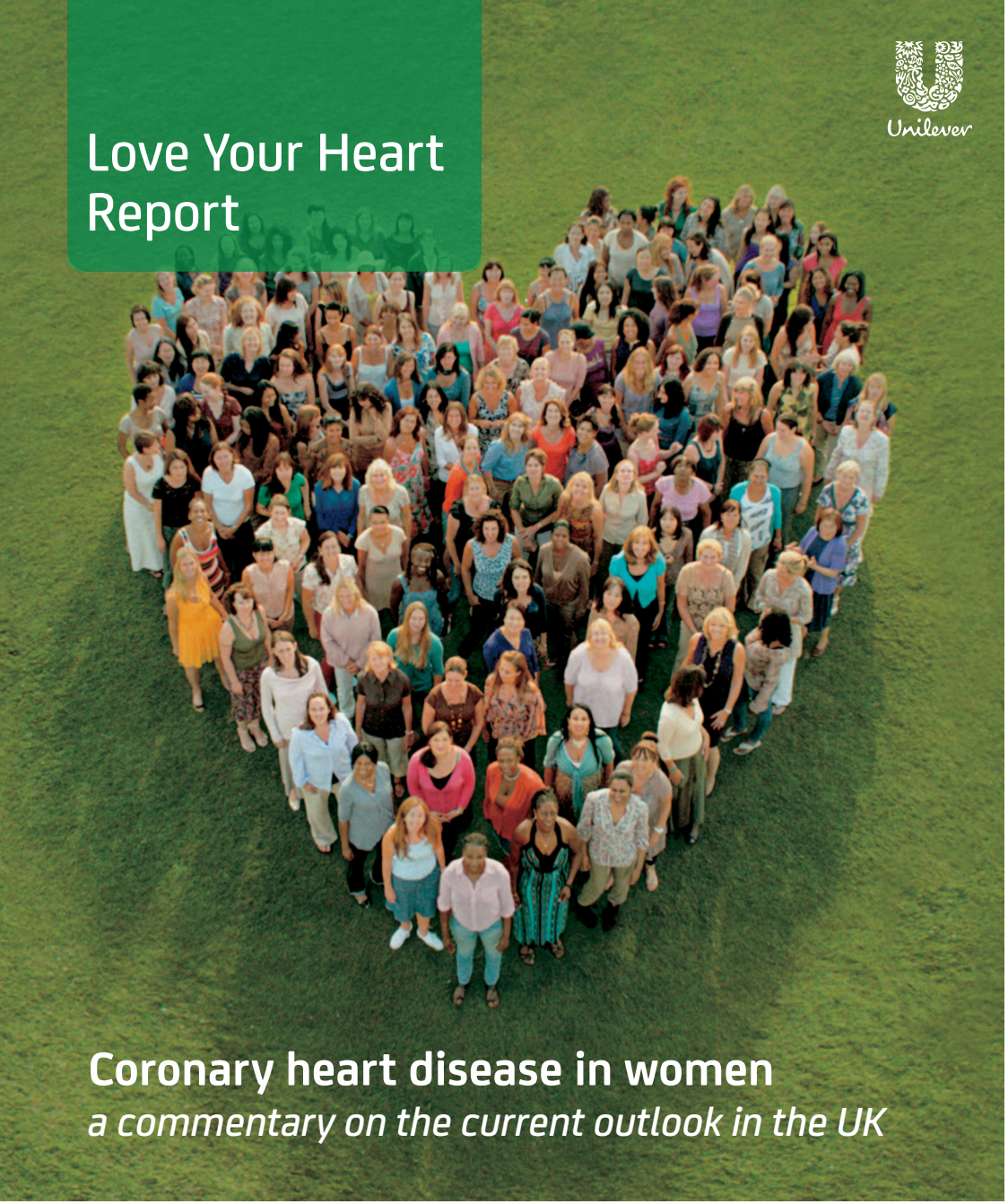
Love Your Heart Report



Coronary heart disease in women

a commentary on the current outlook in the UK

British Heart Foundation

FLORA pro·activ

Raising awareness of heart disease amongst women

Foreword by Dr. Jane Flint

I welcome this partnership between the British Heart Foundation (BHF) and Flora pro.activ. The Love Your Heart initiative helps to sustain the BHF campaign to increase and optimise awareness of cardiovascular mortality in women, as being just as important as in men and their number one killer.[i]

