

An audit of structured diabetes care in a general practice setting

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Introduction :

The long-term risks of diabetes are well documented¹.

Macrovascular

•Heart disease and stroke - 50% of people with diabetes die of cardiovascular disease (primarily heart disease and stroke).

Microvascular

- Neuropathy –can affect up to 50% of diabetics in the feet increases the chance of foot ulcers and eventual limb amputation.
- Retinopathy - after 15 years of diabetes, approximately 2% of people become blind, and about 10% develop severe visual impairment.
- Nephropathy - renal failure ~10-20% of people with diabetes die of kidney failure and its associated complications.
- The overall risk of dying among people with diabetes is at least double the risk of their peers without diabetes.

Given these risks, the increasing prevalence of diabetes and the inability for acute models of care to manage this growing burden², exemplifies the need for chronic illness management programmes. The RHFP has been operating a structured diabetes care programme for over 15 years. The aim therefore, of this audit is to examine our diabetic population with a view to establishing baseline criteria for future research and to allow juxtaposition to current peer reviewed audits already published in the setting of Irish general practice.

Methods:

•Data was collected from patient electronic records (*CompleteGP*) on patients currently enrolled on the diabetes watch program, which comprises four practice visits a year (including an annual diabetic review).

•The audit year in question was from November 2009 until November 2010 respectively.

•Analysis of data cut-offs was directed on standards recommended by the ICGP for diabetes care³ on data recorded in the last 12 months.

•The results of this audit have been compared to recently previously published audit data for diabetes care^{4,5}.

Results 1: Data extraction

201 patients were identified from the diabetes watch database/practice system. 20 patients were excluded:

- 7 patients had IGT on review of lab values
- 2 patients had GDM
- 6 patients were in long term NH care
- 2 were patients treated in practice but no longer patients.
- 3 patients <18 years.

42 variables were extracted for each patient and analysed respectively. Only variables examined in comparable audits are presented on this poster. Valid sample cohort N=181, all OGTT confirmed diabetics

