%	1%	2%	5%	7%	8%	2%
Males	1%	2%	2%	5%	9%	10%	3%
2000							
Females	1%	1%	1%	4%	6%	7%	2%
Males	1%	1%	2%	4%	8%	8%	2%

We can see that more than 1 in 7 men aged 75 years or more has diabetes and more than 1 in 8 men aged over 65 years. The figures for women are slightly lower, surprisingly.

	0-4	5-16	17-24	25-34	35-44	45-54	55-64	65-74	75-84	85-89	90+	Totals
2005												
Females	0	1	1	4	12	23	43	76	62	16	8	246
Males	0	1	0	7	20	35	72	79	44	13	4	275
2004												
Females	0	0	0	5	13	23	40	65	62	9	7	224
Males	0	0	1	8	14	40	67	75	44	5	4	258
Change												
Females	0	1	1	-1	-1	0	3	11	0	7	1	22
Males	0	1	-1	-1	6	-5	5	4	0	8	0	17

On reviewing the change in population the above figures can be seen. The rise has been greater in female patients during this year.

Newly Diagnosed Diabetes

During this year, we diagnosed 71 people as having Diabetes. For the first time in several years, we picked up an almost identical number of men and women.

New diabetes	0-4	5-16	17-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Totals
2005											
Females	1	0	0	2	3	9	9	8	1	2	35
Males	1	0	0	2	11	11	8	1	2	0	36
2004											
Females	0	0	0	0	2	7	5	8	5	3	30
Males	1	0	0	0	2	11	11	8	1	2	36
2003											
Females	0	0	0	0	1	0	4	4	8	4	21
Males	0	0	1	0	0	7	12	7	3	2	32
2002											
Females	0	0	0	1	0	4	14	8	4	0	31
Males	0	0	1	0	3	8	14	9	3	0	38
2001											
Females	0	1	0	2	4	8	9	5	0	0	29
Males	0	0	1	5	7	7	8	4	1	0	33

As in previous years the men tend to be younger than the women. However the data suggests that we are finally diagnosing a greater proportion of women but, if the overall figures are correct, we have a substantial undiagnosed female population to find.

Interestingly, of those still registered at 31st March 2005, more are women.

Age groups	0-4	5-16	17-24	25-34	35-44	45-54	55-64	65-74	75-84	85-89	90+	Totals
Males	0	0	1	0	2	3	8	4	6	2	0	26
Females	0	1	0	0	2	3	7	9	7	2	2	33

Diabetic Deaths

Again, as the population of people with Diabetes rises, so more die. We still do not completely record cause of death so are unable to comment as to whether there have been additional deaths due to Diabetes

DM deaths	55-64	65-74	75-84	85+	Total
2005					
Females	2	0	6	6	14
Males	1	4	3	2	10
2004					
Females	0	1	3	2	6
Males	3	0	7	4	14
2003					
Females	0	2	5	4	11
Males	0	0	0	1	1
2002					
Females	1	4	2	6	13
Males	0	1	3	1	5
2001					
Females	0	0	0	0	0
Males	1	4	3	0	8

It is inevitable that there will be a rise, but it is encouraging that 1 in 3 of those that died were aged 85 years or more.

Diabetes by type of treatment

Traditionally Diabetes has been classified according to the type of treatment used.

Age groups	0-4	5-16	17-24	25-34	35-44	45-54	55-64	65-74	75-84	85-89	90+	Totals
Insulins												
Males	0	0	0	4	13	5	13	15	7	2	0	59
Females	0	1	1	4	6	6	7	17	7	2	0	51
OHA												
Males	0	0	0	1	7	21	43	42	16	8	2	140
Females	0	0	0	1	6	12	24	34	27	11	6	121
Diet Alone												
Males	0	1	1	1	0	11	23	31	25	3	2	98
Females	0	0	0	0	4	7	12	33	26	5	2	89

There are now 110 patients on Insulin, 261 treated by Oral Hypoglycaemic Agents, and 187 on Diet only. There are slightly more men on Insulin. Of those on OHA (tablets) 37 are on Insulins, which accounts for the total being greater than the 521 mentioned earlier.

If we divide into Type 1 and Type 2 Diabetes the following figures are obtained:

Type 1 Diabetes												
Age groups	0-4	5-16	17-24	25-34	35-44	45-54	55-64	65-74	75-84	85-89	90+	Totals
Males	0	0	1	3	13	4	4	2	2	0	0	29
Females	0	1	1	4	4	3	2	3	1	1	0	20
Type 2 Diabetes												
Males	0	1	0	2	7	32	65	78	45	13	4	247
Females	0	0	0	0	9	19	38	73	58	17	8	222
Type 2 Diabetes on Insulin												
Males	0	0	0	1	1	1	7	11	6	2	0	29
Females	0	0	0	0	3	2	5	11	6	1	0	28

On reviewing Insulin rates of use the following data are obtained.

	0-16	17-34	34-44	45-54	55-64	65-74	75+	Totals
2005								
Non Insulin	1	3	13	47	95	123	129	411
Insulin	1	9	19	11	20	32	18	110
2004								
Non Insulin	0	1	11	51	87	112	117	379
Insulin	0	13	16	12	20	27	15	103
2003								
Non Insulin	0	3	9	41	79	104	100	336
Insulin	0	13	14	12	19	25	13	96
2002								
Non Insulin	0	3	13	32	70	99	92	309
Insulin	0	14	13	11	18	21	8	85
2001								
Non Insulin	0	3	16	29	61	87	79	275
Insulin	2	12	15	9	13	17	9	77

There has been a further rise of 7 patients in total using Insulins, mainly in the older group of patients. These are most likely to be Type 2 patients treated with Insulin.

F	Total	224
	No of Type 1 DM	17
	No of Type 2 diabetes mellitus	207
	No of Insulin treated Type 2 diab mell	34
M	Total	258
	No of Type 1 DM	26
	No of Type 2 diabetes mellitus	232
	No of Insulin treated Type 2 diab mell	30
Total Total		482
Total No of Type 1 DM		43
Total No of Type 2 diabetes mellitus		439
Total No of Insulin treated Type 2 diab mell		64

The main use of Insulin in Type 2 Diabetes continues to be concentrated in the elderly/very elderly. This may have a significant impact on the way the Community Staff deliver their care as many may require daily or twice daily visits to administer their Insulin. However the use of Insulins will increase in younger people with Type 2 Diabetes.

