

# County Meath Chronic Disease Risk Management Programme

## Pilot Report

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# Contents

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Introduction .....	3
Aim and Stakeholders involved in the Programme .....	4
Methods.....	5
Inclusion and Exclusion Criteria .....	6
Service .....	7
Results of the Health Check .....	10
Participants.....	10
Lifestyle Questionnaire .....	10
Family Medical History .....	11
Smoking Habits.....	12
Alcohol Consumption .....	12
Eating Habits .....	13
Physical Activity.....	14
Health Checks .....	14
Blood pressure .....	15
Pulse Rate.....	16
Waist Circumference.....	16
Lipid Profile Cholesterol .....	17
Haemoglobin glycated (HbA1c).....	18
SCORE2 .....	18
GP referrals.....	19
Results of the Follow Up .....	19
Awareness of Factors Linked with Risk of Chronic Disease .....	20
Healthy Eating .....	20
Physical Activity.....	21
Smoking.....	22
Alcohol Consumption .....	23

GP Referral .....	23
Conclusion.....	25
Limitations .....	26
Funding Acknowledgement.....	26
References .....	27
Appendices.....	<b>Error! Bookmark not defined.</b>

# Introduction

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Healthy Meath coordinated at Meath County Council, is one component of the Healthy Ireland programme which is being administered locally in County Meath. To support planning for the Healthy Ireland Fund Round 4 programme of work, an extensive public and stakeholder consultation and research process was undertaken between October 2022 and January 2023. Several localised health issues were identified which impact the population of County Meath. These issues pertain to the area of chronic diseases and included:

- Meath has a higher rate of heart attacks than the national average (Myocardial Infarction Rate 209 per 100,000; 45 points higher than the national average) (Kelly 2022)
- Meath has the worst access to GP services in the Country per capita (Primary Care Access- 20 per 100,000; 15.3 points lower than the national average) (Kelly 2022)
- At the time of the consultation the Accident & Emergency Department in Navan hospital was under threat of being shut down
- The Health Atlas Finder database estimates that high blood pressure, diabetes, possession of multiple chronic conditions, poor lifestyle habits and high numbers of the population with overweight and obesity are all characteristics of the health profile of the population of County Meath (Healthy Ireland Surveys 2018, 2019, 2021, 2022)
- The Healthy Meath public/stakeholder survey and focus groups identified nutrition, healthy eating, overweight and obesity, and high levels of chronic disease as the most prioritised mortality, morbidity, and lifestyle factors by respondents to the survey
- Difficulty accessing GP and other health services, obesity, and poor nutrition were some of the areas prioritised in the Healthy Meath public/stakeholder focus groups sessions
- People from a lower socioeconomic background have lower life expectancy, higher risk of chronic diseases, and overweight and obesity (Healthy Ireland Surveys 2021/2022; Irish Universities Nutrition Alliance 2011; Farrell 2008). Kells and North Meath are areas with significant pockets of disadvantage in comparison to other areas in Meath (CSO 2016, 2022)
- The social determinants of health are non-medical factors such as the conditions in which people are born, grow, work, live, and age that can influence health outcomes. These determinants are related to an individual's social and economic circumstances and can

include; access to affordable health services of decent quality, education, social inclusion and non-discrimination, socioeconomic status and health behaviours. It was clear from the research process that these issues are prevalent in County Meath and are having an impact on individual's health and wellbeing

The findings of the Healthy Meath public and stakeholder consultation and research process also align with the many of the findings of the recent report from the Irish Heart Foundation on Primary Prevention of Cardiovascular Disease (Irish Heart Foundation, 2023). This report noted a significant slowdown in CVD-mortality decline is now apparent across high-income countries (including Ireland). This is linked to high and increasing obesity levels, diminishing, albeit still critically important, returns from tobacco control policies and persistent social inequalities in exposure to CVD risk factors and access to care. This policy paper also highlights the extent to which 'upstream' policy-based CVD prevention strategies are more effective, equitable and cost efficient than 'downstream' preventive activities targeting individuals. It also states that policy makers should prioritise population-based strategies for primary CVD prevention on the grounds of health and wellbeing, economics and social justice, and one of the recommendations of the report is the development of CVD risk factor screening and management in the pharmacy setting.

The evidence gathered throughout the research and consultation process identified that a chronic disease risk management programme in a community pharmacy setting would be beneficial to the population of County Meath.

## **Aim and Stakeholders Involved in the Programme**

Between September and December 2023, Healthy Meath, in collaboration with the Irish Pharmacy Union, Community Pharmacies, and Roche Diagnostics, delivered a chronic disease risk management programme within an area of disadvantage (Pobal HP Deprivation Indices 2022) within County Meath. The aim of the pilot programme was to improve healthy lifestyle behaviours associated with the risk of developing a chronic disease. The purpose of the programme was to:

- Raise awareness of risk factors for chronic disease to Citizens of County Meath
- Educate Citizens of County Meath on how to reduce those factors and provide them with tools to achieve this
- Elicit behaviour change through referral, personalised lifestyle advice and follow up
- Gather local data to identify trends and health needs in this area

- Achieve the project outcomes for The Healthy Ireland Fund 2023-2025 Local Strategy for Meath County Council

## Methods

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An Expression of Interest was distributed to all pharmacies within County Meath and three pharmacies who responded were included in the pilot:

- McQuaids Pharmacy, Oldcastle, Co Meath
- Total Health Kenlis Pharmacy, Kells Co Meath
- Total Health Lynchs Pharmacy, Kells Co Meath

Each pharmacy received protocols and guidance from the Irish Pharmacy Union (IPU) to ensure standardisation of service delivery across all three community pharmacy locations. IPUnet was utilised for data collection which was aggregated and anonymised to be shared with the project partners. Roche Diagnostics provided medical devices and consumables to pharmacies as required, which facilitated the delivery of glycated haemoglobin (HbA1c) and lipid profile point of care testing in all three locations. Roche also provided the relevant training for using the equipment, quality control and interpreting the results. Healthy Meath provided oversight to the partners, funding, and supported the service with advertising, promotion, and individual engagement. All participants provided written consent to the pharmacist to avail of the programme and for anonymised data collected and health check results, as part of the service to be shared in a report.



Figure 1. Location of the Chronic Disease Risk Management Programme in County Meath

## Inclusion and Exclusion Criteria

Inclusion criteria included:

- Citizens of County Meath
- Aged between 40 – 65 years of age
- Have not been diagnosed with a cardiovascular disease and diabetes and therefore not taking prescription medication for any of these conditions

Exclusion criteria included:

- Pregnant women
- Breastfeeding women
- Women who have given birth within the previous six months
- Individuals aged 66 years old and over
- Individuals aged 39 and younger
- Individuals with a diagnosis of diabetes or cardiovascular disease.

The IPU supported participating pharmacies from a governance perspective to ensure the standardisation of service delivery across the participating pharmacies. The IPU provided the following standard operating procedures (SOPs) and guidance:

- SOP for the measurement of glycated haemoglobin (HBA1c) using an automated device
- SOP for blood pressure measurement using an automated electronic device
- SOP for the measurement of full lipid profile
- SOP for the measurement of waist circumference
- SOP for the measurement of pulse rate
- SOP for the disposal of sharps and clinical waste
- SOP for the prevention and management of a needle stick injury
- SOP for the estimation of the 10-year risk of fatal and non-fatal cardiovascular disease using SCORE 2 Risk Algorithm Score

The IPU also provided patient's cards for the recording of the health checks results. The IPU advised that it would be appropriate to provide members of the public availing the service, with this support material. The IPU also agreed with pharmacy participants that additional health promotion materials and leaflets should be procured from [www.healthpromotion.ie](http://www.healthpromotion.ie) and the Irish Heart Foundation.

## Service

The service took place in the pharmacy patient consultation area or assigned area for this purpose. The area used provides enough aural and visual privacy for the individual availing of this service. The areas were furnished with a table and at least two seats and enough space for a third chair for a chaperone. The service comprises three steps:

- Lifestyle Questionnaire
- Tests
- Advice / Referral

### Lifestyle Questionnaire

The purpose of this questionnaire was to identify individual risk behaviours. The questions posed to individuals related to eating habits, alcohol consumption, exercise habits and any other medication (including over-the-counter remedies) they might be taking.



## Tests

The tests conducted facilitated the risk assessment of the individuals. Some of the tests involved the collection of blood samples from the individual. The tests provided were:

- **Waist Circumference:** The pharmacist measured the individual's waist circumference. If the participant was wearing light clothing, the measurement was taken over the clothes
- **Blood Pressure:** The individual's blood pressure was measured with the aid of a validated blood pressure monitor
- **Pulse rate:** Radial pulse was checked for one minute with the purpose of identifying any abnormality such as an irregular pulse
- **Lipid profile (Cholesterol):** This test required a non-fasting blood sample from the individual and the use of a certified medical device. If the results were high, the individual was requested to repeat the test fasting as soon as possible. The lipid profile provided values for total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), and triglycerides
- **Glycated Haemoglobin (HB1Ac):** This test required a non-fasting blood sample from the individual and the use of a certified medical device. If the results were high, the individual was requested to repeat the test fasting as soon as possible

## Advice and Referral

Based on the results obtained the Pharmacist:

- Referred the individual to a healthcare professional and/or
- Provided relevant lifestyle advice and support material in accordance with the SOP relating to the point of care provided

## Follow Up

As per programme protocols Pharmacists contacted individuals four weeks after their health check. The purpose of the follow-up review was to have a better understanding of the impact of the assessment in terms of referrals made to doctors, supporting groups, lifestyle advice and support provided.

