



Opportunistic Case Finding Programme in General Practice

First report August 2024



Foreword

The Opportunistic Case Finding Programme (OCF) is one of a suite of 3 programmes of the Chronic Disease Management (CDM) GP Programme. The objective of the OCF Programme is to allow GPs to opportunistically identify patients at high risk of cardiovascular disease or diabetes when a patient comes to see them for some other reason. Research evidence shows that approximately one third of patients with chronic disease are undiagnosed and hence untreated. Therefore early detection and prevention of disease progression is very important.

This report gives the findings of the first 2 years of the programme: there is a good and improving uptake by GPs and the public.

The programme is effective in identifying undiagnosed chronic disease and in identifying patients at high risk, over 6,000 patients with undiagnosed chronic disease and over 100,000 patients at high risk have been identified to date. These patients can then benefit from the Treatment and Prevention Programmes. The findings also indicate areas of necessary development e.g. the need for a Treatment Programme for Chronic Kidney Disease.

This approach of early detection and prevention helps reduce the burden of chronic disease and shifts care left to be provided in the community in keeping with Sláintecare principles.

I would like to thank GPs for encouraging patients to participate and for using the programme effectively to improve our population's health. I would also like to thank the HSE team and contractors, who work on ICT development, data analysis and programme administration to enable the system to function effectively and respond to development.

Yours sincerely

Dr. Orlaith O Reilly
Clinical Lead, CDM Programme.

Introduction

The Opportunistic Case Finding Programme in General Practice commenced in early 2022, and patients with medical cards or doctor visit cards aged 65 and over were eligible, this was reduced to 45 years and over in January 2023. The programme is aimed at identifying patients who are at high risk of cardiovascular disease or diabetes or have undiagnosed cardiovascular disease or diabetes.

The GP can opportunistically identify people they believe are at risk when they visit the practice for other reasons. Common criteria for sub sets of patients who maybe at high risk in the general Irish population are as follows; current smokers, people with a BMI ≥ 30 kg /m², patients with a raised NTproBNP level, patients from selected ethnic backgrounds e.g. Irish Traveller, people with black or asian ethnicity or Roma ethnicity, patients with a history of hypertension, gestational diabetes, dyslipidaemia, moderate or severe kidney disease or a history of severe mental illness.

Additionally the GP can nominate another reason if they believe the patient is at higher risk. When the GP considers that a patient is at high risk they can then carry out a defined assessment which includes a physical examination, a Qrisk (Cardiovascular Risk Assessment) assessment and a selected number of blood tests.

Based on the results of the physical examination, Qrisk assessment and blood tests, the GP can decide if the patient falls into one of the following 3 categories;

1. At low risk, in which case the GP can repeat the OCF assessment following 5 years.
2. At high risk of developing cardiovascular disease, diabetes or both, the GP can then register the patient on the Prevention Programme.

- The patient is newly diagnosed with one of the 8 specified chronic diseases in the chronic disease contract, then the GP can register the patient on the Treatment Programme of the chronic disease contract.

From the commencement of the programme in January 2022 up to the end of May 2024, 198,872 patients have been assessed under the OCF Programme.