Results 2: Patient profile and comparisons

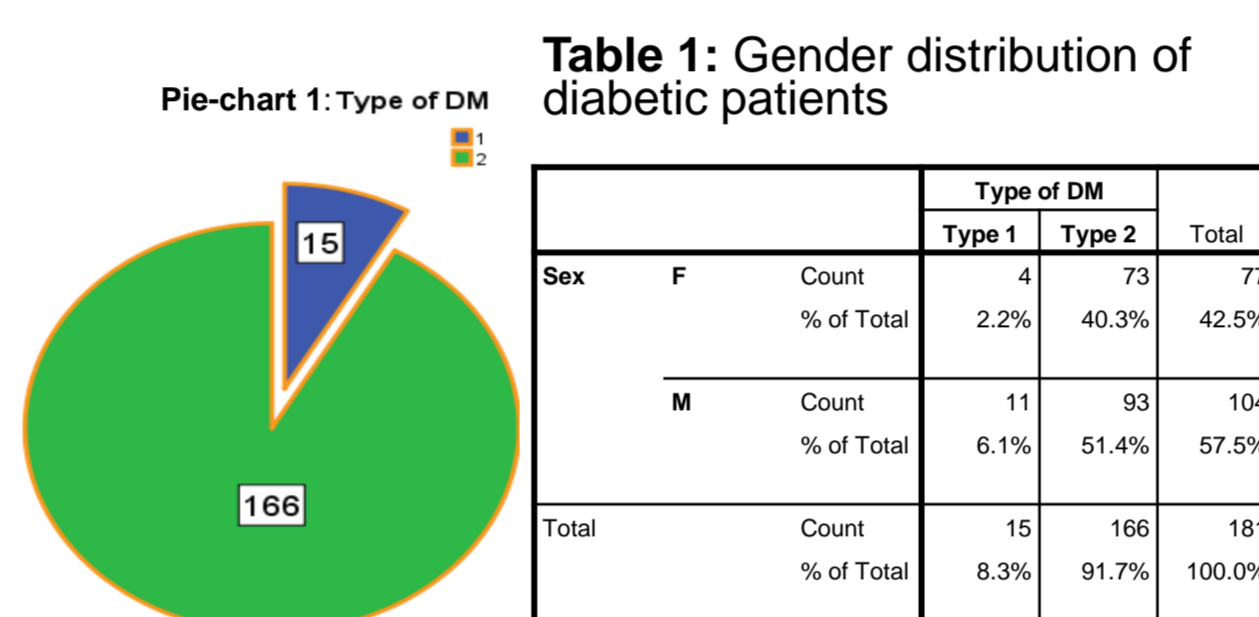
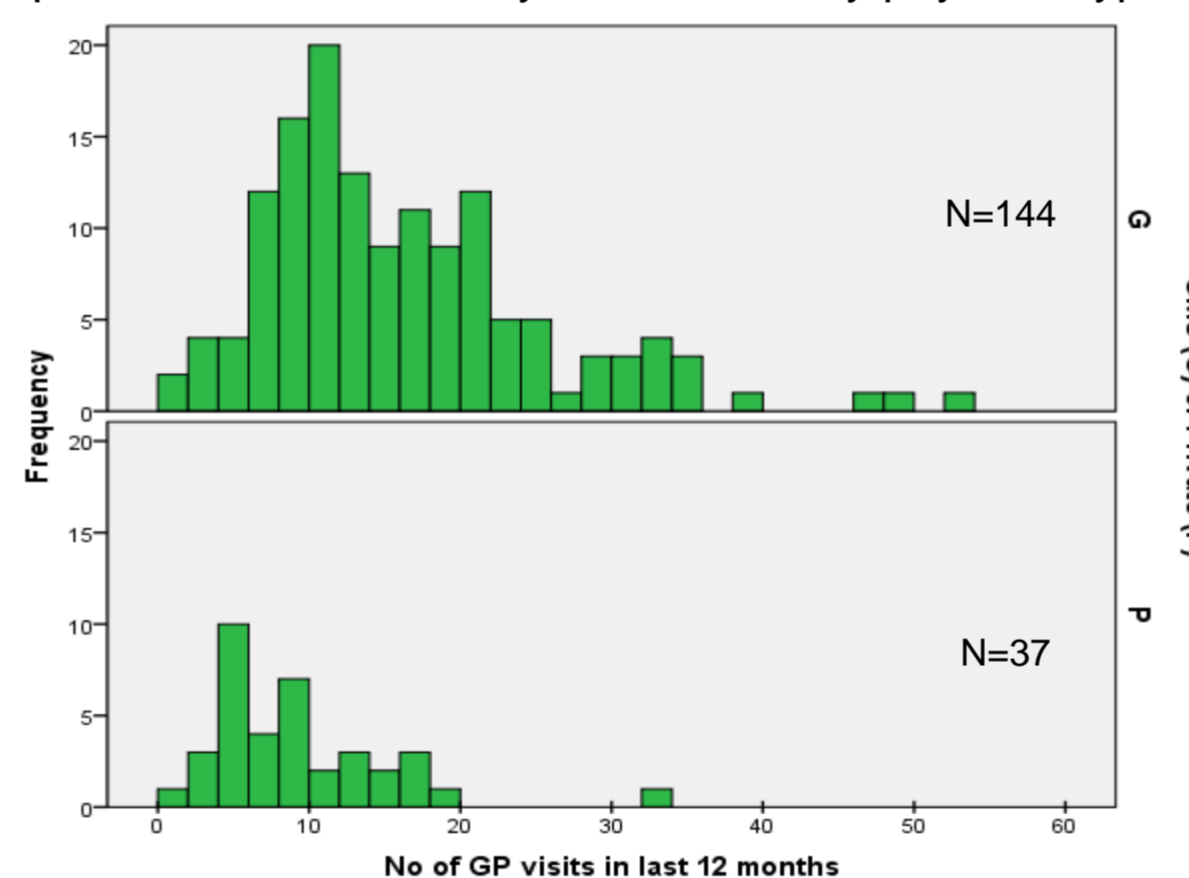