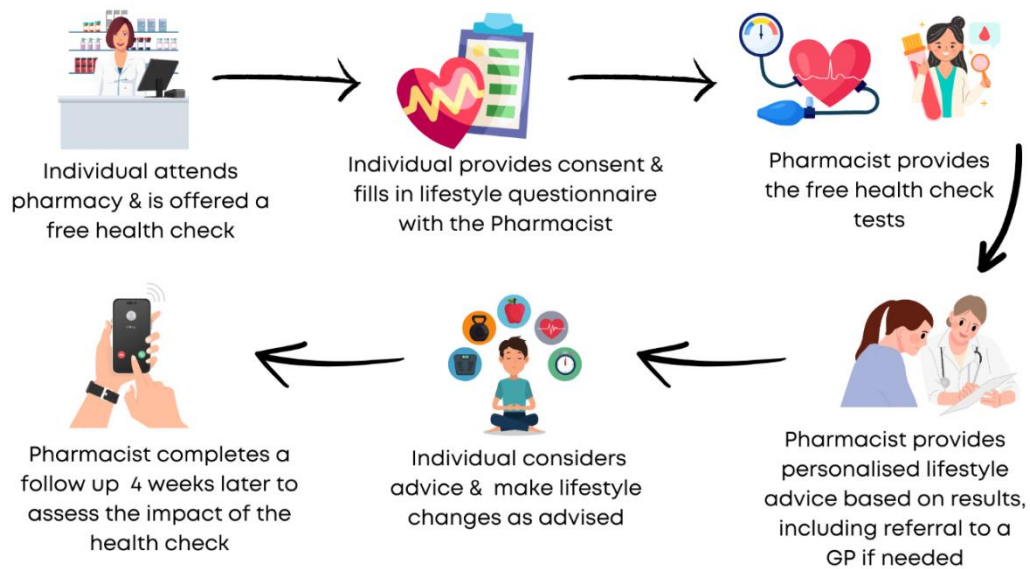


Figure 2. Participant journey for the Chronic Disease Risk Management Programme

# Results of the Health Check

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## Participants

The service was provided to a total of 60 participants. Table 1 shows that there was a higher proportion of females who participated in the programme.

Table 1. Demographics of individuals who participated in the programme

	Male	Female	Total
<b>Participants</b>	19 (32%)	41 (68%)	60 (100%)
<b>Age group 40-50</b>	13 (44%)	16 (55%)	29 (48%)
<b>Age group 51-60</b>	4 (16%)	20 (84%)	24 (40%)
<b>Age group 61 and over</b>	2 (29%)	5 (71%)	7 (12%)

## Exclusion Criteria

There were five occasions in which the complete data or partial data gathered through this service, were not taken into consideration during the analysis due to the following circumstances:

- Four participants did not meet the required criteria in that they were above the age, and/or taking medication for cardiovascular disease or cholesterol
- One participant did not consent for their follow-up data to be used

Therefore 56 participants data were included in the analysis for the initial health check and 55 participants data were included in the analysis for the follow up appointment.

## Lifestyle Questionnaire

The questions posed to participants related to family medical history, smoking habits, eating habits, alcohol consumption, physical activity and any other medication (including over-the-counter

remedies) they might be taking. Participants of this project were presented with the following questions regarding their lifestyle to ascertain their lifestyle habits.

## Family Medical History

The following questions were asked pertaining to family medical history of participants.

- Do you have a family history of:
  - Cardiovascular disease (e.g. heart attack, angina, stroke)
  - Stroke
  - Type 2 diabetes
  - Hypertension (high blood pressure)
  - Type 1 diabetes
  - High cholesterol
- Have you been diagnosed with familial hypercholesterolaemia?
- Are you currently taking any medication including over the counter (OTC) medicines, vitamins/supplements? – please specify
- Are you or do you think you may be pregnant, or have you given birth within the last six months?
- Are you breastfeeding?
- Do you have diabetes?
- Have you been diagnosed with a cardiovascular disease?
- Have you ever previously suffered a stroke?

## Results of Family Medical History Questions

Table 2 reflects the family medical history of the 56 participants. A family history of these conditions increases the likelihood of the participant suffering from them in the future. This may impact their future health status.

Table 2. Results of the family medical history questions of the lifestyle questionnaire.

Family History of	Number of Participants
Cardiovascular disease	24 (43%)
Hypertension	18 (32%)
Stroke	11 (19%)

Family History of	Number of Participants
Diabetes type 1	2 (4%)
Diabetes type 2	16 (29%)
High Cholesterol	21 (36%)
Familial hypercholesterolemia	1 (2%)

## Smoking Habits

The following questions were asked pertaining to smoking habits of participants.

- Are you a current smoker?
- If yes, how many cigarettes do you smoke per day?
- Do you live with a smoker?

### Results of Smoking Habits Questions

27% (15/56) of participants were smokers. Regarding these 15 participants, it was noted that:

- 27% (4/15) live with a smoker
- 27% (4/15) smoked less than 10 cigarettes per day
- 60% (9/15) smoked 10-20 cigarettes per day
- 13% (2/15) smoked more than 20 cigarettes per day

73% (41/56) participants were non-smokers. It was also noted that two non-smoker (5%) participants lived with a smoker.

## Alcohol Consumption

The following questions were asked pertaining to alcohol consumption habits of participants.

- Do you drink alcohol?
- If yes, how many units of alcohol do you drink on a typical day when you are drinking?
- How often have you had six or more units if female or eight or more if male, on a single occasion in the last year?

## Results of Alcohol Consumption

64% (36/56) of participants consumed alcohol. Regarding these participants, the following information was noted:

- 3% (1/36) consumed an average of four units of alcohol daily
- 33% (12/36) consumed alcohol once to twice a week
- 3% (1/36) consumed alcohol three times a week
- 3% (1/36) consumed alcohol three to four times a week
- 25% (9/36) consumed alcohol once or twice a month
- 3% (1/36) consumed alcohol three times a month
- 3% (1/36) consumed alcohol once every six months
- 11% (4/36) consumed alcohol two to three times per year
- 17% (6/36) consumed alcohol once a year or rarely
- 39% (14/36) had participated in binge drinking within the last year

## Eating Habits

The following questions were asked pertaining to the eating habits of participants.

- Do you eat vegetables and fruit every day?
- How many portions do you eat a day? Please specify fruit and vegetables separately.
- How many portions of oily fish do you eat per day?

## Results of Eating Habits

11% (6/56) of participants did not consume fruit or vegetables daily and 43% (24/56) did not consume any oily fish weekly.

- 89% (50/56) consumed fruit and vegetables
- 56% (28/50) consumed less than the recommended five to seven portions a day by the Irish Healthy Eating Guidelines
- 40% (20/50) consumed the daily portion with respect to fruit and vegetables advised by the Irish Healthy Eating Guidelines

## Physical Activity

The following questions were asked pertaining to the physical activity habits of participants.

- Does your work involve physical activity?
- Are you physically active outside work?
- Would you be active at least five days a week?
- For at least 30 minutes or more on these days?

## Results of Physical Activity

43% (24/56) of participants had a job which involved some form of physical activity. In relation to this cohort it was also noted that:

- 13% (3/24) of these participants did not practice any additional exercise outside their work
- 25% (6/24) were not active for at least five days a week

57% (32/56) of participants did not have a job which involved some form of physical activity. In relation to this cohort it was also noted that:

- 84% (27/32) were active outside their work
- 93% (25/27) were active at least five days a week
- 91% (21/23) at least 30 minutes

## Health Checks

The health checks conducted facilitated the risk assessment of the participants. Some of the checks involved the collection of blood samples from the participant. These health checks comprised of:

- Blood pressure
- Pulse rate
- Waist circumference
- Glycated haemoglobin (HbA1c)
- Lipid profile
- SCORE 2

## Blood Pressure

The participant's blood pressure was measured with the aid of an automated and validated blood pressure monitor device.

### Results of blood pressure

- 54% (30/56) of participants had either optimal or normal blood pressure
- 28% (16/56) of participants had high normal blood pressure
- 18% (10/56) of participants had concerning blood pressure readings

Table 3. Results of the blood pressure measurements

Blood pressure category and values (mmHg)	Total	Gender	Total
Optimal Systolic <120 and Diastolic and <80	20 (36%)	Female	17 (30%)
		Male	3 (5%)
Normal Systolic 120-129 and/or Diastolic 80-84	10 (18%)	Female	6 (11%)
		Male	4 (7%)
High Normal Systolic 130-139 and/or Diastolic 85-89	16 (28%)	Female	8 (14%)
		Male	8 (14%)
Grade 1 Hypertension Systolic 140-159 and/or Diastolic 90-99	4 (7%)	Female	3 (5%)
		Male	1 (2%)
Grade 2 Hypertension Systolic 160-179 and/or Diastolic 100-109	1 (2%)	Female	-
		Male	1 (2%)
Grade 3 Hypertension Systolic = or >180 and/or Diastolic = or >110	1 (2%)	Female	1 (2%)
		Male	-
Isolated systolic Hypertension Systolic = or > 140 and Diastolic <90	4 (7%)	Female	4 (7%)
		Male	-



## Pulse Rate

The participant's radial pulse was checked for one minute with the purpose of identifying any abnormality such as an irregular pulse.

### Results of pulse rate

95% (53/56) of participants had a regular pulse rate.