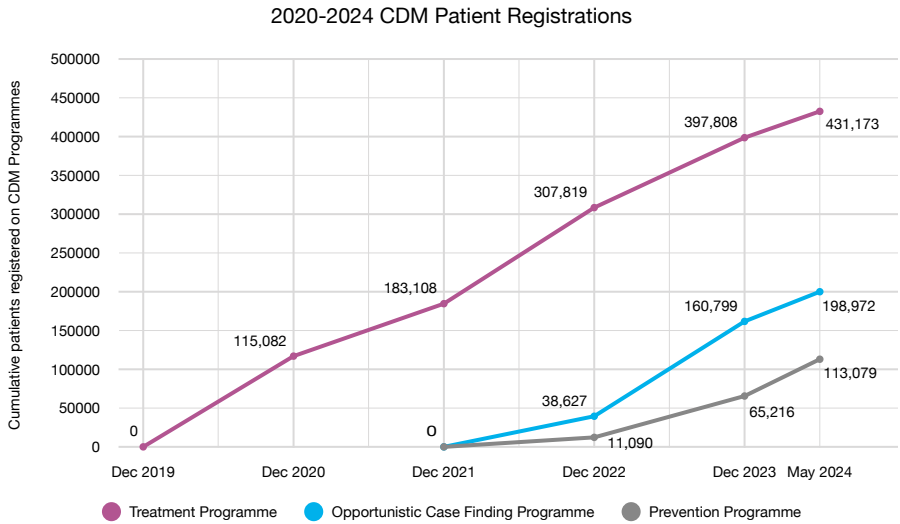


Figure 1 shows the increase year on year of patients who have been assessed under the programme.

Demographic and Examination Results

The following results are for the cohort of patients (185,307) enrolled in the OCF Programme from its commencement until the end of March 2024 with data imported into the CDR: Clinical Data Repository database by 31st March 2024.

Age group	No. Patients	%
45-54	30,233	16.32%
55-64	34,096	18.4%
65-74	66,163	35.7%
75-84	45,877	24.76%
85+	8,938	4.82%
Total	185,307	100%

Table 1: OCF assessments by age group

Table 1 shows the age breakdown of patients currently assessed under the programme. Over 61% of patients assessed under the programme were female and 39% male. Just 15% of patients assessed under the programme were current smokers and 26% were ex smokers.

It is often reported that women are less likely to be diagnosed as having cardiovascular disease than men. This programme helps to rebalance that trend, as GP's have selected more women for assessment.

The median weight of participants was 71Kg and the mean BMI was 28.4.

BMI	No.	%
<18.5	2,788	1.51%
18.5 - 24.9	49,151	26.71%
25 - 29.9	69,598	37.82%
30 - 39.9	56,033	30.44%
40+	6,478	3.52%
Total	184,048	100%

Table 2: BMI Analysis for range < 18.5, 18.5-24.9, 25-29.9, 30-39.9 and 40+

Table 2 above shows that a minority of patients, 26.7% were in the normal weight range, 37.8% were overweight, 30.4% were obese, 3.5% were morbidly obese and 1.5% were underweight.

Waist Circum Risk Profile	Male	No.Patients	%
Low Risk	< 94cm	20,057	27.53%
High Risk	94-102cm	22,409	30.76%
Very High Risk	> 102cm	30,235	41.5%
Not Recorded	-	154	0.21%
Total	-	72,855	100%

Table 3: Waist Circumference Males

As seen in the above in table 3 a high proportion of men, 41.5% had a very high risk score for their waist circumference.

Waist Circum Risk Profile	Female	No.Patients	%
Low Risk	< 80cm	15,966	14.22%
High Risk	80-188cm	25,065	22.32%
Very High Risk	> 88cm	71,067	63.29%
Not Recorded	-	198	0.18%
Total	-	112,296	100%

Table 4: Waist Circumference Females

As seen in table 4 above an even higher proportion i.e. 63% of women, had a waist circumference which put them at very high risk.

Min	IQR Lower	Mean	Median	IQR Upper	Max	Count
0.5	8.9	17.6	16.3	24.4	98.5	185,225

Table 5: Q risk score mean, min, max and interquartile range

Table 5 above shows the Q risk score range for participants in the programme. The mean Q risk was 17.6%, hence under the threshold of 20% which would require referral to the Prevention Programme. However the upper interquartile range was 24.4%, hence a significant proportion of patients needed referral given their cardiovascular Q risk score on assessment.

Hypertension > = 140 90mm Hg	No. Patients	%
No	91,167	49.2%
Yes	94,140	50.8%
Total	185,307	100%

Table 6: Hypertension >=140/90

The above table 6 shows that a high proportion of patients assessed under the programme i.e. 50.8% were hypertensive, this was 38.7% in those 45 - 64 years and 57.2% in those over 65 years.

Risk Criteria	%
Hypertension	50.8%
Dyslipidaemia	49.6%
BMI greater or equal to 30	18.1%
Current smoker	15.1%
Chronic kidney Disease (CKD)	6.6%
Hx Severe mental illness	3.9%
Ethnicity	2.7%
Raised ProBNP	1.5%
CDM	0.4%
Other	3.4%

Table 7: Risk Criteria for which GP did an OCF Assessment

Table 7 above shows the reasons that GPs decided a patient needed an opportunistic assessment, some patients have a number of criteria.