Place of Review

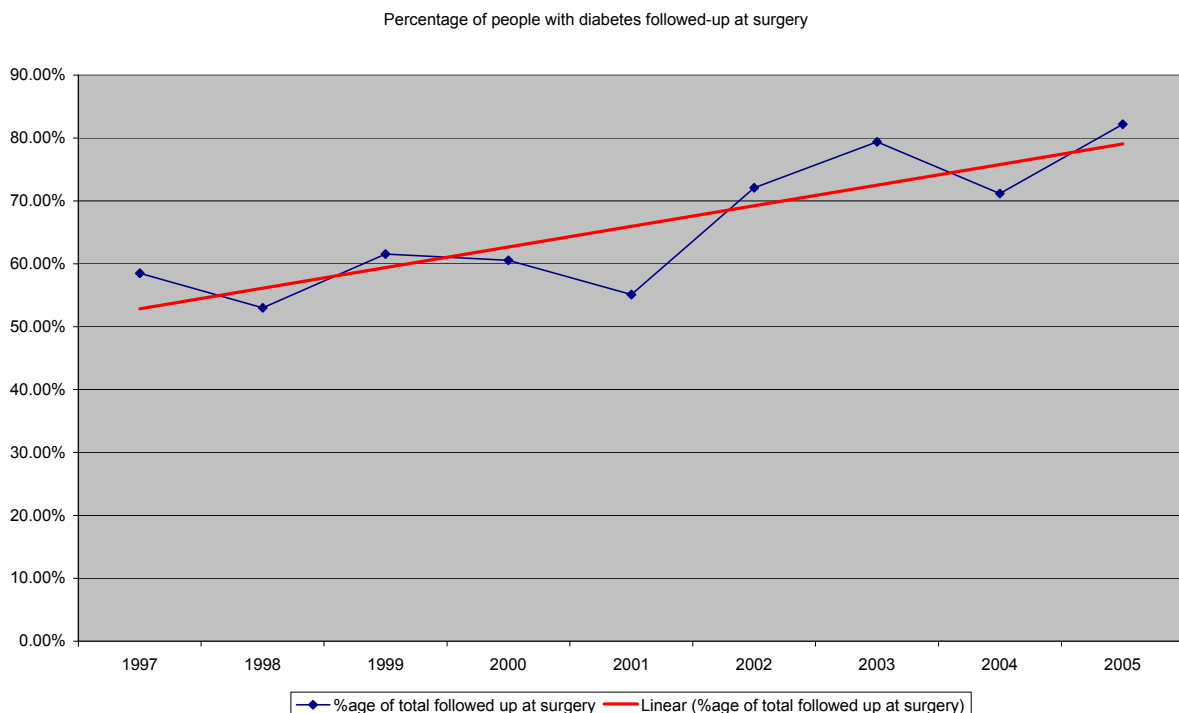
Out of 521 patients, 505 had a follow up during the year.

type	Data	sex		Grand Total
		F	M	
Type 1 diabetes mellitus	Follow-up at surgery	4	4	8
	Follow up at OPD	14	22	36
Type 2 diabetes mellitus	Follow-up at surgery	193	219	412
	Follow up at OPD	21	28	49
Total Follow-up at surgery		197	223	420
Total Follow up at OPD		35	50	85

420 were seen at the surgery. This represents 80.6% of people with Diabetes, at the practice. 85 patients were seen at the out patient department. This is 16.3%, but some people were seen at both places.

Historically, the numbers attending outpatients has remained fairly constant at about 80 people.

Overall the data shows that the percentage being seen at the surgery continues to rise.



Last year there was a backlog of people requiring annual review. This figure has dropped, possibly stimulated by the 1st year of the QoF. However, with increasing numbers, it is going to be essential to increase the time devoted to Diabetes review as well as looking at the practice procedures again to make the most effective use of the time available.

Blood Pressure Control

Good control of Blood Pressure is a basic part of care for people with Diabetes.

During the 12 months covered 505 patients had a blood pressure check undertaken. This is 96.9% of people with diabetes, and is greater than the QoF target of 90% in 15 months.

The target for BP control is 140/85 or less. However, it is lower in the presence of Microalbuminuria, or impaired renal function (135/80).

Out of 485, 392 (80.2%) patients achieved this target, a significant rise on last year's figure.

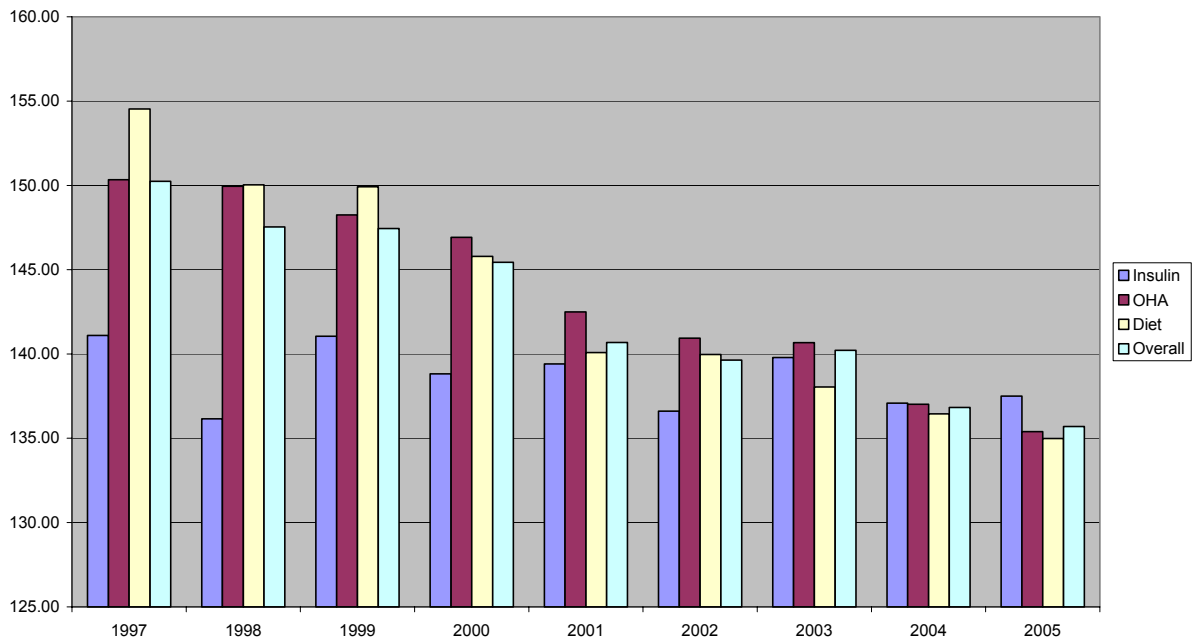
We also had a record of Blood Pressure in the past 15 months on 450 out of 485 (92.8%) patients.