Table 4. Results of the pulse rate measurements

	Pulse rate category	Total	Gender	Total by gender
Regular heart rate	normal pulse 60 – 100bpm	43 (76%)	Female	32 (56%)
			Male	11 (20%)
	Fast rate > 100 bpm	1 (2%)	Female	1 (2%)
			Male	-
	Slow rate < 60 bpm	9 (16%)	Female	4 (7%)
			Male	5 (9%)
Irregular heart rate	normal pulse 60 – 100bpm	2 (4%)	Female	2 (4%)
			Male	-
	Slow rate < 60 bpm	1 (2%)	Female	-
			Male	1 (2%)

bpm; beats per minute

## Waist Circumference

The pharmacist measured the participant's waist circumference. If the participant wore light clothing, the measurement took place over their clothes.

### Results of waist circumference

20% (11/56) of participants had a healthy waist measurement and 80% (45/56) participants were above the healthy waist measurement.

Table 5. Results of the waist circumference measurements

WC categories	By Gender	Total
Healthy waist measurement	Female <80cm (32 inches)	6 (11%)
	Male <94cm (37 inches)	5 (9%)
Moderate risk waist measurement	Female between 80-88cm (32-35 inches)	9 (16%)
	Male between 94-102cm (37-40 inches)	9 (16%)
High risk waist measurement	Female >88cm (35 inches)	24 (43%)
	Male >102cm (40 inches)	3 (5%)

WC; waist circumference. Cm; centimetres

## Lipid Profile Cholesterol

This test required a non-fasting blood sample from the participant and the use of a certified medical device. Where results were high, the participant was requested to repeat the test fasting as soon as possible. The lipid profile provides values for total cholesterol, Low-density lipoprotein (LDL), High-density lipoprotein (HDL), and triglycerides.

### Results of Lipid Profile Cholesterol

48% (27/56) of participants had a healthy level of total cholesterol and 52% (29/56) participants had a total cholesterol level above what is considered healthy.

Table 6. Results of the lipid profile cholesterol measurements

Cholesterol Levels	By gender	Total
Healthy levels Total cholesterol (TC) No more than 5mmol/l	Female	19 (34%)
	Male	8 (14%)
Non- Healthy levels Total cholesterol (TC) 5mmol/l or more	Female	20 (36%)
	Male	9 (16%)

## Haemoglobin Glycated (HbA1c)

This test requires a non-fasting blood sample from the participant and the use of a certified medical device. If the results were high, the participant was requested to repeat the test fasting as soon as it is possible.

### Results of Haemoglobin glycated (HbA1c)

96% (54/56) of participants had a healthy level and 4% (2/56) of participants were in a prediabetic stage.

Table 7. Results of the Haemoglobin glycated (HbA1c) measurement

Hemoglobin glycated category	Total	Gender	Total
Normal range < 42 mmol/mol (<6%)	54 (96%)	Female	37 (66%)
		Male	17 (30%)
Pre-diabetes range 42-47 mmol/mol (6-6.5%)	2 (4%)	Female	2 (4%)
		Male	-
Type 2 diabetes range $\geq$ 48 mmol/mol (>6.5%)	0	Female	-
		Male	-

## SCORE2

With the data collated from these checks and the lifestyle information provided by the participant, the pharmacist calculated a SCORE 2 value. This value provides a 10-year risk of fatal and non-fatal cardiovascular disease. SCORE 2 is an algorithm calculated based on gender, age, systolic blood pressure, non-HDL and smoking status of the patient.

This value is associated with a colour:

- Green – participants have less than 2.5% risk of having a fatal or non-fatal cardiovascular event within the next 10 years
- Orange – participants have between 2.5% to <7.5% risk of having a fatal or non-fatal cardiovascular event within the next 10 years

- Red – participants have  $\geq 7.5\%$  risk of having a fatal or non-fatal cardiovascular event within the next 10 years

On foot of the patient’s lipid profile (non-HDL cholesterol), smoking habits, systolic blood pressure and gender a value for SCORE was provided to participants. By showing the SCORE 2 table to participants they can see how they can reduce their score value by modifying their lifestyle. For example: stopping smoking, reducing cholesterol levels or losing weight.

## Results of SCORE 2

Table 8. Results of Score 2 reflecting the 10-year risk of fatal and non-fatal cardiovascular events

SCORE 2 color	Female Non-Smoker	Female Smoker	Male Non-smoker	Male Smoker
	24 (43%)	2 (4%)	5 (9%)	-
	5 (9%)	7 (13%)	5 (9%)	5 (9%)
	-	1 (2%)	2 (2%)	-

## GP Referrals

Upon review of the test results and the responses provided to the lifestyle questionnaire, the pharmacist exercised their professional judgement and:

- Referred the participant to a healthcare professional; and/or
- Provided relevant lifestyle advice and support material in accordance with the SOP relating to the point of care provided.

## Results of GP Referrals

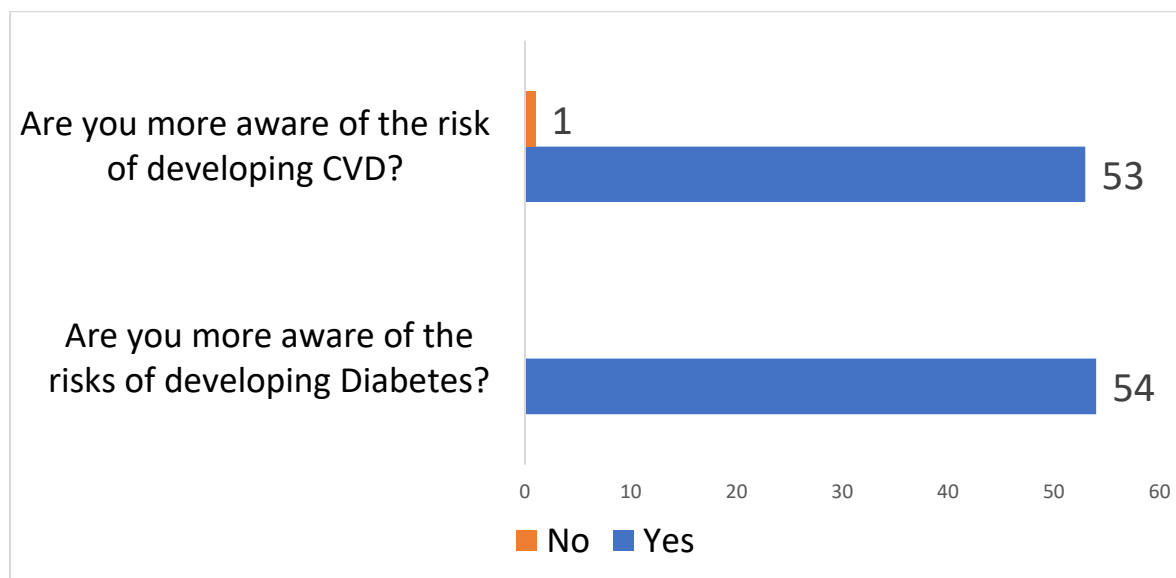
29% (16/56) participants were advised to contact their GPs.

## Results of the Follow Up

An attempt was made to contact everyone who received a free health check four weeks after the appointment to assess the impact of the free health check and the advice provided to the individual. 100% of eligible participants (n=55) responded to a follow up call.

## Awareness of Factors Linked with Risk of Chronic Disease

Participants were asked two questions pertaining to their awareness of risk factors linked to chronic disease at follow up. 98% (54/55) of participants at follow up said that following the health check they were more aware of the risk associated with developing diabetes. Whilst 96% (53/55) stated that they had an improved awareness of the risks associated with developing cardiovascular disease.



\*CVD; Cardiovascular disease; 1 participant did not answer this question about diabetes.

Figure 3. Results of awareness of factors linked with risk of chronic disease at follow up

## Healthy Eating

Of the 55 participants who took part in the follow up, 67% (37/55) received dietary advice following their health check. Of these, 81% (30/37) reported that they had made a change to their diet. These changes varied but in summary included:

- Increased consumption of fruit and vegetables
- Consuming more fibre
- Eating less processed foods
- Reduced portion size
- Consuming more healthy fats such as; nuts, omega 3s and fish supplements
- Using less oil when cooking
- Reduced sugar intake

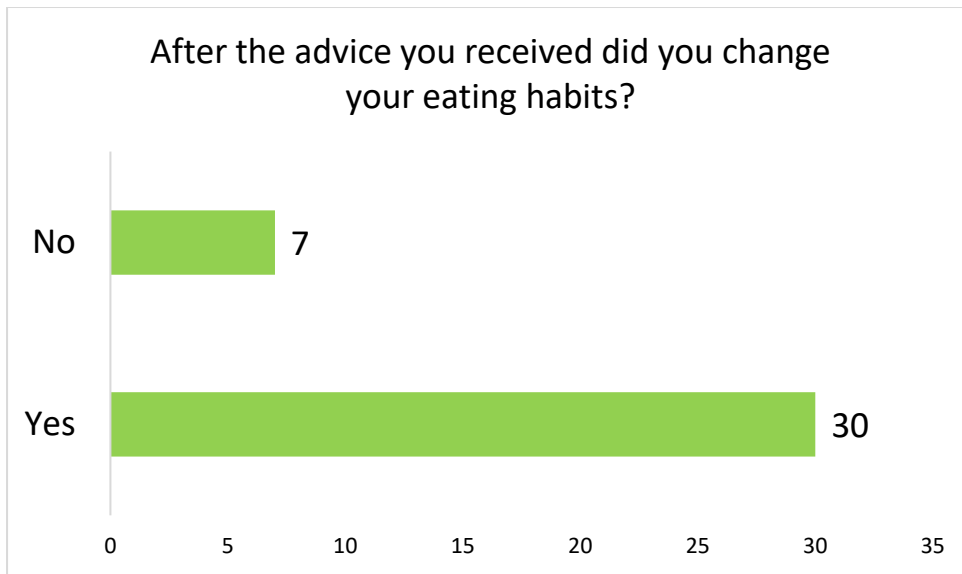


Figure 4. Results of healthy eating and diet at follow up

### Physical Activity

Of the 55 participants who took part in the follow up, 56% (30/55) received advice on physical activity following their health check. Of these, 67% (20/30) reported that they had made a change to their physical activity. The activities that participants reported taking part in following their health check included:

- Walking
- Swimming
- Cycling
- Dance classes

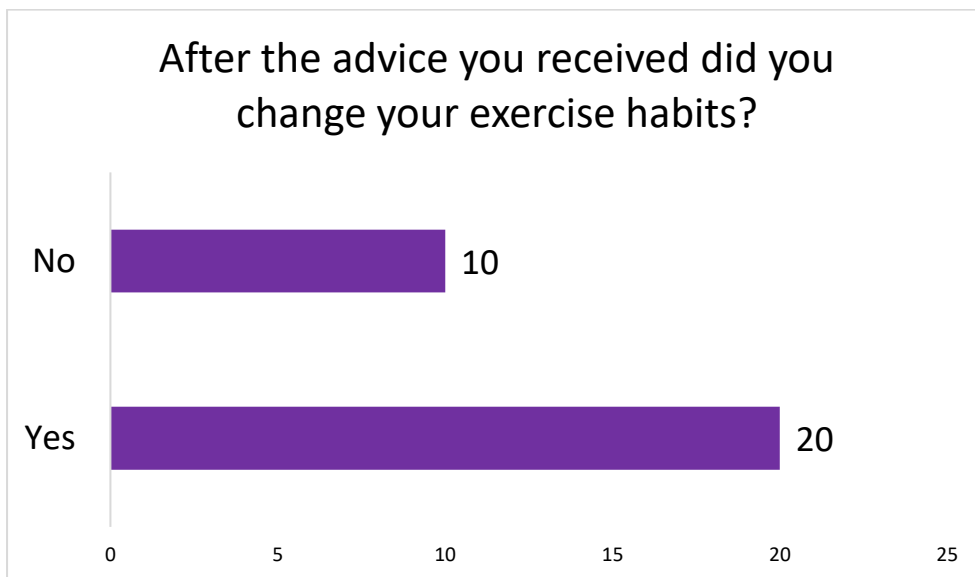


Figure 5. Results of physical activity at follow up

## Smoking

Of the 55 participants who took part in the follow up, 27% (15/55) were identified as smokers and received advice on supports to quit smoking following their health check. Of these, 33% (5/15) reported that they had quit or sought help to quit since their health check.

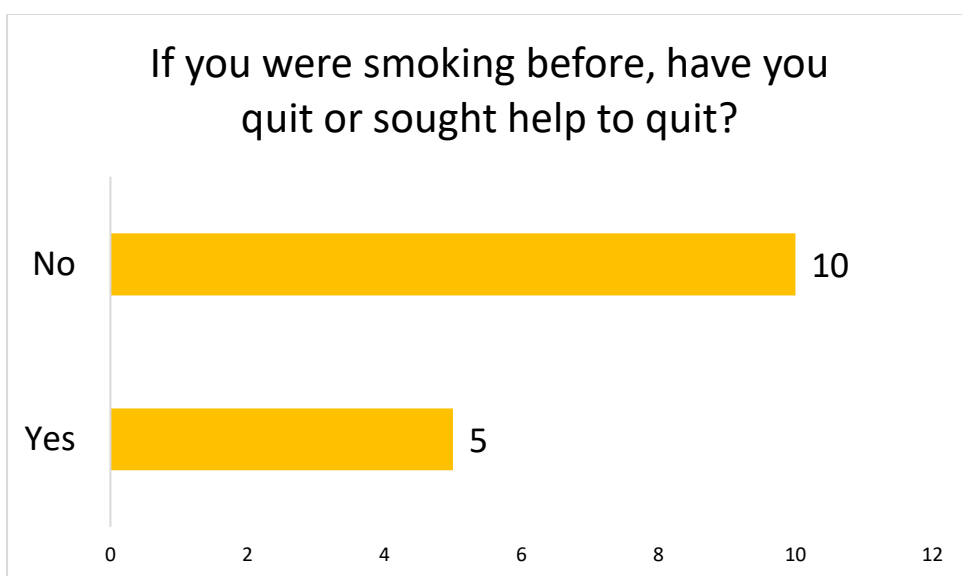


Figure 6. Results of smoking at follow up

## Alcohol Consumption

Of the 55 participants who took part in the follow up, 25% (14/55) received advice on reducing their alcohol consumption following their health check. Of these, 36% (4/14) reported that they had reduced their alcohol consumption since their health check.



Figure 7. Results of alcohol consumption at follow up

## GP Referral

Of the 55 participants who took part in the follow up, 24% (13/55) were referred to their GP based on their results. Of these, 75% (9/13) attended their GP, with 1 individual diagnosed with either high blood, high cholesterol, diabetes or cardiovascular disease by their GP.



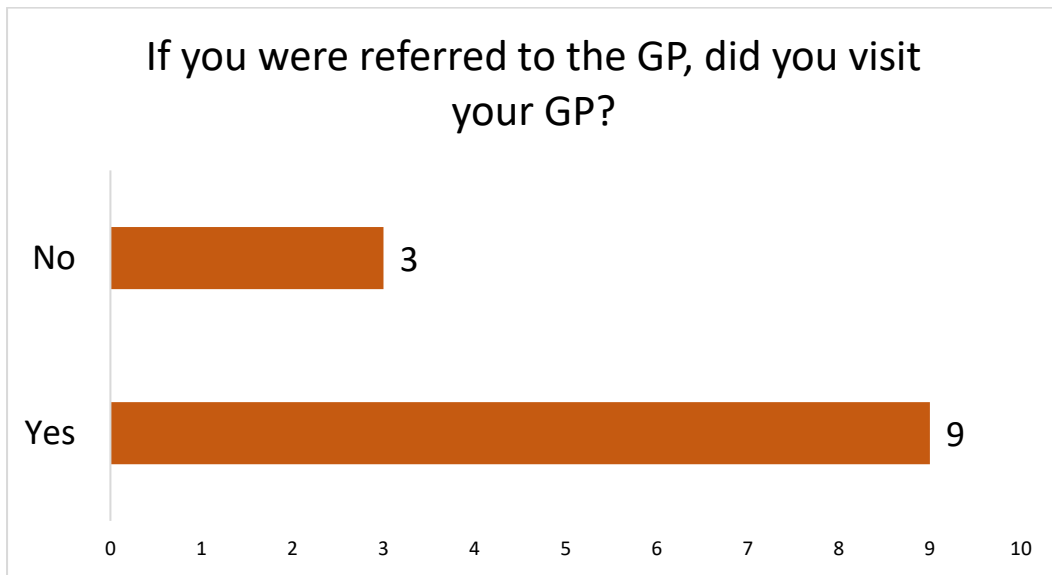


Figure 8. Results of GP referral at follow up

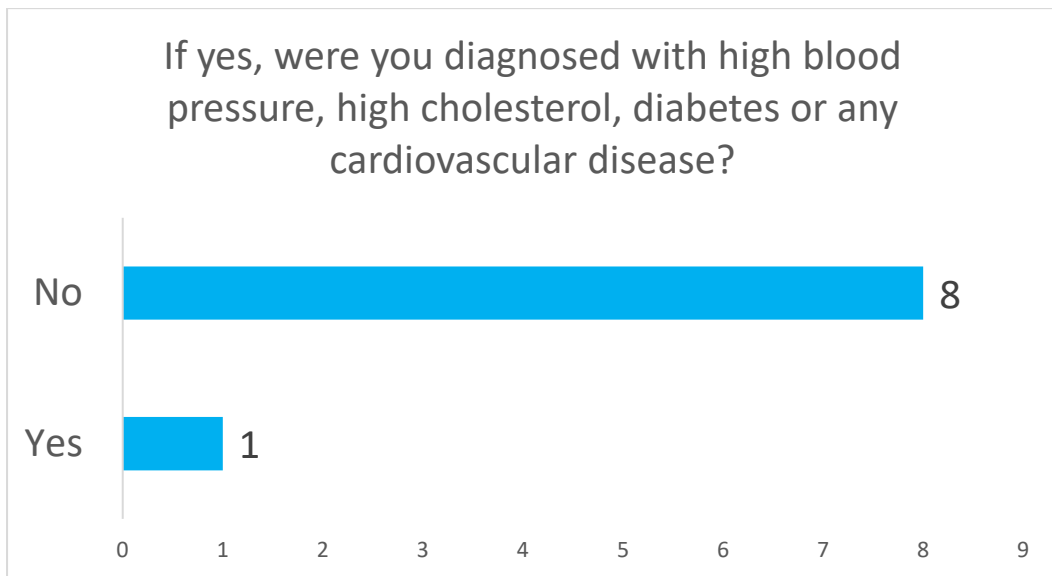


Figure 9. Results of diagnosis by GP at follow up

## Conclusion

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The County Meath Chronic Disease Risk Management programme provided free health checks and follow-up appointments in community pharmacies to individuals living in a disadvantaged area of County Meath. The results of the programme demonstrate that:

- The relevant project outcomes for the Healthy Ireland Fund 2023–2025 Local Strategy for Meath County Council were achieved.
- Individuals who participated in the programme had increased awareness of the risk factors for chronic disease
- Individuals who participated in the programme were provided with personalised education and resources on how to reduce lifestyle behaviours linked to the development of chronic diseases
- A high proportion of those who participated in the programme self-reported that they had made positive behavioural changes to their lifestyle between their health check and the follow-up call, which could reduce their risk of developing a chronic disease
- Anonymised, localised health data was gathered, which can be used to identify trends and health needs in this area

The results also highlight that it is feasible to provide a free and accessible health check service in a community pharmacy setting, in a disadvantaged community setting that targets the social determinants of health and removes barriers for individuals who may experience constraints when trying to attend their GP. It builds the evidence base, as outlined in the recent IHF report, that “upstream” policy-based CVD prevention strategies are more effective, equitable and cost efficient than ‘downstream’ preventive activities targeting individuals. This programme has and will continue to support individuals to have greater awareness of the risk factors for chronic diseases, which are the leading cause of death in Ireland. It will empower individuals to take control over their own health and provide them with the education and resources to lead a healthier lifestyle. In addition, it is an initiative that aims to tackle the social determinants of health as previously outlined. Finally, this collaborative pilot has received additional funding to be rolled out within each municipal district in County Meath in 2024.

## Limitations

The IPU made available to participating pharmacists an online platform to record all the data gathered while providing the service. The IPU also provided a hard copy document to facilitate the gathering of patient's consent and the additional data collated as a result of the service provided. However, upon reviewing the data anonymously extracted from the online platform and additional check-ups with participating pharmacists, it was noted that there were occasions in which the data was not accurately transferred from the hard copy document into the platform.

The form used for the recording of the information reflected the questions posed to participants about their health status and their answers were recorded on this document. However, we have learned that the professional judgment and the additional questions made by the pharmacists to support their professional judgment were not recorded. Examples of these were noted when doctor's referrals were not issued to participants with an irregular pulse. It could be the case that the patient could have previously discussed this matter with their general practitioner, and the outcome was that the patient was not diagnosed with a heart condition and treatment was not appropriate at that time.

We also learned that in some cases a most specific question could have clarified the outcome of the service provided. For example, there were no questions concerning immediate referrals to hospitals.

## Funding Acknowledgement

The County Meath Chronic Disease Risk Management Programme was funded through The Healthy Ireland Fund supported by the Department of Health and Meath County Council.

Roche Diagnostics provided the cobas B 101 devices, associated consumables and training free of charge for this pilot.

The Irish Pharmacy Union did not charge for their involvement in this project.

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# Appendix A. Standard Operating Procedure for Blood Pressure Measurement using an Automated Electronic Device

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Version	Date	Changes from previous version
1	18/8/23	New standard operating procedure

## Purpose:

To set a standardised protocol of procedures to be followed in measuring of blood pressure using a validated automated machine.

## Scope:

This SOP covers the measurement of blood pressure and referral criteria to GP/Hospital.

## Responsibility:

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure the safe and appropriate measurement of blood pressure using an automated electronic device.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:				
Reviewed by:	Date review takes place and initials			
Signature:				
Date of implementation:				

This SOP has been designed to be used in a working community pharmacy environment; however, we recommend that the SOP is tailored to reflect processes in your pharmacy where appropriate. This SOP is dynamic and should be constantly reviewed and updated when and where necessary. If no errors or incidents occur, or no new relevant clinical or governance recommendations (e.g. Pharmaceutical Society of Ireland (PSI) guidance) are published, a review may be carried out at least annually starting from the creation date. The purpose of any review is to determine if the SOP content and/or format needs to be updated with the goal of minimising errors within the pharmacy. Pharmacists should always exercise their own professional judgment.

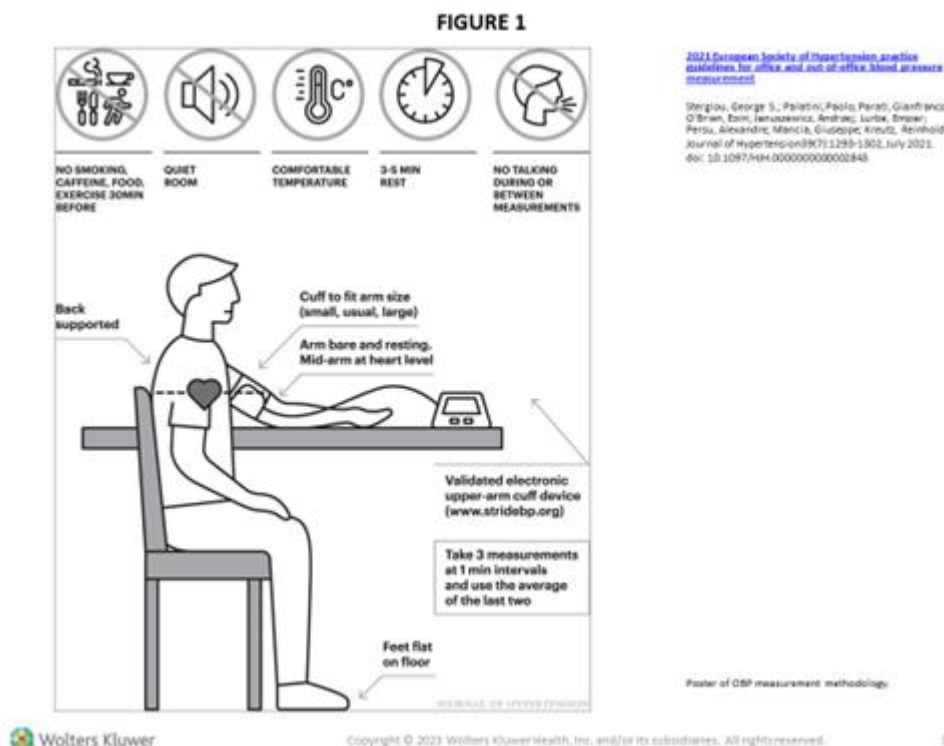
## **1. Equipment**

- A validated automated blood pressure monitor and different sized cuffs
- Patients Medical Records (PMR) where available can be located on the dispensary software system
- Patient consultation record form
- Pen and paper to make note of readings
- Record card to provide readings to the patient
- Information leaflet
- Referral letter.

## **2. Procedure**

- Greet the patient, introduce yourself and role
- Advise on chaperone policy
- Escort them to the consultation room;
- Ask them to take a seat in the chair provided
- Ensure the consultation area is quiet and a comfortable temperature
- Establish that the patient has not been smoking, consumed caffeine or food or undertaken exercise in the 30 minutes prior
- Provide an overview of the service and explain that you will carry out the BP taking service;
- Ask if the patient has any questions and if they are happy to proceed with the BP measurement
- Confirm if they consent to having their blood pressure measured and ask them to sign the consultation record form
- Allow the patient to rest for 3-5 minutes

- Ask the patient if he/she has had their blood pressure taken before
- If yes check if the patient has a preference as to which arm to use. Avoid using an arm that has local pathology. Also note post-mastectomy lymphoedema
- If no and this is an initial visit measure BP in both arms. Interarm systolic blood pressure (SBP) difference >10mmHg must be confirmed with repeated measurements, in this case, the arm with the higher BP should be used. Consistent interarm SBP difference >20 mmHg requires investigation for arterial disease
- Ask the patient to adequately expose their upper arm on the relevant side by rolling up their sleeve
- Select a cuff size to fit the patient's arm circumference according to the device's instructions
- Ask the patient if they have any pain before proceeding with blood pressure measurement
- Ask the patient to sit with his/her back supported by a chair, their legs and knees uncrossed and feet flat on the floor. Their bare arm resting on a table, with their mid-arm at heart height as per Figure 1



- Locate the brachial arterial pulsation. If irregularities are observed on palpation or following measurement with the monitor the patient should be referred to the GP.
- Wrap the blood pressure cuff around the patient's upper arm, lining up the cuff marker with the brachial artery pulsation. Remind the patient that the cuff will tighten around their arm and then release
- Ensure the patient's hand is facing up

- Request the patient not to move or talk while the reading takes place as it could interfere with the blood pressure measurement
- Measure:
  - Press on/off button on machine and release within 3 seconds
  - Wait for automatic deflation
  - Note reading
  - Take 3 readings (2 if they are normal) with 1-2 min interval between readings
  - Use an average of the last two BP readings to establish a BP
  - Provide the patient with a card of written results
  - The pharmacist should discuss results with the patient
  - Advise them to see GP or present at a hospital if necessary.
- If you get an error measurement, check cuff size and cuff placement. If you find that the reading does not take, it could be a sign that the blood pressure is too high or too low, or that the pulse is irregular, and therefore the individual should be advised to see his/her GP.

### 3. SOP staff training records

I have signed to say that I have read and understood the Standard Operating Procedure to be followed for the measurement of blood pressure using an automated machine.

Name	Signature	Date

### 4. Notes

*Validated Automated Blood Pressure Monitor*

A list of validated automated blood pressure monitors can be found on the [British and Irish Hypertension Society](#).



Ensure the device is in good working order and undergoes annual maintenance (with recalibration where required).

