Together for Health

Heart Disease Annual Report 2016

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

1.0 Introduction

Our annual report illustrates our commitment to improve heart disease services for the people of Wales. We are doing this by focusing upon a number of areas - through prevention, early diagnosis, effective and timely treatment, research and supporting those living with heart disease.

The last 12 months have seen progress in improving care for patients with heart disease in Wales. There are excellent examples of services improving throughout Wales whilst dealing with an increasing demand for care. The services must continue to undergo transformational change if they are to cope with the increased incidence of heart disease and related complications, as well as the complex needs of patients.

Wales has a high prevalence of the risk factors associated with heart disease such as smoking, poor diet and physical inactivity. Treating and preventing heart disease is a national priority for Wales.

Although coronary heart disease is a preventable disease, there were 3,992 deaths in Wales in 2014 where coronary heart disease was the underlying cause. The disease is caused when the heart's blood vessels, the coronary arteries, become narrowed or blocked and cannot supply enough blood to the heart.

1.1 Our Achievements

Fewer people are dying from cardiovascular disease
There has been a steady decline in the rate of people in Wales dying from all cardiovascular disease. In 2010 just over 10,000 people died from cardiovascular disease, by 2014 this had fallen to just over 8,800 deaths.

Preventing heart disease
Smoking rates continue to fall (currently at 19%), as does the rate of adults reporting binge drinking (currently at 24%), and 31% of adults report being physically active on five or more days. This demonstrates that as a nation we are putting in place the key actions to prevent heart disease.

Reducing inequalities
Cardiovascular disease remains one of the major determinants of health inequalities causing premature mortality and more years of ill health in our most deprived communities.

The Inverse Care Law Programme has strengthened systems of care in the most deprived communities in Aneurin Bevan University Health Board and Cwm Taf University Health Board offering an assessment of cardiovascular risk for individuals aged 40-64 not already in contact with health services. This work is now being shared with other health boards to develop similar approaches in a collaborative programme of work supported by the heart disease, stroke and diabetes delivery groups.

Fewer people are suffering from heart disease
The rate of hospital admissions for both cardiovascular disease and coronary heart disease has fallen considerably over the last five years, by 10% and 21% respectively.
Saving lives through early diagnosis
The NHS in Wales has invested time and resources to reduce premature mortality and emergency admission from cardiovascular disease in deprived areas by improving the identification and management of cardiovascular risk factors.

Treating patients quicker and closer to home
Through investments in community cardiology, health boards have all developed innovative approaches that allow patients to be diagnosed, assessed and where appropriate treated in their local community.

Responding to suspected heart attack patients
The most appropriate response to a suspected heart attack is an emergency ambulance to assess, treat and convey the patient to a primary percutaneous coronary intervention (PPCI) unit. The pre-hospital care bundle that the paramedic administers requires that all patients should, in addition to a 12-lead electrocardiogram (ECG), receive aspirin, gylceryl trinitrate (GTN), two pain scores and pain relief as part of their package of care. Compliance to the provision of the individual components of the care bundle has improved to between 82.6% to 90.6% for the period October 2015 to March 2016. Compliance against the combined bundle for the same period last year was 65.5%.

More patients undertaking cardiac rehabilitation than ever before
An extra 180 patients attended cardiac rehabilitation in 2014-15 than the previous year. For the majority, the outcome from attending a programme translated into improvements in exercise status, psychosocial well-being, blood pressure and cholesterol control, and health related quality of life specifications.

1.2 Areas to improve
We know there is much more to do to maximise the scope to improve care for people with heart disease in Wales.

Late diagnosis
Despite the improvements noted above, there is still a need to focus on late diagnoses. Too many people are diagnosed through emergency routes and suffer heart attacks.

Improve access to diagnostic tests
Through the community cardiology fund and pathway improvements we will work with primary care and other partners to ensure there is sufficient diagnostic capacity to support the early diagnosis of heart disease.

Improving treatment times
Performance against waiting times remains challenging. It is important to ensure that patients are treated in accordance with clinical priority which is in line with our standards. Health boards have developed plans to ensure that this happens.

Quicker access to cardiac rehabilitation
Patients are waiting too long before starting cardiac rehabilitation and there is a need to focus upon ensuring that all cardiac patients can access good quality rehabilitation within 28 days of referral.
Tackling lifestyle risks
There is still a lot to be done to ensure we address the wider lifestyle risks for heart disease and there is a need to tackle inequalities in access to cardiac services and outcomes for patients.

This report shows the progress made against the actions set out in the Together for Health Delivery Plan and our continued commitment to improving outcomes for people with heart disease in Wales.