On looking at mean levels of control, the following data year on year are obtained.

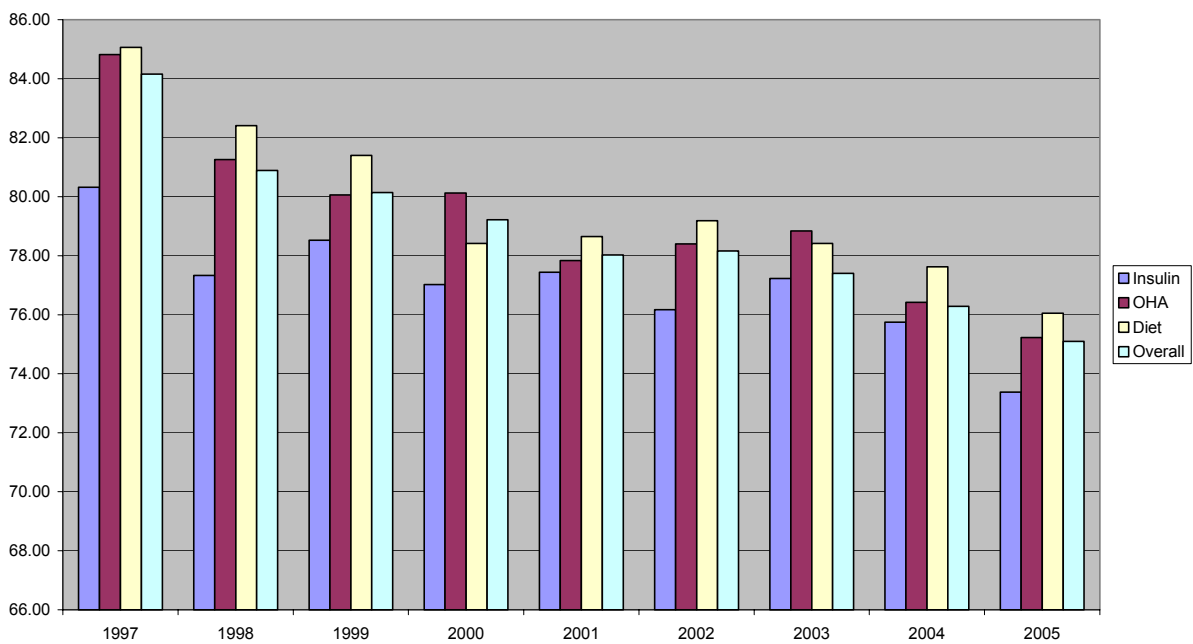
Systolic BP									
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Insulin	141.10	136.15	141.05	138.82	139.41	136.61	139.79	137.08	137.50
OHA	150.34	149.95	148.25	146.92	142.50	140.94	140.67	137.01	135.39
Diet	154.53	150.03	149.92	145.79	140.08	139.97	138.04	136.45	134.98
Overall	150.24	147.54	147.44	145.43	140.69	139.63	140.21	136.82	135.70
Diastolic BP									
Insulin	80.32	77.33	78.53	77.02	77.44	76.17	77.23	75.75	73.38
OHA	84.82	81.26	80.06	80.13	77.84	78.40	78.84	76.42	75.23
Diet	85.06	82.41	81.40	78.42	78.65	79.19	78.42	77.62	76.05
Overall	84.16	80.89	80.14	79.22	78.03	78.16	77.40	76.29	75.10

Again these figures show small reductions in mean Blood Pressure, both systolic and diastolic. These reductions translate into real risk reductions for patients.

Mean Systolic BP levels



Mean Diastolic BP



- The nGMS contract expects 90% of all people with Diabetes to have a BP record in the previous 15 months. This was achieved with 92.8%
- It also sets a target of 55% having a BP of 145/85 or less. We reached 80% after a lot of hard work.

On looking at the cohort with Microalbumin levels > 20, the following data are obtained.

sex	Data	Type 1 diabetes mellitus	Type 2 diabetes mellitus	Grand Total
F	Number	2	42	44
	Mean Age	59.50	66.55	66.23
	Mean Systolic BP	143.00	138.68	138.88
	Mean Diastolic BP	70.00	75.93	75.65
	Mean HBA1c		7.70	7.70
	Mean Cholesterol	4.50	4.55	4.55
	Mean Creatinine	84.00	94.49	94.24
	Minimum Microalbumin		3.3	3.3
	Maximum Microalbumin		295	295
	No with normal retinal photos		7	7
	Abnorml Ret Photos, no referral	2	23	25
	Abnormal Ret Photos, referred		4	4
	Attends Eye OPD			
M	Number	3	48	51
	Mean Age	35.33	67.50	65.61
	Mean Systolic BP	135.33	136.88	136.78
	Mean Diastolic BP	79.00	74.50	74.76
	Mean HBA1c	9.43	7.79	7.88
	Mean Cholesterol	4.53	4.08	4.11
	Mean Creatinine	103.00	125.23	123.92
	Minimum Microalbumin	36.5	3.7	3.7
	Maximum Microalbumin	36.5	223.2	223.2
	No with normal retinal photos	2	11	13
	Abnorml Ret Photos, no referral		21	21
	Abnormal Ret Photos, referred	1	8	9
	Attends Eye OPD		2	2
Total Number		5	90	95
Total Mean Age		45.00	67.06	65.89
Total Mean Systolic BP		138.40	137.71	137.74
Total Mean Diastolic BP		75.40	75.16	75.17
Total Mean HBA1c		9.43	7.75	7.80
Total Mean Cholesterol		4.53	4.31	4.32
Total Mean Creatinine		98.25	111.07	110.52
Total Minimum Microalbumin		36.5	3.3	3.3
Total Maximum Microalbumin		36.5	295	295
Total No with normal retinal photos		2	18	20
Total Abnorml Ret Photos, no referral		2	44	46
Total Abnormal Ret Photos, referred		1	12	13
Total Attends Eye OPD			2	2

This shows that BP levels for these patients remain too high, although 81 are now on an ACE Inhibitor.