Although younger women are less likely to die from coronary heart disease (CHD) than older women, the relative denial of the possibility by both public and healthcare professionals renders this vulnerable group susceptible to an actually higher morbidity and mortality if they suffer an acute cardiac event.[ii] The concepts of heart age and lifetime risk are vital to ensure we all face – realistically – what we can do to reduce our probability of not just a coronary event, but all possible cardiovascular events in our lives.

I have long felt grateful to the nursing community, especially in cardiac care and rehabilitation, who have championed the cause, and they have been true partners, along with patients and other multidisciplinary groups, in approving and launching the BCS Joint Working Group Recommendations for Women's Heart Health as part of the European Heart Health Charter in 2007. As we review progress over the last 5 years, the September 2012 Heart Disease in Women Survey[iii] here presented reminds us of the need to sustain and regularly update education, not only of the population, but of healthcare professionals, especially nurses on the frontline.

I look forward to sharing with you not only awareness of the differences to look out for, but the key recommended approaches to ensuring the lifetime care pathway for women with cardiovascular disease is equitably delivered. The important preventive measures outlined in this report are relevant throughout our lives.

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Introduction

The Love Your Heart initiative, led by the British Heart Foundation (BHF) and Flora pro.activ, aims to get more women talking about heart health – it's never too late to change diet and lifestyle habits and help protect the heart.

This report aims to provide an overview for healthcare professionals of coronary heart disease (CHD) in women in the UK. New insights from the September 2012 Heart Disease in Women Survey show many women are still not aware of the risk of heart disease to their health, and do not talk to a healthcare professional about it, even if they are experiencing worrying symptoms.[iv] This demonstrates that more needs to be done to dispel the common misconceptions about CHD in women and identify risk factors earlier to help reduce mortality. CHD is the UK's single biggest killer: over 30,000 women die from it each year so it's vital we do all that we can to raise awareness of the risk of heart disease amongst women.[v]

The report is split into two main chapters.

Chapter One

The first chapter – **The Heart of the Matter** – looks at the prevalence of CHD in women today, current research and attitudes towards it. It also assesses the economic burden and presentation of CHD in practice as well as some of the regional and socio-economic differences of CHD in women across the UK. This chapter provides a solid foundation for addressing the current situation and the barriers to instigating change.

Chapter Two

The second chapter – **Reducing CHD risk** – explores some of the main modifiable and non-modifiable risk factors for CHD. It looks at the effects of smoking, high blood cholesterol – with reference to the benefits of plant sterol enriched foods – high blood pressure, poor diet and lifestyle and physical inactivity on heart health. It also addresses some of the current preventative strategies and treatment options available to reduce CHD risk.

At the end of Chapter Two there is a 'Finding Out More' section which includes links to various websites where you can find further information about looking after heart health.

CHAPTER 1
The Heart of the Matter

Coronary Heart Disease (CHD) is the single most common cause of death for women in the UK – over 30,000 women die from it each year.[vi]

Consider the facts:

- There are more than a million women living with heart disease in the UK[vii]
- CHD kills 3 times more women than breast cancer[viii]
- It's estimated that over 40,000 women have a heart attack each year in the UK – that's 110 women every day[ix]

Considering these figures, it's worrying that some women don't realise heart disease could happen to them. This can make them less aware of the risk factors for heart disease, less likely to recognise the symptoms of a heart attack and be slower to call 999 when they have a heart attack – which can dramatically reduce their chances of survival.