### *Information leaflet*

An information leaflet on blood pressure can be found on the [Irish Heart Foundation](#) website.

### *How to select a cuff size that fits the patients arm circumference*

#### Locate mid-upper arm

- Measure the length of the arm between the acromion process (bony protuberance on shoulder) and the olecranon process (bony protuberance at elbow).
- Divide the distance in half to locate the mid-upper arm.

#### Determine arm circumference

- Wrap a tape measure around the mid-upper arm to determine arm circumference (typically measured in centimetres).

#### Determine cuff size

- Based on arm circumference, determine the cuff size that is appropriate. Use this information to help with device selection.
- Many BP measurement devices have circumference ranges printed directly on the cuffs. This information can also often be found in the device manual or on the device box.
- In general, a standard bladder cuff (12–13 cm wide and 35 cm long) is used for most patients, but larger and smaller cuffs available for larger (arm circumference > 32 cm) and thinner arms, respectively.

### *How to locate the brachial artery pulsation*



The brachial artery pulse can be located by feeling the bicep tendon in the depression on the anterior surface of the elbow which marks the transition between the arm and the forearm (the antecubital fossa). Move the pads of your three fingers medial (about 2 cm) from the tendon and about 2–3 cm above the antecubital fossa to locate the pulse.

### *Where and how to place the cuff*

The lower end of the cuff should be 2–3 cm above the antecubital fossa. The cuff should exert comparable tightness at the top and bottom edges. One finger should easily fit under the cuff at its top and bottom.

### *Record-keeping*

Consideration can be given to recording the results in the patients file e.g. PMR or other suitable location in the pharmacy. Records, including the consultation record form, should be kept securely for an appropriate period of time that is both in keeping with data protection legislation and in the interests of patient safety.

## Interpretation of blood pressure readings

Category	Systolic (mmHg)		Diastolic (mmHg)
Optimal	<120	and	<80
Normal	120–129	and/or	80–84
High normal	130–139	and/or	85–89
Grade 1 hypertension	140–159	and/or	90–99
Grade 2 hypertension	160–179	and/or	100–109
Grade 3 hypertension	≥180	and/or	≥110
Isolated systolic hypertension <sup>b</sup>	≥140	and	<90

**TABLE 3**

Classification of office blood pressure<sup>a</sup> and definitions of hypertension grade<sup>b</sup>

**Source**

2018 ESC/ESH Guidelines for the management of arterial hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European...

Journal of Hypertension 36(10):1953-2041, October 2018.

BP, blood pressure.

<sup>a</sup>BP category is defined according to seated clinic BP and by the highest level of BP, whether systolic or diastolic.

<sup>b</sup>Isolated systolic hypertension is graded 1, 2, or 3 according to systolic BP values in the ranges indicated. The same classification is used for all ages from 16 years.

If the patient has no additional risk factors and blood pressure is recorded as Grade 1 or higher advise the patient that referral to their doctor within the appropriate timeline is required.

Consider referring patients with additional risk factors with BP readings of high-normal or above to the GP.

When hypertension is suspected because of an elevated screening BP, the diagnosis of hypertension will be further investigated with the GP. This may be by repeated office BP measurements over a number of visits or by out-of-office BP measurement using 24 h ambulatory blood pressure monitoring (ABPM) or home-based blood pressure monitoring (HBPM).

## 5. References

1. 2018 ESC/ESH Guidelines for the management of arterial hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology (ESC) and the European Society of Hypertension (ESH) available at <https://academic.oup.com/eurheartj/article/39/33/3021/5079119?login=false>
2. NICE Guideline Hypertension in adults: diagnosis and management. Published 28 August 2019, updated 18 March 2022 available at <https://www.nice.org.uk/guidance/ng136/chapter/recommendations>

# Appendix B. Standard Operating Procedure for the Disposal of Sharp and Clinical Waste

---

**Purpose:**

To set a standardised protocol of procedures to be followed for the disposal of sharp and clinical waste.

**Scope:**

This SOP covers the disposal of sharp and clinical waste during the provision of a health screening service in community pharmacy.

**Responsibility:**

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure the safe and appropriate disposal of sharp and clinical waste.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:	Date review takes place and initials			
Version number:				

This SOP has been designed to be used in a working pharmacy environment; however, we recommend that the SOP is tailored to reflect processes in your pharmacy where appropriate. This SOP is dynamic, and should be constantly updated when and where necessary. If no errors, incidences or PSI recommendations occur a review may be carried out every six months starting from the creation date. This review will update the SOP content and format with the goal to enable reduction of error within the pharmacy.

Stage of Procedure	Person Responsible
<p>Staff in high-risk groups (e.g. pregnant women, women of child-bearing age) should be identified and appropriate amendments to the procedures below taken.</p>	
<p>Follow the “Standard operating procedure for the prevention and management of needle-stick injury” when disposing of sharp waste.</p>	
<ul style="list-style-type: none"> <li>• Dispose of all materials following advice from the pharmacy’s waste management company. <ul style="list-style-type: none"> <li>○ The company will advise if separate sharps / clinical waste containers are required or if one container can be used for both.</li> <li>○ Waste containers should be correctly labelled and UN-approved.</li> </ul> </li> <li>• This pharmacy’s waste management company is: _____</li> <li>• They can be contacted on this number: _____</li> </ul>	
<ul style="list-style-type: none"> <li>• Discard used sharps carefully into the designated sharps container at the point of use.</li> <li>• Discard clinical waste (e.g. blood stained cotton wool) into the clinical waste container/ sharps container (delete as appropriate) at the point of use.</li> <li>• When conducting the fingerprick, ensure the sharps container is placed within easy reach of your dominant hand. This position should allow you to place the lancet in the container without crossing your arm past any other person (including your patient).</li> <li>• Once you have completed the fingerprick, immediately place the lancet in the sharps container.</li> <li>• If there is any possibility that gloves, swabs, cotton wool, plasters or any other item have been contaminated with clinical waste, place immediately in the sharps / clinical waste container.</li> <li>• Place the container lid(s) in the closed position when the bin(s) is not in use.</li> <li>• Store sharps and clinical waste containers securely, when not in use. In this pharmacy sharps and clinical waste containers are stored: _____</li> <li>• Seal containers once they reach the manufacturer’s fill line or, if no fill line is present, when three-quarters full.</li> <li>• Do not handle a container of used syringes and needles without first checking the exterior for signs that it has been punctured.</li> <li>• Do not attempt to push a protruding needle back into a container that has been pierced. <ul style="list-style-type: none"> <li>○ Place pierced containers into a larger sharps container which you then seal.</li> </ul> </li> <li>• Do not attempt to pick up loose lancets by hand. <ul style="list-style-type: none"> <li>○ Sweep them up using a dustpan with a brush.</li> <li>○ Forceps should be used where necessary and appropriate.</li> </ul> </li> </ul>	

Stage of Procedure	Person Responsible
<ul style="list-style-type: none"> <li>Do not attempt to sheath or re-sheath a used needle/lancet.</li> <li>Never attempt to decant contents of a smaller sharps container into a larger one.</li> </ul>	
<i>Dealing with full containers</i>	
<ul style="list-style-type: none"> <li>When filled to the manufacturer's fill line or, if no fill line is present, three quarters full, seal the disposal container and store in a safe place, away from empty containers, ready for collection. Full disposal containers awaiting collection are located: _____</li> <li>If the waste containers are full and the collection date is not in the near future, contact the waste contractor to arrange a collection.</li> <li>Copies of all documentation supplied or completed by the pharmacy or approved waste collector must be kept in the following location: _____</li> </ul>	

I have signed to say that I have read and understood the Standard Operating Procedure to be followed for the Disposal of Sharp and Clinical Waste.

Name	Signature	Date

# Appendix C. Standard Operating Procedure for the Estimation of the 10-year Risk of Fatal and Non-Fatal Cardiovascular Disease using SCORE2 Risk Algorithm Score

---

**Purpose:**

To set a standardised protocol of procedures to be followed for the interpretation of SCORE2 algorithm.

**Scope:**

This SOP covers the calculation of the risk of the 10-year fatal and non-fatal cardiovascular disease (CVD) risk in individuals without previous CVD or diabetes aged 40–69 years as part of a health screening service in community pharmacy. This calculation is carried out by applying SCORE2 risk prediction algorithm.

**Responsibility:**

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure that the risk score algorithm is applied appropriately.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:				
Reviewed by:				
Signature:	Date review takes place and initials			
Date of implementation:				

This SOP has been designed to be used in a working community pharmacy environment; however, we recommend that the SOP is tailored to reflect processes in your pharmacy where appropriate. This SOP is dynamic and should be constantly reviewed and updated when and where necessary. If no errors or incidents occur, or no new relevant clinical or governance recommendations (e.g. Pharmaceutical Society of Ireland (PSI) guidance) are published, a review may be carried out at least annually starting from the creation date. The purpose of any review is to determine if the SOP

content and/or format needs to be updated with the goal of minimising errors within the pharmacy. Pharmacists should always exercise their own professional judgment.

## **Introduction**

SCORE2 is a risk assessment tool used for the estimation of 10-year fatal and non-fatal cardiovascular disease (CVD) risk in individuals without previous CVD or diabetes aged 40–69 years in Europe.

The SCORE2 risk prediction algorithm's key features are:

- Sex-specific risk prediction models
- Estimate 10-year risk of fatal and non-fatal CVD
- Calibrated to the most contemporary and representative CVD rates
- Available for four distinct European risk regions
- Can be rapidly updated to reflect future CVD incidence and risk factors profile.