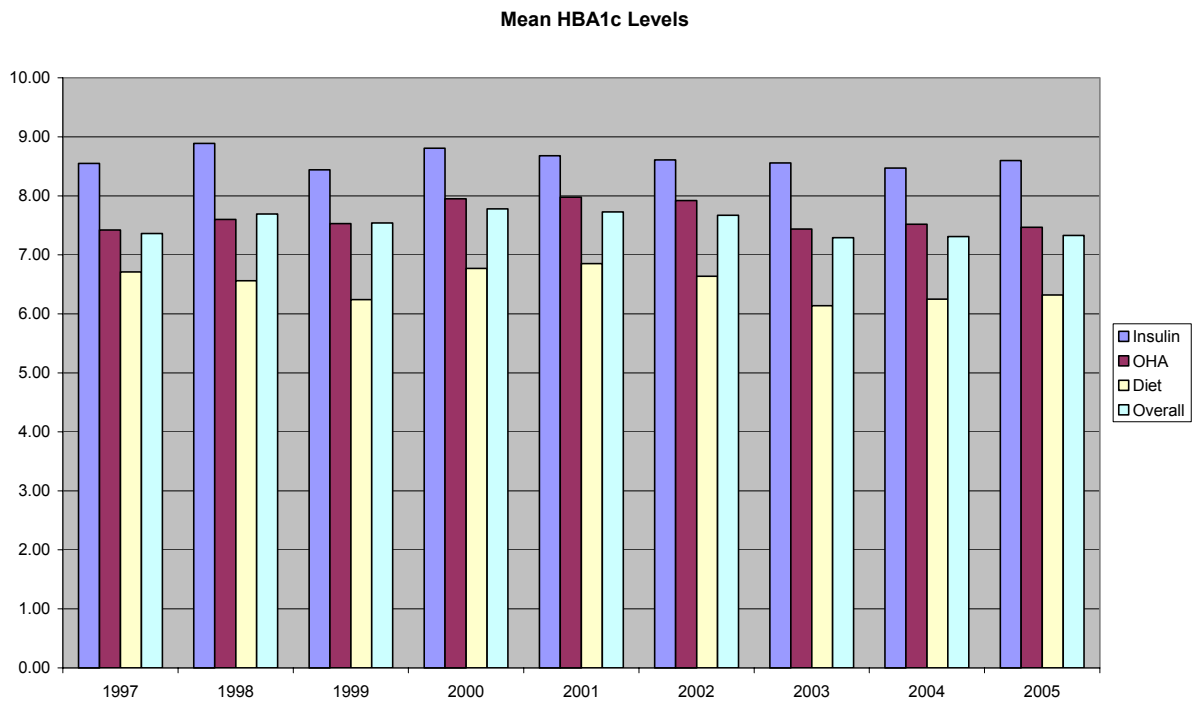
HBA1c levels

Out of the 521 patients with Diabetes, 511 (98.1%) have an HBA1c recorded on the computer within the year. 10 have no data relating to HBA1c as of 31st March 2005.

Overall, levels of control do not appear to have improved significantly. Mean data are shown below.

HBA1c	1997	1998	1999	2000	2001	2002	2003	2004	2005
Insulin	8.55	8.89	8.44	8.81	8.68	8.61	8.56	8.47	8.60
OHA	7.42	7.60	7.53	7.95	7.98	7.92	7.44	7.52	7.47
Diet	6.71	6.56	6.24	6.77	6.85	6.64	6.14	6.25	6.32
Overall	7.36	7.69	7.54	7.78	7.73	7.67	7.29	7.31	7.33

Overall, mean levels have remained similar. This is despite more aggressive therapy over the years. The only area where there has been a drop is in those on diet alone and this probably reflects a more active policy for screening those at risk, with patients being diagnosed earlier.



It is almost inevitable that mean levels will not change significantly. With Type 2 Diabetes being a progressive condition, patients will slowly develop a worsening of their diabetes control and need more aggressive treatment, assuming they live sufficiently long after diagnosis.

The nGMS contract has a target that 50% of people with Diabetes should have an HBA1c level 7.4 or below. We achieved 71% (363). It further specifies 85% should have an HBA1c below 10; we have achieved 95% (400). It is encouraging that we are still able to achieve these target levels despite new diagnoses, and the progressive nature of the deterioration of these measures.

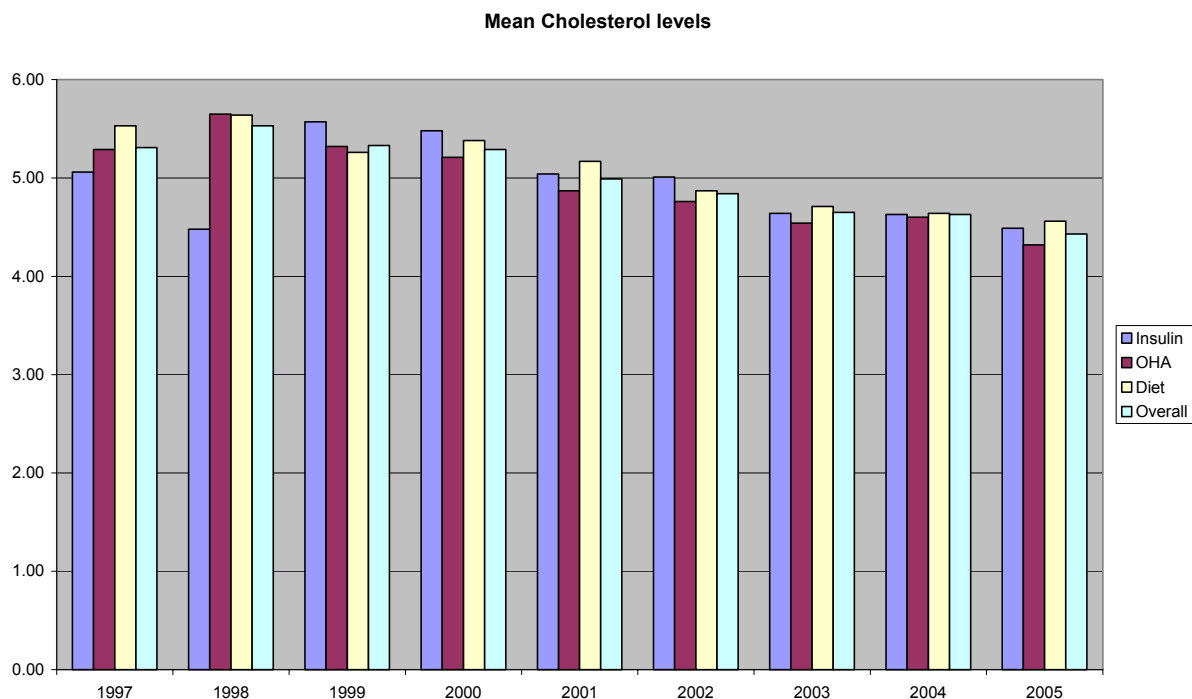
Cholesterol Levels

Over the past few years, the Practice has been far more aggressive in treating raised serum Cholesterol levels. In addition, the thinking is moving on and even with a 'normal' Cholesterol of <5.0 mmol/l, patients are being given statins.