Unfortunately because women tend to develop heart problems at an older age than men, they can take longer to recover after being admitted to hospital. Women are also less likely to attend a cardiac rehabilitation programme which is important for long-term health after a heart event.[x]

Heart disease is largely preventable and it's vital that women are aware of the risk of developing heart disease and how they can reduce that risk.[xi]

Current attitudes to CHD

Findings from a BHF survey of over 1,000 women aged 45 and over show less than a third of women (31%) are aware that heart disease is the biggest killer of women in the UK with nearly two thirds (62%) believing that breast cancer is the biggest threat to their health.[xii]

Data from the September 2012 Heart Disease in Women Survey commissioned by the BHF and Flora pro.activ also show:

- More than half (55%)[xiii] of women aged 45 and over have never talked to a healthcare professional about heart disease
- Almost half (49%) of women said they wouldn't mention a potentially life-threatening symptom of a heart attack[xiv] to anyone, with 59% saying it was because they didn't think it's serious or important enough[xv]
- Less than one in three women aged 45 and over (32%) would call 999 if they had chest pains or chest discomfort, even though that call could help save their life, and two thirds (67%) would contact a doctor about chest pains rather than calling 999 immediately[xvi]
- Despite 79% of women saying they are likely to talk to their GP about general health risks,[xvii] a third of women aged 45 and over (33%) would wait until they were showing at least three signs or symptoms of a heart attack before seeking advice or medical help[xviii] – and by then it could be too late.

Such misconceptions can often create a barrier to women receiving the information they need to manage their CHD risk, and for those at risk of heart attack receiving effective care and treatment.

Other studies[xix] have confirmed that many women are not aware of their risk of developing CHD. To complicate matters, symptoms may also be atypical and described differently, producing diagnostic confusion for the healthcare professional. As a result, the presentation of women with symptoms is often late not only in primary care but also to the acute services. Once identified, there are further differences in the management of women compared to men. Women tend to be prescribed fewer anti-platelet and lipid-lowering drugs and undergo fewer revascularisations.[xx]

Regional and socioeconomic differences

Differences exist in the UK in terms of mortality rates from CHD among women according to their geographical region, socio-economic group and job type.

Death rates from CHD are highest for both men and women in Scotland and lowest in England. In 2010 the premature death rate in Scotland was 37% higher for men and 60% for women, as compared to England. Within England, premature CHD rates are highest in the North West and lowest in the South East and South West. These rates have been consistently higher for more than 25 years.[xxi]

Mortality rates from CHD are highest in the lowest socioeconomic group and lowest in the highest socioeconomic group, with a clear gradient across the social groups.[xxii] This inequality is more striking in women than men where female workers with routine jobs in manual employment are five times more likely to die from CHD than those women in managerial employment.[xxiii]

Healthcare costs

It is estimated that the total healthcare costs for CHD in the UK amount to £2 billion annually,[xxiv] with the majority of this cost – around 56% – attributed to hospital care for people with CHD, 20% spent on outpatient care and around 15% due to medicine costs.[xxv] The total cost of CHD to the UK economy, including informal care costs and loss of earnings through illness and death, is estimated at £7 billion a year.[xxvi]

CHAPTER 2
Reducing CHD Risk

The World Health Organisation (WHO) states 80% of heart disease could be prevented by positive lifestyle changes, such as eating a healthy diet, exercising more regularly and quitting smoking.[xxvii] Furthermore, people often don't realise the link between modifiable risk factors, such as high cholesterol or high blood pressure, and CHD. Patients may not understand that they can help manage their own CHD risk and help to reduce the likelihood of them having a cardiovascular event.

The current method of calculating risk of CHD – such as with Framingham and QRISK2 risk calculators – estimates an individual's risk of developing disease over 10 years. However, these calculators may underestimate risk in younger women, because women – regardless of their risk factors – tend to develop CHD later than men.