GPs could also add “other” conditions, pre diabetes was named by a significant number of GPs as influencing their decision to carry out the OCF assessment.

It’s interesting to note that since the beginning of 2024, hypertension is now an indication for referral directly to the Prevention Programme, and does not need an OCF assessment, hence since January 2024, it is no longer a common reason for OCF. Some 58% of patients assessed had one indication recorded by the GP as prompting them to do an OCF assessment, while 42% had 2 or more indications. This implies a significant level of morbidity and multimorbidity in the population targeted by the programme by GPs.

Outcome of the OCF Programme

Following the OCF assessment 39% of patients had a normal result and are not eligible again for OCF assessment for another 5 years, 57% were deemed at high risk and registered on the Prevention Programme and almost 4% of patients were registered as newly diagnosed and enrolled in the Treatment Programme as shown in table 8.

OCF Outcome	No. Patients	%
Newly diagnosed Chronic Disease	6,331	3.42%
Register on Prevention Programme	105,569	56.97%
Normal	73,407	39.6%
Total	185,307	100%

Table 8: OCF Outcome

Prevention Programme Registration Reason	No. Patients	%
Qrisk 3 \geq 20%	67,840	54.04%
Hypertension Stage 1 with target organ damage	31,619	25.19%
Pre-Diabetes	16,141	12.86%
Hypertension Stage 2 or 3	7,863	6.26%
Previous BNP \geq 34 pg/ml or NT ProBNP \geq 125 pg/ml	2,067	1.65%
Total	125,530	100%

Table 9: Prevention Programme Registration Reason

Table 9 shows the reasons that patients were registered on to the Prevention Programme. Up to this point 54% of patients were enrolled in the Prevention Programme because they had an elevated cardiovascular Q risk score. This proportion is likely to reduce as time goes on and more patients aged 45 to 64 year olds are enrolled as Q risk is highly related to age. Also 25% of patients were enrolled because they had hypertension stage 1 with end organ damage and 6.3% were enrolled because they had hypertension stage 2 or 3. Again this is likely to decrease in the future as since January 2023 hypertension is now a disease which

GPs can refer directly to the Prevention Programme. However, a history of chronic kidney disease is a reason for which GP's can do the OCF assessment, but it is not currently a condition for which they can register patients on the Prevention or Treatment programmes. Hence currently while patients with chronic kidney disease are being identified by the OCF Programme they are not eligible to be enrolled in the Treatment or Prevention Programmes, this condition should be included in future developments.

CDM Registration Reason	No. Patients	%
Diabetes Type 2	2,854	41.84%
Ischaemic Heart Disease	1,972	28.91%
Atrial Fibrillation	907	13.3%
Heart Failure	469	6.87%
Cerebrovascular Disease Stroke	331	4.85%
Cerebrovascular Disease TIA	289	4.24%
Total	6,822	100%

Table 10: CDM Programme Registration Reason. Some patients had several diagnoses

The above table 10 shows the chronic conditions which were newly diagnosed through the OCF assessment. An additional 6,822 patients who were undiagnosed with chronic disease were diagnosed through participation in the programme. The majority of these, 2,854 were diagnosed with diabetes type 2, 907 patients were diagnosed with atrial fibrillation and 469 with heart failure.

OCF Assessment Test Results

Cholesterol*

The average total cholesterol for the cohort assessed was 5.1 mmol/l, as shown in Table 11 below.

Min	IQR Lower	Mean	Median	IQR Upper	Max	Count
0	4.3	5.1	5	5.7	15	184,982

Table 11: Total cholesterol mean, min, max and interquartile range

Table 12 below shows that a higher proportion of patients aged over 65 had a total cholesterol under 5 mmol/l and a higher proportion of patients 45 to 64 years had a total cholesterol over 5 mmol/l compared to the over 65 year old age group.