When reviewing data by treatment type the following are obtained.

Cholesterol									
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Insulin	5.06	4.48	5.57	5.48	5.04	5.01	4.64	4.63	4.49
OHA	5.29	5.65	5.32	5.21	4.87	4.76	4.54	4.60	4.32
Diet	5.53	5.64	5.26	5.38	5.17	4.87	4.71	4.64	4.56
Overall	5.31	5.53	5.33	5.29	4.99	4.84	4.65	4.63	4.43

Overall mean levels have fallen again.



On looking in a little more detail, we can break those on Insulin down to Type 1 and Insulin Treated Type 2:

sex	Data	Type 1 DM	Type 2 DM	Grand Total
F	Number	19	220	239
	No on statin	5	163	168
	Mean Cholesterol	5.36	4.58	4.63
M	Number	26	246	272
	No on statin	10	190	200
	Mean Cholesterol	4.77	4.21	4.25
Total Number		45	466	511
Total No on statin		15	353	368
Total Mean Cholesterol		5.00	4.39	4.43

This data suggests there may be some Type 1 Diabetics being under-treated and certainly it is the older type 2 Diabetics who are being targeted more aggressively. Only 15 out of 45 Type 1 Diabetics are on a lipid-lowering agent. The age and time since diagnosis when these people are advised to start statins remains debatable, but generally the age/time since diagnosis is reducing all the time. This represents an area for further work.

368 patients are now on a statin compared with about 290 people last year. This is a further large increase, and the numbers are likely to increase further.

The most frequently used statins remain Simvastatin with almost 250 people taking it, and Atorvastatin with just over 100 people taking it.

Atorvastatin Tablets 10 mg	Number	32
	Mean Age	67.91
	Mean HBA1c	7.18
	Mean Systolic BP	139.06
	Mean Diastolic BP	74.59
Atorvastatin Tablets 20 mg	Mean Cholesterol	4.25
	Number	37
	Mean Age	64.05
	Mean HBA1c	7.63
	Mean Systolic BP	137.03
Atorvastatin Tablets 40 mg	Mean Diastolic BP	75.76
	Mean Cholesterol	4.27
	Number	37
	Mean Age	64.51
	Mean HBA1c	7.47
Atorvastatin Tablets 80 mg	Mean Systolic BP	133.19
	Mean Diastolic BP	75.51
	Mean Cholesterol	4.04
	Number	5
	Mean Age	55.20
Bezafibrate M/R Tablets 400 mg	Mean HBA1c	8.74
	Mean Systolic BP	147.20
	Mean Diastolic BP	79.80
	Mean Cholesterol	4.74
	Number	4
Bezafibrate Tablets 200 mg	Mean Age	60.25
	Mean HBA1c	7.93
	Mean Systolic BP	139.50
	Mean Diastolic BP	84.75
	Mean Cholesterol	4.55
Bezlip-Mono M/R Tablets 400 mg	Number	1
	Mean Age	76.00
	Mean HBA1c	5.10
	Mean Systolic BP	180.00
	Mean Diastolic BP	80.00
Fluvastatin Capsules 40 mg	Mean Cholesterol	3.70
	Number	1
	Mean Age	71.00
	Mean HBA1c	9.80
	Mean Systolic BP	
Lipantil Micro Capsules 200 mg	Mean Diastolic BP	
	Mean Cholesterol	4.60
	Number	2
	Mean Age	70.00
	Mean HBA1c	6.60
Lipantil Micro Capsules 200 mg	Mean Systolic BP	140.50
	Mean Diastolic BP	71.00
	Mean Cholesterol	4.30
	Number	1
	Mean Age	48.00
Lipantil Micro Capsules 200 mg	Mean HBA1c	11.30
	Mean Systolic BP	138.00
	Mean Diastolic BP	72.00
	Mean Cholesterol	8.00
	Number	1

Pravastatin Tablets 20 mg	Number	1
	Mean Age	55.00
	Mean HBA1c	6.60
	Mean Systolic BP	120.00
	Mean Diastolic BP	70.00
Questran Light Powder 4 grams/sachet	Mean Cholesterol	5.70
	Number	1
	Mean Age	73.00
	Mean HBA1c	5.90
	Mean Systolic BP	132.00
Rosuvastatin Tablets 10 mg	Mean Diastolic BP	68.00
	Mean Cholesterol	3.60
	Number	5
	Mean Age	59.00
	Mean HBA1c	7.44
Rosuvastatin Tablets 20 mg	Mean Systolic BP	138.00
	Mean Diastolic BP	77.00
	Mean Cholesterol	4.20
	Number	2
	Mean Age	54.50
Rosuvastatin Tablets 40 mg	Mean HBA1c	7.70
	Mean Systolic BP	159.00
	Mean Diastolic BP	85.00
	Mean Cholesterol	6.85
	Number	1
Simvastatin Tablets 10 mg	Mean Age	69.00
	Mean HBA1c	7.70
	Mean Systolic BP	140.00
	Mean Diastolic BP	70.00
	Mean Cholesterol	4.80
Simvastatin Tablets 20 mg	Number	34
	Mean Age	70.53
	Mean HBA1c	6.92
	Mean Systolic BP	136.50
	Mean Diastolic BP	74.26
Simvastatin Tablets 40 mg	Mean Cholesterol	4.23
	Number	163
	Mean Age	66.26
	Mean HBA1c	7.16
	Mean Systolic BP	134.61
Simvastatin Tablets 20 mg	Mean Diastolic BP	75.80
	Mean Cholesterol	4.31
	Number	43
	Mean Age	62.70
	Mean HBA1c	7.84
Simvastatin Tablets 40 mg	Mean Systolic BP	137.53
	Mean Diastolic BP	75.51
	Mean Cholesterol	4.59

No Lipid Lowering agent	Number	149
	Mean Age	63.92
	Mean HBA1c	7.34
	Mean Systolic BP	134.09
	Mean Diastolic BP	73.46
	Mean Cholesterol	4.74
Total Number		519
Total Mean Age		65.13
Total Mean HBA1c		7.34
Total Mean Systolic BP		135.59
Total Mean Diastolic BP		75.03
Total Mean Cholesterol		4.43

Body Mass Index

Obesity remains a major factor in the development of Type 2 Diabetes.