Recent data from the September 2012 Heart Disease in Women Survey show only 1 in 10 (10%) women over 50 said their doctor had discussed heart disease with them.[xxviii] Healthcare professionals have a crucial role in helping women understand they are at risk of heart disease – patients should be encouraged and supported to quit smoking if they do, increase their physical activity and make positive diet and lifestyle changes to help reduce their CHD risk. By encouraging patients to make small and simple changes to their diet and lifestyle, healthcare professionals have an important role to play to help patients reduce their risk of heart disease.

CHD risk factors

Risk factors for CHD can be divided into those that can and can't be modified by the patient.[xxix] People cannot influence risk factors – such as age, sex, genetics and ethnicity – on their overall CHD risk. However, they can directly influence the effect of modifiable risk factors on their heart health and should be encouraged to do so where possible.

Modifiable risk factors

The following modifiable risk factors can be used to assess the risk of CHD as well as when communicating to patients which behavioural changes they can make to reduce their CHD risk:[xxx]

- Smoking
- Blood cholesterol
- Blood pressure
- Physical inactivity

The following factors can also affect heart health:

- Diet, in particular:
  - Fruit and vegetable intake
  - Amount and type of fats consumed
  - Salt intake
- High alcohol intake
- How stress is managed

Certain groups of people are more at risk because of conditions such as diabetes (and pre-diabetes/ metabolic syndrome), chronic kidney disease, rheumatoid arthritis and other autoimmune diseases, and dyslipidaemia (familial and non-familial). Treatment of these conditions may reduce the risk of having a cardiovascular event.[xxxi]

It is also important to note that some factors are not independent of each other. For example, smoking, stress and alcohol intake are associated with each other, as are ethnicity, obesity, blood lipids, and diabetes.

Smoking

Smoking increases the risk of CHD and a cigarette smoker is nearly twice as likely to have a heart attack as a non-smoker.[xxxii] Every year in the UK, 100,000 smokers die as a result of smoking,[xxxiii] with over 25,000 smoking related deaths from cardiovascular disease.[xxxiv] Data show CHD mortality is around 60% higher in smokers compared to non-smokers and about half of all regular smokers will eventually be killed by their habit.[xxxv] Among UK women, two-thirds of all deaths of smokers in their 50s, 60s, and 70s are caused by smoking; smokers lose at least 10 years of lifespan.[xxxvi] Although the hazards of smoking until you're 40 and then stopping are substantial, the hazards of continuing after this age are ten times greater. Stopping before the age of 40 (and preferably well before this time) avoids more than 90% of the excess mortality caused by continuing smoking; stopping before age 30 years avoids more than 97% of it.[xxxvii]

Smoking is more prevalent among manual social groups than among non-manual, and is lowest among higher managerial and professional classes.[xxxviii] In 2010, 29% of men and 28% of women in routine and manual households smoked compared with 14% of men and 12% of women in managerial and professional households.[xxxix]

There are also geographical differences in the uptake of smoking with prevalence lower in England (20%)[xl] than the rest of the UK (Scotland & Wales 25%, Northern Ireland 24%) than in England (20%). The younger age groups tend to have a higher prevalence with men aged 25 to 34 and women aged 20 to 24 having the highest prevalence of smoking.[xli]

It is estimated that the cost to the NHS in the UK in treating smoking related illness is between £2.7 billion and £5.2 billion per year.[xlii]

Motivating patients to quit smoking

Stopping smoking has a significant effect on improving heart health and fortunately, the benefits are soon felt after stopping, even if some damage has already been done. One year after quitting, the risk of having a heart attack reduces by half compared to that of a smoker and after 15 years the risk of having a heart attack falls to the same as someone who has never smoked.[xliii] There are many ways you can help smokers to quit including encouraging them to join a stop smoking clinic or stop smoking group, providing advice on using nicotine replacement products and advising on medication to help them stop smoking.