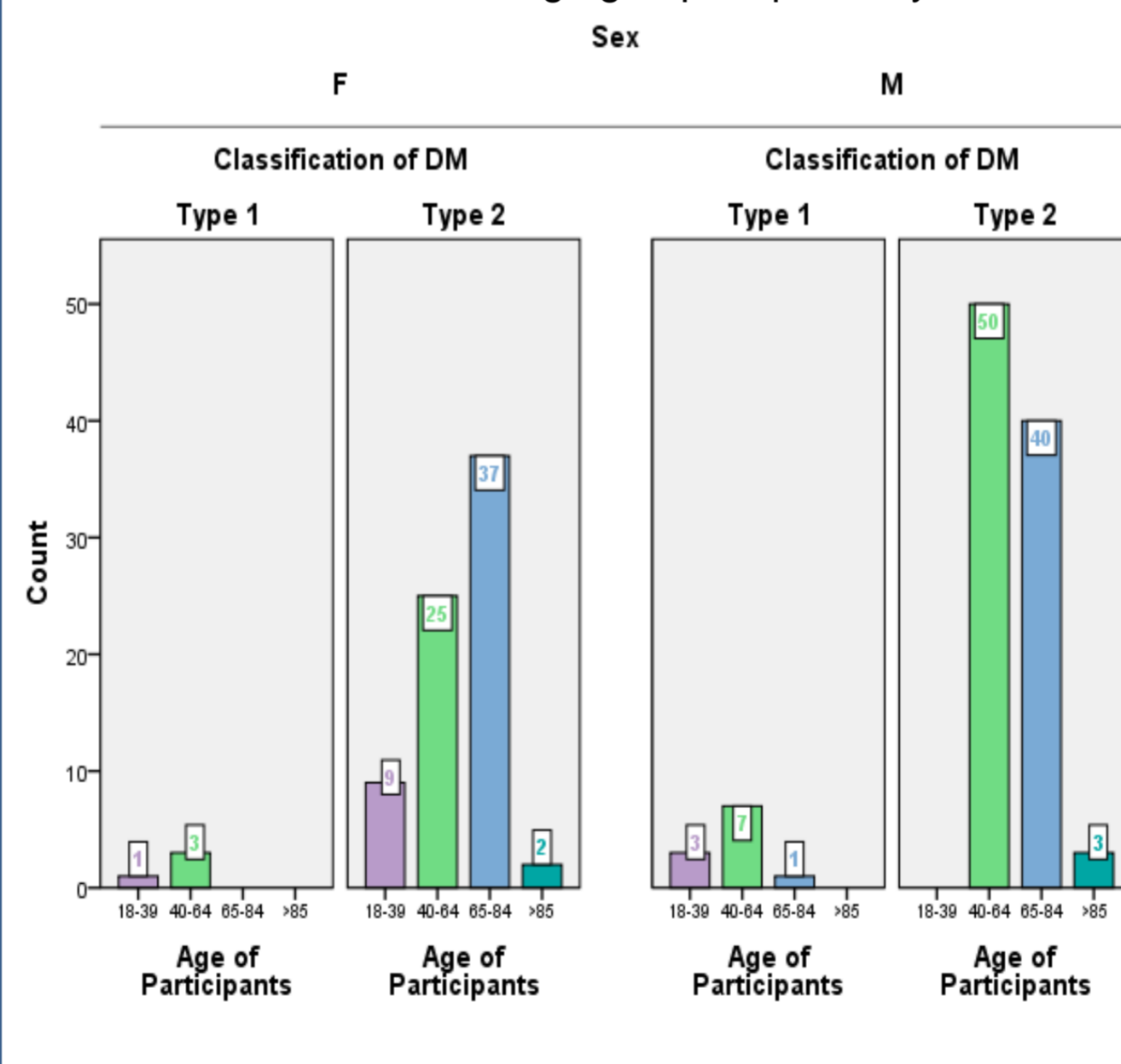
Table 1: Gender distribution of diabetic patients

Sex	Type of DM		Total
	Type 1	Type 2	
F	Count	4	73
	% of Total	2.2%	40.3%
M	Count	11	93
	% of Total	6.1%	51.4%
Total	Count	15	166
	% of Total	8.3%	91.7%

Graph 1: Distribution of the number of visits made by diabetic patients over the audit year stratified by payment type.



Graph 2: Patient distribution on the basis of gender, diabetes classification and age group respectively.