The following data shows overall levels:

sex	Data	Type 1 diab	Type 2		Type 2 DM	Grand Total
			Insul treated Type 2 DM	Other Type 2 DM		
F	Number	19	9	211	220	239
	No with BMI	16	8	183	191	207
	Average age	45.53	69.56	69.58	69.58	67.67
	Mean BMI	25.92	31.14	31.79	31.76	31.31
M	Number	28	13	231	244	272
	No with BMI	22	9	209	218	240
	Average age	44.25	68.38	65.76	65.90	63.67
	Mean BMI	28.11	28.27	29.82	29.75	29.60
Total Number		47	22	442	464	511
Total No with BMI		38	17	392	409	447
Total Average age		44.77	68.86	67.58	67.64	65.54
Total Mean BMI		27.19	29.62	30.74	30.69	30.39

On comparing with 2004 data, there is little change in BMI levels:

sex	Data	Grand Total	2004
F	Number	239	224
	No with BMI	207	218
	Average age	67.67	67.64
	Mean BMI	31.31	31.27
M	Number	272	258
	No with BMI	240	252
	Average age	63.67	63.13
	Mean BMI	29.60	29.69
Total Number		511	482.00
Total No with BMI		447	470.00
Total Average age		65.54	65.23
Total Mean BMI		30.39	30.43

The mean BMI for those with Type 1 Diabetes is greatly less than for those with Type 2, predictably. For those on Insulin with type 2, there is no real difference from the others with Type 2.

The ideal is to aim to have a BMI <25. Only 80 patients achieved this target. 95 patients had BMI levels >35.

Aspirin

The use of Aspirin is generally advised for anyone with a risk of cardiovascular disease >15%, or if they have existing vascular disease such as Coronary Artery Disease. Certainly all patients on a statin should be taking an anti-platelet agent unless there is a contra-indication.

type	Data	F	M	Grand Total
Type 1 diabetes mellitus	No on Aspirin	6	5	11
	No on Clopidogrel	1	1	2
Type 2 diabetes mellitus	No on Aspirin	137	163	300
	No on Clopidogrel	7	13	20
Total No on Aspirin		143	168	311
Total No on Clopidogrel		8	14	22

Last years data suggested that we had 302 people using Aspirin and 14 on Clopidogrel. This year the numbers have risen slightly. Clearly it remains an area for further evaluation.

Smoking Status

Out of 512 patients, 445 had had a smoking status checked within the year. A further 35 had previously indicated they had never smoked. This meant that 32 people with Diabetes had not had their smoking status recorded during the year.

		sex		
Type	Data	F	M	Grand Total
Insul treated Type 2 diab r	Number	9	13	22
	Mean age	69.56	68.38	68.86
	Smoking status in year	8	13	21
	No never smoked	7	6	13
Type 1 diabetes mellitus	Number	19	28	47
	Mean age	45.53	44.25	44.77
	Smoking status in year	19	25	44
	No never smoked	9	13	22
Type 2 diabetes mellitus	Number	211	231	442
	Mean age	69.58	65.76	67.58
	Smoking status in year	184	198	382
	No never smoked	98	115	213
Total Number		239	272	511
Total Mean age		67.67	63.67	65.54
Total Smoking status in year		211	236	447
Total No never smoked		114	134	248

There are many different ways to record smoking status as can be shown here:

Count of No		sex		
smoking		F	M	Grand Total
Cigar smoker			1	1
Cigarette smoker		19	21	40
Current non-smoker		95	104	199
Current smoker		4	6	10
Ex smoker		2	2	4
Ex-heavy smoker (20-39/day)		1	2	3
Ex-light smoker (1-9/day)			2	2
Ex-moderate smoker (10-19/day)		1	1	2
Never smoked tobacco		78	84	162
Passive smoker		6	8	14
Rolls own cigarettes		2	1	3
Stopped smoking		3	1	4
No in year data		28	36	64
Grand Total		239	269	508

It is interesting to note that only 4 people's last entry was that they had stopped smoking during the 12 months covered by this audit. Of the 14 passive smokers last entry, 3 were noted to have never smoked.

Complications

We wish to improve control of the various parameters above in order to minimise the risk of complications.

a) Diabetic Retinal Changes

A total of 476 people have had eye screening during the year which is just less than 93% of the population.

		sex			
type	Data	F	M	Grand Total	%age
Type 1 diabetes mellitus	Number	19	26	45	
	Normal Photos	6	8	14	31.11%
	Photos abnormal, no referral	3	9	12	26.67%
	Abnormal Photos referral needed		1	1	2.22%
	Attends Eye Dept	5	7	12	26.67%
Type 2 diabetes mellitus	Number	220	246	466	
	Normal Photos	126	147	273	58.58%
	Photos abnormal, no referral	39	44	83	17.81%
	Abnormal Photos referral needed	9	10	19	4.08%
	Attends Eye Dept	28	34	62	13.30%
Total Number		239	272	511	
Total Normal Photos		132	155	287	
Total Photos abnormal, no referral		42	53	95	
Total Abnormal Photos referral needed		9	11	20	
Total Attends Eye Dept		33	41	74	

It is interesting to note that a far greater proportion of people with Type 1 Diabetes have a retinopathy.

7 patients are registered blind.

Age groups	25-34	35-44	45-54	55-64	65-74	75-84	Totals
Males	0	1	0	0	0	1	2
Females	0	0	1	0	3	1	5

This is 1 more than last year. 3 people declined screening and 8 were felt to be unsuitable.

b) Peripheral Pulses and Neuropathy

Data is recorded at each annual review, and also extracted off hospital letters.

The following shows a count of the numbers with their foot risk scored during the year.

		sex			
Data		F	M	Grand Total	Total
No with R foot at low risk		131	153	284	
No with R foot at mod risk		25	20	45	
No with R foot at high risk		7	10	17	
No with R foot - ulcerated		1		1	347
No with L foot at low risk		130	148	278	
No with L foot at mod risk		21	20	41	
No with L foot at high risk		7	10	17	
No with L foot - ulcerated		3		3	339

These figures compare to 343 last year, so overall they do not show a vast increase, but some of this may be due to the way the data are entered, as we achieved the 90% level required.

Looking at lower limb amputations, 9 patients had had an amputation of part of at least 1 lower limb.