## **Estimating the individual's CVD risk factor**

In order to apply the algorithm to estimate the 10-year fatal and non-fatal cardiovascular disease (CVD) of an individual, the pharmacist is required to have the following information regarding such individual:

- Age
- Gender
- Smoking habits
- Systolic blood pressure (mmHg)
- Lipid profile (total cholesterol, HDL and LDL)

The SCORE2 HeartScore Europe moderate risk interactive version can be accessed online via this link:

[https://heartscore.escardio.org/Calculate/quickcalculator.aspx?model=moderate&\\_gl=1\\*u18o7z\\*\\_gcl\\_au\\*MTYzMDU3NjkzNi4xNjkwNDYwMTA4\\*\\_ga\\*NTY5OTUzODAwLjE2OTA0NjAxMDg.\\*\\_ga\\_5Y189L6T14\\*MTY5MTU5MDU1OS4xMS4xLjE2OTE1OTI2OTcuMC4wLjA.\\*\\_ga\\_TEGGEERRV6\\*MTY5MTU5MjY3Ny41LjEuMTY5MTU5MjY5Ny4wLjAuMA..&\\_ga=2.1126705.1877067306.1691590559-569953800.1690460108](https://heartscore.escardio.org/Calculate/quickcalculator.aspx?model=moderate&_gl=1*u18o7z*_gcl_au*MTYzMDU3NjkzNi4xNjkwNDYwMTA4*_ga*NTY5OTUzODAwLjE2OTA0NjAxMDg.*_ga_5Y189L6T14*MTY5MTU5MDU1OS4xMS4xLjE2OTE1OTI2OTcuMC4wLjA.*_ga_TEGGEERRV6*MTY5MTU5MjY3Ny41LjEuMTY5MTU5MjY5Ny4wLjAuMA..&_ga=2.1126705.1877067306.1691590559-569953800.1690460108)



The SCORE2 chart can be used if the online interactive version is not available. Also, this tool should be used when counselling the individual as it provides a visual of how CVD risks can be reduced by changing the individual's lifestyle.

### **Staff training records**

I have signed to say that I have read and understood the Standard Operating Procedure to be followed for the estimation of the 10-year risk of fatal and non-fatal cardiovascular disease event using SCORE2 Risk Algorithm Score.

<b>Name</b>	<b>Signature</b>	<b>Date</b>

### **Reference**

SCORE2 risk prediction algorithms: new models to estimate 10-year risk of cardiovascular disease in Europe European Heart Journal, Volume 42, Issue 25, 1 July 2021, Pages 2439–2454 available via <https://doi.org/10.1093/eurheartj/ehab309> published 13 June 2021

# Appendix D. Standard Operating Procedure for the Measurement of Full Lipid Profile

---

**Purpose:**

To set a standardised protocol of procedures to be followed for the measurement of the full lipid profile.

**Scope:**

This SOP covers the measurement of a full lipid profile during the provision of a health screening service in a community pharmacy.

**Responsibility:**

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure the safe and appropriate measurement of a full lipid profile.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:				
Reviewed by:				
Signature:	Date review takes place and initials			
Date of implementation:				

This SOP has been designed to be used in a working community pharmacy environment; however, we recommend that the SOP is tailored to reflect processes in your pharmacy where appropriate. This SOP is dynamic and should be constantly reviewed and updated when and where necessary. If no errors or incidents occur, or no new relevant clinical or governance recommendations (e.g. Pharmaceutical Society of Ireland (PSI) guidance) are published, a review may be carried out at least annually starting from the creation date. The purpose of any review is to determine if the SOP

content and/or format needs to be updated with the goal of minimising errors within the pharmacy. Pharmacists should always exercise their own professional judgment.

## **Introduction**

This point of care lipid profile testing should not be offered to the following cohorts:

- Pregnant women, as cholesterol levels are expected to increase during pregnancy
- New mothers, as cholesterol levels are expected to still be high and it is recommended to wait six months after delivery prior to getting it checked
- Breastfeeding mothers as levels are expected to be high and it is advisable to wait until they have stopped breastfeeding
- Persons previously diagnosed with familial hypercholesterolaemia.

For general risk screening, non-fasting samples seem to have at least the same prognostic value as fasting samples. However, pharmacists should take into consideration that in non-fasting samples the triglyceride levels can be falsely elevated as they increase after eating. The triglyceride result is frequently used to calculate the LDL level and if triglycerides are falsely elevated, this can affect the LDL level. Total cholesterol and HDL are not altered in the non-fasting sample.

## **Consumables**

- Cobas Lipid test disc and, where relevant, Cobas lipid control;
- 70% alcohol hand rub (hand sanitiser);
- 70% alcohol swabs for skin disinfection;
- 70% Alcohol wipe for surface disinfection;
- Sterile gauze;
- Sharps bin;
- Clinical Waste bin or clinical waste disposable bag;
- Disposable lancing device;
- Writing equipment;
- Well-fitting latex-free, nonsterile gloves; and
- Plasters.

## **Taking Blood Sample from Finger**

- Gather consumables required;
- Bring the individual to the consultation area in which the service will be provided;

- Provide the individual with information about the test that they are about to take part in, explain the procedure;
- Check if they have any questions;
- Confirm if they consent to proceed;
- If the consent form has been printed, request the individual to sign it, if the consent form has not been printed, obtain verbal consent where the form will be printed and signed at the end of the consultation;
- Ask the individual about fatty/sugary food consumption prior to the test as this may affect the reading;
- Sanitise your hands and then put on latex-free nonsterile gloves;
- Ask the patient to warm their hands e.g. by rubbing them;
- Choose a spot on the side of one of the centre fingers (middle finger or ring finger) and gently massage the finger from the base to the tip several times to bring blood to the fingertip;
- Disinfect the fingertip by wiping the area to be lanced with a 70% alcohol wipe and then dry with a sterile gauze;
- Press the top of the individual's finger that is going to be pricked with your thumb until it turns pink, to increase the blood flow to the area;
- With your thumb still pressing on the individual's finger firmly prick the site with a disposable lancet;
- Gently apply pressure to the finger to obtain large blood drop, wipe away the first drop of blood as it may contain tissue fluid and dispose of it into the clinical waste bin;
- Squeeze the finger again while holding it downward until a second large drop of blood forms;
- If it is necessary to collect another drop of blood, wipe the finger with a sterile gauze, then massage again from the knuckle of the finger to the tip until a large drop of blood forms;
- Place the drop of blood on the testing disc and follow manufacturer's instructions.
- Cover the finger with a small plaster, explain that he/she may feel sore for a few days on the tip of the finger and advise them to keep the plaster on, particularly if they are working outdoors; and
- Dispose of sharps and clinical waste material in accordance with the appropriate SOP for waste disposal.

### Interpreting results

Lipid type	Healthy levels
Total cholesterol (TC)	No more than 5mmol/l
LDL cholesterol	No more than 3 mmol/l
HDL cholesterol	More than 1mmol/l for a man and more than 1.2mmol/l for a woman
Triglycerides	No more than 2 mmol/l
Non-HDL cholesterol (TC-HDL)	No more than 4 mmol/l

Note that if the total cholesterol levels are >5mmol/l or the pharmacist, after exercising their professional judgement, is concerned about any of the patient's levels of HDL, non-HDL, and/or LDL, the patient should be referred to their GP for a fasting test.

### Staff training records

Name	Signature	Date

### Reference Material

- Irish Heart Foundation <https://irishheart.ie/publications/a-healthy-cholesterol/>
- Heart UK. [Understand Your Cholesterol Results](https://www.heartuk.org.uk/cholesterol/understanding-your-cholesterol-test-results). Accessed via <https://www.heartuk.org.uk/cholesterol/understanding-your-cholesterol-test-results>  
08/08/2023
- [European Society of Cardiology & European Atherosclerosis Society: 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk](#)
- [National Institute for Health and Care Excellence: Clinical Guideline 181 - Cardiovascular disease: risk assessment and reduction, including lipid modification](#)
- [Pharmaceutical Society of Ireland \(2019\): Guidance on the Provision of Testing Services in Pharmacies](#)

# Appendix E. Standard Operating Procedure for the Measurement of Glycated Haemoglobin (HbA1c) using an Automated Machine

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**Purpose:**

To set a standardised protocol of procedures to be followed for the measurement of Glycated Haemoglobin (HbA1c).

**Scope:**

This SOP covers the measurement of Glycated Haemoglobin (HBA1c) during the provision of a health screening service in a community pharmacy.

**Responsibility:**

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure the safe and appropriate measurement of Glycated Haemoglobin (HbA1c) test.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:				
Reviewed by:	Date review takes place and initials			
Signature:				
Date of implementation:				

This SOP has been designed to be used in a working community pharmacy environment; however, we recommend that the SOP is tailored to reflect processes in your pharmacy where appropriate. This SOP is dynamic and should be constantly reviewed and updated when and where necessary. If no errors or incidents occur, or no new relevant clinical or governance recommendations (e.g. Pharmaceutical Society of Ireland (PSI) guidance) are published, a review may be carried out at least annually starting from the creation date. The purpose of any review is to determine if the SOP content and/or format needs to be updated with the goal of minimising errors within the pharmacy. Pharmacists should always exercise their own professional judgment.