Blood cholesterol

The risk of CHD is directly related to blood cholesterol levels. People who have a high total cholesterol level have a higher risk of CHD than those with lower levels. The risk is particularly high if there is a high level of LDL cholesterol and a low level of HDL cholesterol.[xliv]

Elevated LDL cholesterol is widely accepted as a key modifiable risk factor for CHD, yet more than half the population in most Western countries has LDL cholesterol levels higher than desirable.[xlv] Elevated LDL cholesterol is often the cause for raised total blood cholesterol and in England for example, 61% of women have total blood cholesterol levels of 5mmol/l or above, rates vary by age with the highest being 83% in the 55-64 age group.[xlvi]

Helping patients to reduce blood cholesterol

Both lipid-lowering drugs as well as diet and lifestyle changes have been shown to be effective in reducing total and LDL cholesterol. The reduction of LDL cholesterol is directly associated to reduced CHD risk and mortality.

For every 1% drop in LDL cholesterol there is an associated 2-3% reduced CHD risk.[xlvii,xlviii]

One way to lower LDL cholesterol with a dietary change is to include plant sterols which are clinically proven to significantly lower cholesterol. Plant sterols are found naturally in everyday foods like vegetable oils, nuts, grain products, fruit and vegetables. The average daily intake of plant sterols from regular foods is about 0.3g and in Western populations, this decreases to 0.15-0.31g plant sterols per day. However 2-2.5 g of plant sterols must be consumed each day to lower LDL cholesterol by 7-10% in 2-3 weeks*[xlix,l,li] In order that people can consume enough plant sterols to achieve the cholesterol lowering effect, there are plant sterol enriched foods available, such as Flora pro.activ.

Clinical evidence also shows that eating plant sterol enriched foods, in combination with statins, can have a greater cholesterol-lowering effect than statins alone.[lii] In fact, the combination of statins and plant sterols can lead to a greater reduction in cholesterol levels – up to a further 7-10% – than doubling the statin dose which has been shown to achieve just a 7% further reduction of LDL cholesterol.[liii]

There are now over 85 clinical studies published in peer reviewed journals proving the cholesterol-lowering efficacy of plant sterols and many organisations have included plant sterols in their dietary recommendations for cholesterol management, including the World Heart Federation, European Society of Cardiology, Heart UK and Diabetes UK.

Other dietary means of reducing LDL cholesterol include:[liv]

- Eating a well balanced and healthy diet. The 'eatwell plate' shows the different types of food we need to eat and in what proportions[lv]
- Reducing intake of saturated and trans fats and replacing with polyunsaturated and monounsaturated fats
- Increasing intake of fibre and whole grains

Further information on diet and CHD risk can be found on page 10.

Blood pressure

Risk of CHD is directly related to higher levels of both systolic and diastolic blood pressure – around 1 in 3 women in England and Scotland have high blood pressure and it becomes increasingly common with age.[lvi]

Recent data on over one million adults show that for adults aged 40 to 69 years, each 20mmHg increase in usual systolic blood pressure, or 10mmHg increase in usual diastolic blood pressure, doubles the risk of death from CHD.[lvii] Research also shows that people of African-Caribbean and South Asian origin living in the UK are much more likely to have high blood pressure than the rest of the UK population.[lviii]

It is estimated that about one in three people in England who have high blood pressure don't know that they have it, so identifying these individuals is important.[lix]

In most people, there is no single definite cause of high blood pressure; however, the following factors can all play a part:[lx]

- Physical inactivity
- Being overweight or obese
- Having too much salt in the diet
- Drinking too much alcohol
- Kidney disease

In a very small number of people, a rarer cause of high blood pressure is found, such as narrowing of the artery to a kidney, or an abnormal production of hormones from the adrenal glands.[lxi]

Reducing blood pressure in patients

Both drug treatment and lifestyle changes – particularly weight management, increases in physical activity, and a reduction in salt and alcohol intake – can help to lower blood pressure.[lxii]