Age groups	55-64	65-74	Totals
Males	1	4	5
Females	0	4	4

This data was not broken down further this year. Likewise it does not separate those due to Diabetes or those who develop diabetes after their amputation i.e. the two episodes are unrelated.

c) Erectile Dysfunction

All men attending annual review at the surgery are asked about erectile dysfunction. 116 reported problems with erectile dysfunction during the year, which is less than previously recorded. It is not clear why there is this reduction.

type	Data	Erectile dysfunction	No erectile dysfunction	Grand Total
Insul treated Type 2 diab me	Number	3	1	4
	Mean age	71.33	40.00	63.50
	Mean HBA1c	10.27	13.70	11.13
	Mean Systolic BP	149.33	124.00	143.00
	Mean Diastolic BP	70.33	78.00	72.25
	Mean Cholesterol	3.37	10.70	5.20
	Mean Creatinine	153.33	90.00	137.50
	Microalbuminuria			
Type 1 Diabetes Mellitus	Follow up at surgery	3	1	4
	Number	1	2	3
	Mean age	58.00	31.50	40.33
	Mean HBA1c	6.70	8.65	8.00
	Mean Systolic BP	140.00	122.00	128.00
	Mean Diastolic BP	69.00	78.50	75.33
	Mean Cholesterol	5.10	5.60	5.43
	Mean Creatinine	98.00	97.00	97.33
Type 2 diabetes mellitus	Microalbuminuria		1	1
	Follow up at surgery		2	2
	Number	112	53	165
	Mean age	65.38	61.08	64.00
	Mean HBA1c	7.19	6.70	7.03
	Mean Systolic BP	136.65	133.09	135.51
	Mean Diastolic BP	77.21	76.53	76.99
	Mean Cholesterol	4.04	4.36	4.14
Total	Mean Creatinine	107.00	104.85	106.31
	Microalbuminuria	2	2	4
	Follow up at surgery	99	50	149
	Total Number	116	56	172
	Total Mean age	65.47	59.64	63.58
	Total Mean HBA1c	7.26	6.90	7.15
	Total Mean Systolic BP	137.01	132.54	135.55
	Total Mean Diastolic BP	76.97	76.63	76.85
	Total Mean Cholesterol	4.04	4.52	4.19
	Total Mean Creatinine	108.14	104.29	106.89
Total Microalbuminuria	2	3	5	
Total Follow up at surgery	102	53	155	

Clearly not all men attending the surgery were asked about erectile dysfunction during the year. It is interesting to note how few had a diagnosis made of Microalbuminuria, assuming ED is a vascular problem, and Microalbumin is a marker for this same type of problem in the kidney. Blood pressure levels were generally well controlled as was the HBA1c and Cholesterol. It is noted that those with ED were on average nearly 7 years older than those without it.

d) Chronic Renal Failure

All people with Diabetes should have regular measurements of Serum Urea and Creatinine. It is recognised that Diabetes is a major cause of Chronic Renal Failure and 2 more people have been recorded as having CRF this year. However this may be an underestimate.

2005	45-54	55-64	65-74	75-84	85-89	90+	Totals
Males	0	0	1	4	0	0	5
Females	1	0	3	5	0	0	9
2004							
Males	0	0	2	3	0	0	5
Females	1	1	2	3	0	0	7

Over the next few years, it will be interesting to see what changes new estimates of impaired renal function, such as the eGFR will have. It is expected to lead to far more renal impairment being noted.

e) Myocardial infarction

During the year, only 4 people with Diabetes were recorded as having a Myocardial Infarction, one of the prime causes of ill health in people with Diabetes.

Age groups	45-54	55-64	65-74	75-84	85-89	90+	Totals
Males	1	0	0	0	0	0	1
Females	0	0	1	1	0	1	3

It will clearly be important to monitor vascular disease rates in future.

Conversions to Insulin

In the past year, only 3 patients are recorded as having been changed from oral hypoglycaemics to Insulin treatment at the practice. This is a considerable fall from the previous year when 12 patients were moved to insulin in the practice setting, and 10 the year before.

	45-54	55-64	65-74	75-84	85-89	90+	Totals
Males	1	1	0	0	1	0	3
Females	0	0	0	0	0	0	0

It is interesting to note that this year all were male.

Influenza/Pneumococcal Immunisations

People with Diabetes are advised to have an annual Influenza vaccination, particularly if on OHAs or Insulins. However this is often difficult to effect in practice. Therefore as a Practice we offer it to all patients with Diabetes.

The Practice has an active programme to invite patients to attend. Likewise all newly diagnosed Diabetics are offered a once-off Pneumococcal vaccination. Others are picked up opportunistically.

Flu Vaccine given 2004/05												Grand Total	
Age groups	0-4	5-16	17-24	25-34	35-44	45-54	55-64	65-74	75-84	85-89	90+	Totals	
Males	0	1	0	1	16	25	58	68	45	12	3	229	
Females	0	1	1	4	5	19	33	58	50	15	7	193	422
No Consent Flu vaccine 2004/05													
Males	0	0	0	1	0	5	2	8	4	0	1	21	
Females	0	0	0	0	1	0	2	11	6	4	0	24	45
Pneumococcal Vaccine given													
Males	0	0	0	4	17	33	67	69	45	13	4	252	
Females	0	0	1	4	10	19	36	67	53	16	7	213	465
No consent to Pneumovax													
Males	0	0	0	0	0	1	0	4	4	0	0	9	
Females	0	0	0	0	0	1	1	6	4	3	0	15	24

The practice achieved an immunisation rate of 82.5% of all people with diabetes but a further 8.9% declined vaccination, meaning there was data on well over 90% of people with diabetes'

A total of 465 patients have received a Pneumococcal vaccine. This is 90.8% of people with Diabetes with a further 24 (4.1%) refusing the opportunity to receive the vaccine.

These are very good figures and reflect on the hard work of all clinicians, particularly the nursing team who administer the vaccines both in the surgery and the community.

Newly Diagnosed Diabetes

It is worth looking in a little detail at those newly diagnosed.

It is important looking at any of this data to remember that it is work in progress. It is noteworthy that 5 newly diagnosed patients required referral for an Ophthalmological assessment due to eye changes. We do not note the severity of those, but it illustrates the need to ensure rapid eye screening, once a diagnosis has been made. Blood pressure and Cholesterol levels were remarkably good, as were HBA1 levels, even in those with Type 1.