Age Group	Total Cholesterol < 5			Total Cholesterol ≥ 5		
	No.	%	Row %	No.	%	Row %
45 – 64	24,341	27.5%	37.9%	39,876	41.34%	62.1%
65 +	64,174	72.5%	53.2%	56,591	58.66%	46.8%
Total	88,515	100%	47.8%	96,467	100%	52.2%

Table 12: Total cholesterol by age grouping

When LDL cholesterol was assessed, the results showed that the mean LDL cholesterol for the cohort was 3 mmol/dl as shown in table 13. This is higher than the mean of 2.3 mmol/dl in patients enrolled in the Treatment Programme showing that the Opportunistic Case Finding Programme is identifying patients with higher cholesterol levels.

Min	IQR Lower	Mean	Median	IQR Upper	Max	Count
0	2.3	3	2.9	3.6	15	169,261

Table 13: LDL cholesterol mean, min, max and interquartile range

* Cholesterol and low density lipoprotein (LDL) are tests of blood fats.

Age Group	45 to 64 years	65 years and over	Total
LDL cholesterol < 2.6			
No.	14,772	46,730	61,502
%	24.02%	75.98%	100%
Row %	25.3%	42.1%	36.3%
LDL cholesterol ≥ 2.6 and < 3			
No.	8,577	17,879	26,456
%	32.42%	67.58%	100%
Row %	14.6%	16.1%	15.6%
LDL cholesterol ≥ 3			
No.	34,999	46,304	81,303
%	43.05%	56.95%	100%
Row %	59.9%	41.7%	48.1%

Table 14: LDL Cholesterol Proportions in Risk Categories by Age Group

Table 14 shows that 25% of patients aged 45 to 64 met the target of under 2.6 mmol/dl while 42% of over 65 year olds met this target. Also similar numbers 14.6% and 16.1% respectively of the younger and older age groups had LDL cholesterol within the range of 2.6 to less than 3 mmol/dl. Interestingly in the higher LDL levels of greater or equal to 3 mmol/dl 60% of the younger age group of 45 to 64 year olds had LDL cholesterol at this level while only 41% of those over 65 years had.

HbA1c**

The mean HbA1c level in the cohort was 37 mmol/mol. Table 15 shows the HbA1c range broken into normal i.e. ≤ 41 mmol/mol, pre diabetic i.e. 42 - 47 mmol/mol, and diabetic greater or equal to ≥ 47 mmol/mol.

≤ 41 mmol/mol	42 - 47 mmol/mol	≥ 47 mmol/mol	Count
148,190	29,623	5,611	183,424

Table 15: HbA1c Analysis for range less than equal to 41 mmol/mol, 42 to 47 mmol/mol and greater than equal to 47 mmol/mol

** HbA1c is a test of ongoing blood sugar control.

The above table 15 shows the numbers in the cohort assessed in the various HbA1c categories: 5,611 patients had a result which showed that in the diabetic range and 29,623 patients had a result that showed them to be in the pre diabetic range, both of these categories of patients require intervention.

Age Group	45 to 64 years	65 years and over	Total
HbA1c ≥ 20 and < 42			
No.	50,505	87,490	137,995
%	36.6%	63.4%	100%
Row %	83.0%	78.0%	79.6%
HbA1c < 42 and < 48			
No.	8,758	22,367	31,125
%	28.14%	71.86%	100%
Row %	14.3%	20.0%	17.9%
HbA1c ≥ 48			
No.	1,699	2,410	4,109
%	41.35%	58.65%	100%
Row %	2.8%	2.2%	2.4%

Table 16: HbA1c category by age group

The above Table 16 shows proportions by age group in the various HbA1c categories, a higher proportion (83%) in the younger age group have a normal HbA1c while a higher proportion (20%) of the older age group are in the pre diabetic category, a very similar proportions of both age groups are in the diabetic category.

eGFR (estimated glomerular filtration rate)*

The following table 17 shows the range of eGFR levels in the cohort assessed, the units are in ml/min. The mean eGFR was 71.8 ml/min.

Min	IQR Lower	Mean	Median	IQR Upper	Max	Count
0	61.7	71.8	73	83	150	131,956

Table 17: eGFR mean, min, max and interquartile range in ml/min

While normal values for eGFR are 90, if there are no other signs or symptoms of kidney disease a cut off point of 60 or greater is considered acceptable.