Diet and physical inactivity

A poor diet may increase the risk of CHD in a variety of ways; for example high intake of saturated fat can raise cholesterol levels, high salt intake can raise blood pressure and low intakes of fibre, fruit and vegetables can lead to greater susceptibility to CHD.[lxiii]

There are socio-economic differences in relation to poor diet. A gradient can be observed in the consumption of fat, saturated fat and sugar, with those in the lower income groups consuming more of these than those on a higher income.[lxiv] Furthermore, salt consumption by ethnic group varies considerably with the South Asian group consuming 3.5 grams per day and the White group consuming 3 grams more at 6.5 grams per day.[lxv]

People who are physically active are at lower risk of CHD.[lxvi] To produce the maximum benefit, exercise needs to be regular and at least moderate in intensity. Physical activity levels in the UK remain relatively low. Only 33% of women in Scotland meet the recommended levels and 24% in Wales.[lxvii] Those aged 65 and

over are the least likely group to consistently achieve the recommended amount of physical activity.[lxviii]

Levels of physical activity are related to socioeconomic group with a higher percentage of women meeting the recommended levels of physical activity in the highest income groups compared to the lowest.[lxix]

A poor diet and physical inactivity can lead to obesity which also increases risk of CHD.[lxx] The adverse effects of excess weight are more pronounced when fat is concentrated in the abdomen – this is known as central or abdominal obesity and is assessed using the waist to hip ratio (WHR).[lxxi] For men, central obesity is defined as a WHR of 0.95 or over and for women it's 0.85 or over.[lxxii] The INTERHEART case-control study estimates that 63% of heart attacks in Western Europe and 28% of heart attacks in Central and Eastern Europe were due to central obesity, and those with central obesity were at over twice the risk of a heart attack compared to those without.[lxxiii]

Motivating patients to make dietary changes and to increase their physical activity

There are many dietary changes that may help reduce elevated LDL cholesterol and therefore help in reducing the risk of CHD. Dietary recommendations which may be helpful for patients include replacing saturated fatty acids (SAFA) which are present in butter, cream and ghee with polyunsaturated fatty acids (PUFA) which are present in vegetable oils, soft margarines as well as keeping intakes of trans fatty acids to a minimum.[lxxiv]

In terms of physical activity, the recommended level for adults is a minimum of 150 minutes of moderate intensity physical activity during the course of the week.[lxxv] For those who currently have low levels of physical activity, or do not have the time to be active for longer, shorter bouts of at least 10 minutes may be a more achievable way of meeting the 150 minutes and can produce health benefits that are comparable with those gained from longer sessions.[lxxvi]

Initiatives available in the community

There are initiatives in the community to help identify and manage CHD risk such as the NHS Health Check which is a heart health assessment available in England. The NHS Health Check programme aims to screen 15 million people aged 40-74 for risk of heart disease, diabetes, kidney disease and stroke by 2018. However, although Primary Care Trusts (PCTs) were targeted by the Department of Health to reach 20% of the eligible population by 2012/13, data published in 2012 show 50% of PCTs are failing to reach the targets set. The data suggest around 9 million eligible patients aged 40-74 are likely to be missing out on the service.[lxxvii] All women (and men) over the age of 40 should be encouraged to ask their GP about this health check. It's important that if moderate to high risk of a cardiovascular event is detected following the check, that the patient is encouraged and supported to make appropriate diet and lifestyle changes to help reduce their risk or they may need to be prescribed lipid-lowering and/or blood pressure lowering drugs. For more information visit: **www.nhs.uk/nhshealthcheck**

**As heart disease has multiple risk factors, more than one may need to be improved to reduce the overall risk.*

CHAPTER 3
Finding Out More

To find out more about the Love Your Heart initiative, visit **www.loveyourheart.com**

For information for healthcare professionals from Flora pro.activ, and further information about plant sterols, visit **www.flora-professional.co.uk**

For heart health information and resources, visit the British Heart Foundation **www.bhf.org.uk**

CHAPTER 4
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