sex	Data	type		Grand Total
		Type 1	Type 2	
F	Number	2	30	32
	No on statin	1	22	23
	No on Aspirin		16	16
	No on Clopidogrel		1	1
	No on ACE I	1	8	9
	Mean HBA1c	7.80	7.21	7.23
	Mean Systolic BP	168.00	133.10	134.23
	Mean Diastolic BP	82.00	74.60	74.84
	Mean Cholesterol	5.50	5.26	5.27
	No wih Creatinine check		30	30
	No with Microalbumin check		24	24
	No Erectile dysfunction			
	Follow up at surgery			
	Normal Photos	1	1	2
	Abnormal photos, no action	1	21	22
	Abnormal Photos, Refer		4	4
M	Number	1	25	26
	No on statin		18	18
	No on Aspirin		12	12
	No on Clopidogrel		1	1
	No on ACE I		8	8
	Mean HBA1c		6.83	6.83
	Mean Systolic BP	94.00	132.29	130.76
	Mean Diastolic BP	60.00	76.33	75.68
	Mean Cholesterol		4.55	4.55
	No wih Creatinine check		23	23
	No with Microalbumin check		18	18
	No Erectile dysfunction		9	9
	Follow up at surgery		8	8
	Normal Photos		1	1
	Abnormal photos, no action		16	16
	Abnormal Photos, Refer		1	1
Total Number		3	55	58
Total No on statin		1	40	41
Total No on Aspirin			28	28
Total No on Clopidogrel			2	2
Total No on ACE I		1	16	17
Total Mean HBA1c		7.80	7.04	7.05
Total Mean Systolic BP		131.00	132.74	132.68
Total Mean Diastolic BP		71.00	75.37	75.21
Total Mean Cholesterol		5.50	4.94	4.95
Total No wih Creatinine check			53	53
Total No with Microalbumin check			42	42
Total No Erectile dysfunction			9	9
Total Follow up at surgery			8	8
Total Normal Photos		1	2	3
Total Abnormal photos, no action		1	37	38
Total Abnormal Photos, Refer			5	5

On looking at those taking OHA medication (Oral Hypoglycaemic Agents) the following data are obtained:

		sex		
oha	Data	F	M	Grand Total
Gliclazide M/R Tablets 30 mg	Total		1	1
	Mean Age		86.00	86.00
	Mean HBA1c		7.20	7.20
	Mean Syst BP		130.00	130.00
	Mean Diast BP		70.00	70.00
	Mean Cholesterol		4.60	4.60
Gliclazide Tablets 80 mg	Total	5	1	6
	Mean Age	78.20	47.00	73.00
	Mean HBA1c	9.23		9.23
	Mean Syst BP	128.67		128.67
	Mean Diast BP	72.33		72.33
	Mean Cholesterol	5.80		5.80
Metformin Hydrochloride M/R Tablets 500 mg	Total		1	1
	Mean Age		61.00	61.00
	Mean HBA1c		6.60	6.60
	Mean Syst BP		138.00	138.00
	Mean Diast BP		80.00	80.00
	Mean Cholesterol		4.90	4.90
Metformin Hydrochloride Tablets 500 mg	Total	9	6	15
	Mean Age	66.22	53.67	61.20
	Mean HBA1c	8.64	8.30	8.51
	Mean Syst BP	135.56	127.00	132.13
	Mean Diast BP	73.56	77.00	74.93
	Mean Cholesterol	5.46	4.97	5.25
Metformin Hydrochloride Tablets 850 mg	Total	1	1	2
	Mean Age	55.00	47.00	51.00
	Mean HBA1c	7.30		7.30
	Mean Syst BP	132.00	120.00	126.00
	Mean Diast BP	72.00	70.00	71.00
	Mean Cholesterol	4.70		4.70
Rosiglitazone Maleate Tablets 4 mg	Total	1	2	3
	Mean Age	67.00	61.00	63.00
	Mean HBA1c	8.80	9.00	8.93
	Mean Syst BP		136.00	136.00
	Mean Diast BP		70.00	70.00
	Mean Cholesterol		4.80	4.80
Total Total		16	12	28
Total Mean Age		69.31	57.08	64.07
Total Mean HBA1c		8.72	8.16	8.50
Total Mean Syst BP		133.69	128.60	131.48
Total Mean Diast BP		73.15	75.20	74.04
Total Mean Cholesterol		5.45	4.90	5.21

Predictably Metformin is the most commonly prescribed OHA, followed by Gliclazide. However it is likely that there will be more use of Rosiglitazone with the benefit of more experience.

Discussion

The continued growth shows no signs of slowing down with a further 11% being diagnosed during the year. The additional numbers have already meant the Practice has reconfigured some of its annual review systems. The extra patients means that this needs continuous review to ensure we continue to see patients for their annual checks as close to every 12 months as possible.

Overall control has continued to improve. Mean HBA1c levels have not changed, but this is not surprising, given the progressive nature of diabetes, but Cholesterol levels as well as BP levels have improved slightly. More patients are receiving statins and this trend needs to increase so that all possible people are offered these important drugs. This continues the trends that existed before the QoF became an issue. However the introduction of QoF has meant that as a Practice we have tightened up our systems to ensure reviews do occur and that we include those in Nursing Homes, as well as those housebound. We have undertaken this aspect previously but perhaps not as assiduously.

In terms of the QoF, the practice achieved the full 99 points and exception rates were low. This should continue despite the additional numbers. Getting information from those attending the hospital clinics has proved to be difficult at times, but it is possible, as we have shown.

Overall, this has been another successful year. The Practice has coped with the additional work well, has continued to provide high standards of care for its patients, and continues to evolve the way in which that care is given.

Again, well done to everyone involved.

JDR March 2006

Appendix 1

QMAS return for end March 2005:

Search Name	On Register	Achieved	%age achi	Target %	Points Scored	Points Available
DM1 - Patients on Diabetic Register	511				6	6
DM2 - Diabetes with BMI in last 15 months	495	475	96.0%	90%	3	3
DM3 - Diabetes with Smoking History	505	496	98.2%	90%	3	3
DM4 - Diabetes who smoke and given advice	43	40	93.0%	90%	5	5
DM5 - Diabetes and HbA1c checked in 15 months	504	498	98.8%	90%	3	3
DM6 - Diabetes and HbA1c 7.4 or less	480	312	65.0%	50%	16	16
DM7 - Diabetes and HbA1c is 10 or less	497	470	94.6%	85%	11	11
DM8 - Diabetes who have had retinal screening	487	471	96.7%	90%	5	5
DM9 - Diabetes and Pulses checked in 15 months	488	457	93.6%	90%	3	3
DM10 - Diabetes and Neuropathy test in 15 months	486	460	94.7%	90%	3	3
DM11 - Diabetes and BP check in 15 months	507	502	99.0%	90%	3	3
DM12 - Diabetes and BP 145/85 or less	485	392	80.8%	55%	17	17
DM13 - Diabetes and Micro-albuminuria testing done	487	450	92.4%	90%	3	3
DM14 - Diabetes and Creatinine Checked	507	490	96.6%	90%	3	3
DM15 - Diabetes and Proteinuria or Microalbuminuria on ACEi	92	81	88.0%	70%	3	3
DM16 - Diabetes and Chol check in last 15 months	499	487	97.6%	90%	3	3
DM17 - Diabetes and Cholesterol 5.0 or less	460	391	85.0%	60%	6	6
DM18 - Diabetes given Influenza Vaccine	458	422	92.1%	85%	3	3
					99	99