Min	IQR Lower	Mean	Median	IQR Upper	Max	Count
0	44	47.8	52	56	59.9	26,334

Table 18: Mean, min, max and interquartile range for eGFR < 60 ml/min

Table 18 shows that among the 26,334 patients with an eGFR below 60 ml/min, the mean eGFR was 47.8 ml/min. This demonstrates a sizable number of patients i.e. 14.2% of those assessed for the OCF Programme have an abnormal eGFR which highlights the need to add chronic kidney disease to the chronic disease contract.

Min	IQR Lower	Mean	Median	IQR Upper	Max	Count
0	2.1	12.8	9	24.3	29.9	1,917

Table 19: Mean, min, max and interquartile range for eGFR < 30 ml/min

The above table 19 shows that 1,917 patients in the programme had kidney disease level 4 / 5 which is very serious. The mean eGFR of this sub group was 12.8 ml/min showing that severe kidney disease can remain undiagnosed in the population, emphasising the need for such case finding programmes and particularly a treatment programme to intervene when patients are identified.

* Estimated glomerular filtration rate is a test of kidney function.

Age Group	eGFR < 60			eGFR < 30		
	No.	%	Row %	No.	%	Row %
45-64	3,360	12.76%	86.18%	539	28.12%	13.82%
65+	22,974	87.24%	94.34%	1,378	71.88%	5.66%
Total	26,334	100%	93.21%	1,917	100%	6.79%

Table 20: eGFR by age grouping

The above table 20 shows the abnormal eGFR groups of stage 3 kidney disease i.e. eGFR less than 60 ml/min and severe kidney disease, stage 4 and 5, i.e. eGFR less than 30 ml/min by age group. It's particularly worrying to note that a higher proportion of the younger age group patients i.e. 45 to 64 years were in the severe / impaired glomerular filtration rate category.

ACR (albumin creatinine ratio)

The ACR urine test is carried out to indicate proteinuria which is a marker of kidney disease. In the OCF Programme GPs can test for ACR when it is clinically indicated. The laboratories generally return "not detectable" if the result is in the normal range, hence the figures presented here would reflect those results outside the normal range.

An ACR level of less than or equal to 30 is considered reasonable, in this cohort of 37,745 patients who were tested for ACR in the OCF Programme, 19,876 i.e. 52.6% had an ACR result over 30, this indicates a significant level of kidney disease in the cohort tested.

Conclusion

The OCF Programme commenced in January 2022 and has been fully operational since January 2023. Up to March 2024, GPs had assessed 185,307 patients, which the GP had considered at risk of cardio vascular disease or diabetes. This rose to 198,972 by May 2024. In the majority of cases the GP was correct and 105,569 patients were confirmed to be at high risk and were enrolled in the Prevention Programme. A further 6331 patients were newly diagnosed with a chronic disease and enrolled in the Treatment Programme.

The most common risk criteria that patients had, that prompted the GP to do an OCF assessment were; hypertension, dyslipidaemia, obesity, smoking and chronic kidney disease.

Investigation results for the cohort assessed (185,307 patients) showed reasonably normal cholesterol values and a significant number of patients with high triglycerides values. A significant number of patients were newly diagnosed with pre diabetes or diabetes, and enrolled in the Treatment and Preventive Programmes, respectively.

However, tests of kidney function showed a very significant number of patients (26,344) with moderate chronic kidney disease stage 3 and serious kidney disease (1,917 patients), stage 4 or 5, which were not previously diagnosed. This finding was supported by ACR testing in selected patients (37,745) and 53% (19,876) tested had an abnormal result over 30.

In summary the findings of the first 2 years of the OCF Programme has demonstrated its ability to efficiently identify patients at risk of or undiagnosed with CVD and diabetes, and enrolled them in the appropriate intervention programme.

It also demonstrates a very significant level of undiagnosed chronic kidney disease in this population. However, currently there is no intervention programme in which to enrol these patients, this emphasises the urgency of extending the CDM programme to include patients with chronic kidney disease.

Order code: **HPC01326**