Graph 3: Classification of cohort as a function of duration

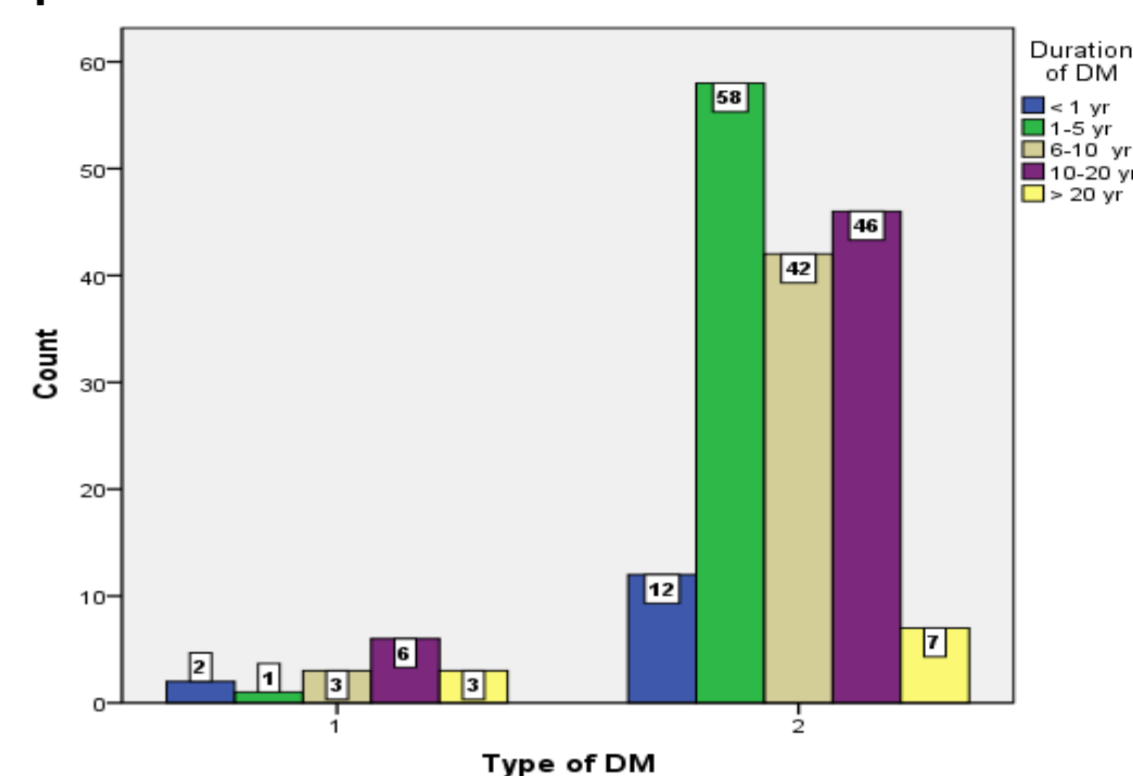


Table 2: Comparison of documented processes of care for patients with diabetes within a 12 month period.

	MPHC Audit 2010 (%) N=181		DIG Audit 2010 (%) N=2821 (333/2143)		HSE Midlands Audit 2009 (%) N=1071 (80/989)	
	Total	Type 2	Total	Type 2	Total	Type 2
HbA1c	89.5	100	88.6	85.1	78	86
Blood Pressure	99.4	100	89.2	88.3	74	90
Total Cholesterol	90.1	100	89.2	86.2	68	68
LDL	90.1	100	89.2	63.4	44	66
HDL	90.1	100	89.2	63.6	44	66
Triglycerides	90.1	100	89.2	69.9	51	72
Creatinine	90.1	100	89.2	84.2	64	87
Smoking Status	100	100	68.2	60	60	77.1
BMI	68.0	46.7	63.8	60.2	31	49
Foot Assessment	90.1	100	90.4	37.7	35	38
Retinopathy Screening	34.8	21.4	36.1	48.2	54	47
Albumin Creatinine Ratio	20.4	13.3	21.1	38.5	31	40
Influenza Vaccination	51.9	26.7	54.2	NG	58	42

NG= not given in report

Table 3: Comparison of treatment targets for patients with type 2 diabetes.

Treatment Target	MPHC Audit 2010 (%)	DIG Audit 2010 (%)	HSE Midlands Audit 2009 (%)
HbA1c	Low risk (<6.5%)	36.5	36
	Medium risk (6.5-7.5%)	23.2	37
	High risk (>7.5%)	32.0	28
Total Cholesterol	<5 mmol/L*	78.4	76
LDL	<2.5 mmol/L	66.9	NG
HDL	>1.0 mmol/L	68.9	NG
Triglycerides	<1.7 mmol/L	60.1	NG
Blood Pressure	Combined <130/80	26.5	37
	Systolic <130	31.5	39
	Diastolic <80	68.5	71
BMI	Normal range <25	9.6	11.3
	Overweight >25-30	41.7	36
	Obese I >30-35	19.1	29
	Obese II >35-40	17.3	15
Obese III >40	12.2	10	21.9*

* = Previous ICGP recommended target, new target is <4.5 mmol/L, # = grouped BMI >35

Conclusion:

➤ RHFP is delivering diabetes care broadly in keeping with national ICGP guidelines. A baseline for future audits has now been established.

➤ Monitoring of renal function trends needs to be improved by increased ascertainment of ACR measurements at each visit.

➤ A targeted screening of men under 40 years of age needs to be undertaken, to identify occult diabetes in RHFP patients.

➤ BMI and systolic hypertension are two areas which would benefit from increased targeting for further reduction achievement.

➤ Access to retinopathy screening and referral to same needs to be prioritised.

➤ A pilot project involving the provision of local retinopathy screening has already been instigated on the back of these shortcoming with a hope to access the feasibility of such a project in the mallow area.

Acknowledgements:

I wish to thank the doctors, staff and patients of RHFP and MPHC for providing me the opportunity to access their information and for the use of their facilities to complete this audit. I hope that its findings will allow for the continuation and further enhancement of diabetes care and chronic disease management in the RHFP and MPHC.

References:

1. <http://www.who.int/mediacentre/factsheets/fs312/en/index.html> (accessed April 2010).
2. DOHC. Tackling Chronic Disease, A policy framework for management of Chronic disease, 2008.
3. Harkins V. A practical guide to integrated type 2 diabetes care, ICGP/HSE/IES, 2008
4. Marsden P. et al. Audit report of the HSE Midland structured care programme. Dept of public health, HSE Dublin Mid-Leinster. 2010.
5. Moran J. Providing care in general practice, The performance of DIG, Sept 2010.