## Introduction

Glycated Haemoglobin (HbA1c) is a biomarker that can be used as a diagnostic test for diabetes. Values of HbA1c reflect the average plasma glucose over the previous eight to 12 weeks. There is no need for the patient to fast prior to having the test done. Glycated Haemoglobin (HbA1c) should not be considered in isolation and other parameters need to be considered.

## Consumables

- Cobas HbA1c test disc and, where relevant, Cobas HbA1c control;
- 70% alcohol hand rub (hand sanitiser);
- 70% alcohol swabs for skin disinfection;
- 70% Alcohol wipe for surface disinfection;
- Sterile gauze;
- Sharps bin;
- Clinical waste bin or clinical waste disposable bag;
- Disposable lancing device;
- Writing equipment;
- Well-fitting latex-free, nonsterile gloves; and
- Plasters.

## Taking Blood Sample from Finger

- Gather consumables required;
- Bring the individual to the consultation area in which the service will be provided;
- Provide the individual with information about the test that they are about to take part in, explain the procedure;
- Check if they have any questions;
- Confirm if they consent to proceed;
- If the consent form has been printed, request the individual to sign it, if the consent form has not been printed, obtain verbal consent where the form will be printed and signed at the end of the consultation;
- Ask the individual about fatty/sugary food consumption prior to the test as this may affect the reading;
- Sanitise your hands and then put on latex-free nonsterile gloves;
- Ask the patient to warm their hands e.g. by rubbing them;

- Choose a spot on the side of one of the centre fingers (middle finger or ring finger) and gently massage the finger from the base to the tip several times to bring blood to the fingertip;
- Disinfect the fingertip by wiping the area to be lanced with a 70% alcohol wipe and then dry with a sterile gauze;
- Press the top of the individual's finger that is going to be pricked with your thumb until it turns pink, to increase the blood flow to the area;
- With your thumb still pressing on the individual's finger firmly prick the site with a disposable lancet;
- Gently apply pressure to the finger to obtain large blood drop, wipe away the first drop of blood as it may contain tissue fluid and dispose of it into the clinical waste bin;
- Squeeze the finger again while holding it downward until a second large drop of blood forms;
- If it is necessary to collect another drop of blood, wipe the finger with a sterile gauze, then massage again from the knuckle of the finger to the tip until a large drop of blood forms;
- Place the drop of blood on the testing disc and follow manufacturer's instructions.
- Cover the finger with a small plaster, explain that he/she may feel sore for a few days on the tip of the finger and advise them to keep the plaster on, particularly if they are working outdoors; and
- Dispose of sharps and clinical waste material in accordance with the appropriate SOP for waste disposal.



# Appendix F. Standard Operating Procedure for the Measurement of Pulse Rate

---

**Purpose:**

To set a standardised protocol of procedures to be followed for the measurement of pulse rate.

**Scope:**

This SOP covers the measurement of pulse rate during the provision of a health screening service in community pharmacy.

**Responsibility:**

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure the safe and appropriate measurement of pulse rate.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:				
Reviewed by:				
Signature:	Date review takes place and initials			
Date of implementation:				

This SOP has been designed to be used in a working community pharmacy environment; however, we recommend that the SOP is tailored to reflect processes in your pharmacy where appropriate. This SOP is dynamic and should be constantly reviewed and updated when and where necessary. If no errors or incidents occur, or no new relevant clinical or governance recommendations (e.g. Pharmaceutical Society of Ireland (PSI) guidance) are published, a review may be carried out at least annually starting from the creation date. The purpose of any review is to determine if the SOP content and/or format needs to be updated with the goal of minimising errors within the pharmacy. Pharmacists should always exercise their own professional judgment.

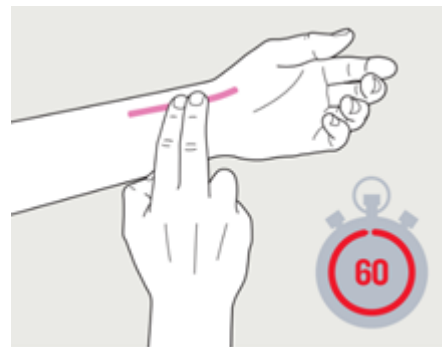
## Introduction

This measurement will screen for potential arrhythmias which increase the risk of stroke. A normal pulse will have a regular rate of about 70 beats per minute, however, it could be lower or higher. An irregular pulse can be caused by many different types of heart rhythm disturbances the most common being atrial fibrillation (AF). AF may cause irregular heartbeats and sometimes a fast pulse. Over 40,000 adults aged over 50 already have AF, but many of them do not know it.

## Taking radial pulse

To take the radial pulse you need first to locate the radial artery and proceed as follows:

- Place two or three fingers on the inside of the patient's wrist in line with the base of the thumb, near where a watch strap should sit, to feel the radial artery;
- Press lightly and feel the pulse. If you cannot feel the pulse press slightly harder or move your fingers around until you feel the pulse.
- Once you have located the pulse count the beats for one minute. It is advised not to take a pulse for 30 seconds and multiply by 2.



## Interpreting the Radial pulse

Checking radial pulse is conducted to identify any abnormalities in a person's heart rate/rhythm.

### *Sinus Rhythm or normal rate*

The sinus rhythm is the normal heart rhythm. Its rate is between 60 to 100 beats per minute (bpm) while resting.

### *Sinus Bradycardia or slow rate*

The sinus bradycardia presents as a slow rate of the heartbeat. Patients taking medication such as beta-blockers may present a rate lower than 60 bpm. Also, individuals who are very physically active are more likely to have slower heart rates. Individuals presenting with sinus bradycardia should be referred to their GP to investigate.

### *Sinus Tachycardia or fast rate*

Sinus tachycardia presents as a fast rate of the heartbeat. An individual can present with a faster heartbeat if they were doing exercise, are stressed, anxious or in pain. Please note that medicines such as salbutamol, stimulants such as caffeine and illegal drugs such as cannabis, may increase the heart rate. Individuals presenting with sinus tachycardia should be referred to their GP for investigation.

### *Irregular heartbeats*

Sometimes the heart rate can be faster or slower than usual or you may feel an extra heartbeat followed by a pause in the heart rate. Patients presenting with an irregular heartbeat/palpitations should be referred to their GP for investigation.

### **Result and Advice**

Patients presenting symptoms including palpitations, dizziness, and breathlessness should be referred to their GP for further investigation.

Regular normal pulse 60 – 100bpm	No follow-up or advice needed
Fast rate > 100 bpm	Advise seeing GP
Slow rate < 60 bpm	
Irregular heart rate	

### **Staff training records**

I have signed to say that I have read and understood the Standard Operating Procedure to be followed for the measurement of pulse rate.

<b>Name</b>	<b>Signature</b>	<b>Date</b>

### **References**

1. British Heart Foundation. [Dealing with Abnormal Heart Rhythms](https://www.bhf.org.uk/-/media/files/information-and-support/publications/heart-). Accessed via <https://www.bhf.org.uk/-/media/files/information-and-support/publications/heart->

[conditions/his14\\_1117\\_heart-rhythms\\_a6.pdf?rev=824507bf6a1641cea451b7f932fffb22](#) on  
01/08/2023

# Appendix G. Standard Operating Procedure for the Measurement of Waist Circumference

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**Purpose:**

To set a standardised protocol of procedures to be followed for the measurement of waist circumference.

**Scope:**

This SOP covers the measurement of waist circumference during the provision of a health screening service in community pharmacy.

**Responsibility:**

It is the responsibility of the supervising pharmacist to ensure that appropriate steps are taken to ensure the safe and appropriate measurement of waist circumference.

Date of Preparation:	Date of next review:			
Prepared by:				
Signature:				
Reviewed by:				
Signature:	Date review takes place and initials			
Date of implementation:				

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## Measuring the waist

The pharmacist should explain in advance to the individual what the procedure involves. The procedure should not be carried out if the patient presents:

- Wearing thick/bulky clothing (measurement can be carried out over light clothing);
- With abdominal fluid retention; or
- Wearing a corset.

Prior to the measurement the individual should be asked to:

- remove tight clothing and/or belts and empty their pockets;
- stand comfortably, weight distributed evenly on each leg and the feet fairly close together (about 12-15cm apart); and
- breath normally and the reading should be taken at the end of gently exhaling.

The pharmacist should stand at the side of the individual when taking the measurement. The individual can also be asked to put the tape measure around themselves. Then follow these steps:

- Ensure that the tape measure is horizontal across the back and front of the individual and that it is midway between the last rib and the top of the hip bone;
- The tape measure should be snug but not tight, the tape should be loose enough to allow the observer to put one finger between the tape and the individual's body;
- Take hold of the tape, marking the measured point with your thumb and index finger; and
- Record the measurement to the nearest 0.1cm.

## Interpreting results and advice

	Women	Men	Advice
<b>Healthy waist measurement</b>	<80cm (32 inches)	<94cm (37 inches)	Normal range – reinforce lifestyle advice
<b>Moderate risk</b>	Between 80-88cm (32-35 inches)	Between 94-102cm (37-40 inches)	No further weight gain, lifestyle advice and referral to GP

<b>High risk</b>	>88cm (35 inches)	>102cm (40 inches)	Weight loss, lifestyle advice and referral to GP
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### Staff training records

I have signed to say that I have read and understood the Standard Operating Procedure to be followed for the measurement of waist circumference.

Name	Signature	Date

### Reference

1. HSE, INDI, Diabetes Ireland, Diabetes (2017) Living well with Pre-diabetes.
2. European Society of Cardiology (2021). 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice. European Heart Journal (2021) 42, 3227-3337.