The progress we have made in delivering the “Together for Health – Heart Disease Delivery Plan” would not have been possible without the fantastic teams we have throughout the NHS - in our GP surgeries, NHS hospitals, hospices and the charities that support heart disease patients across Wales. It is also important to recognise the valuable work undertaken by the third sector in supporting and caring for people with heart disease and their families and the support provided by carers and families. This support is an essential element of the delivery plan, without which the NHS would struggle to deliver such excellent service.

Andrew Goodall
Chief Executive, NHS

Judith Paget
Chair, Heart Disease Implementation Group
2.0 What is heart disease?

There are many different heart conditions and problems. Together, these are called heart disease. Heart disease is a major killer in Wales, particularly affecting our poorer communities. The most significant cause of heart-related ill health and death is coronary heart disease, particularly angina and heart attack.

**Cardiovascular disease** (CVD) is a general term that describes a disease of the heart or blood vessels. Blood flow to the heart, brain or body can be reduced as the result of a blood clot (thrombosis), or by a build-up of fatty deposits inside an artery that cause the artery to harden and narrow.

CVD describes a collection of symptoms, the most common one being chest pain, that a person may experience when their heart is working harder than normal – such as climbing stairs, exercising or feeling stressed.

**Coronary heart disease** (CHD) is the term that describes what happens when your heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries. The two main forms of CHD are heart attack (also known as myocardial infarction) and angina.

**Angina** is the most common form of coronary heart disease. It is characterised by a heaviness or tightness in the centre of the chest which may spread to the arms, neck, jaw, face, back and/or stomach. Angina occurs when the arteries of the heart become narrow and not enough oxygen-rich blood can reach the heart muscle, especially when its demands are high, such as during exercise.

A **heart attack** usually occurs when a blood clot forms and blocks one of the narrowed coronary arteries. This starves the heart of oxygen and, if the blood supply to the heart is stopped for long enough causes permanent damage to the heart muscle.

**Atrial fibrillation** is a heart condition that causes an irregular and often abnormally fast heart rate.

**Heart failure** happens when the heart muscle is unable to pump blood as efficiently around the body. It occurs because the heart is damaged or overworked. Some people with minor heart failure may have few or no symptoms. People with moderate or severe heart failure often suffer from a number of problems, including shortness of breath, general tiredness and swelling of the feet and ankles.
2.1 Why do people get heart disease?

Heart disease is usually caused by a build-up of fatty deposits on the walls of the arteries around the heart. Over time, this build up makes the arteries narrower and restricts the amount of oxygen-rich blood getting through to the heart.

The fatty deposits, called atheroma, are made up of cholesterol and other waste substances. The build-up of atheroma on the walls of the coronary arteries makes the arteries narrower, restricting the flow of blood to the heart muscle. This process is called atherosclerosis. A person’s risk of developing atherosclerosis is significantly increased if a person:

- smokes
- has high blood pressure (hypertension)
- has a high blood cholesterol level
- does not take regular exercise
- has diabetes

Other risk factors for developing atherosclerosis include being obese or overweight and having a family history of CHD (the risk is increased if you have a male relative under the age of 55, or a female relative under 65, with CHD).

2.2 How many people are living with a heart condition in Wales?

The Welsh Health Survey 2015 reports that 8.3% of adults aged 16 and over report being treated for a heart condition (excluding blood pressure). The percentage is higher in males at 9.4% than females at 7.3%.

As can be seen from figure one, the prevalence of myocardial infarction (MI) - commonly known as a heart attack – in men has been around 5% between 2010 and 2015. In women, the prevalence of MI has remained around 2.5%.

There has been a decline in the prevalence of angina amongst both men and women in Wales over the past five years.
The number of people being treated by their GP for CHD has fallen gradually in recent years. Since 2008-09 there has been a reduction of 9,283 patients being treated by their GP for CHD.

In 2014-15 the total number of people living with CHD in Wales (recorded on the GP disease register) was 121,442, a fall of 1,246 compared with the previous 12 months. This demonstrates the recent impact of preventative strategies. In Wales, the percentage of people living with CHD (3.8%) is the same as Northern Ireland, lower than Scotland (4.1%) but higher than England (3.2%).

**Figure 1:** Prevalence of reported heart conditions in Wales

**Figure 2:** Coronary heart disease prevalence rates

*Source: Welsh Health Survey 2015*

*Source: Quality and outcome framework statistics for Wales, Northern Ireland, England and Scotland 2014-15*
Over the past five years the number of patients being treated by their GP for heart failure has increased gradually by 1,830 patients or 6% as shown in figure three.

![Figure 3: Number of patients registered with a GP as having heart failure]

Source: Quality and outcome framework statistics for Wales 2014-15

2.3 How many people suffered from heart disease last year?

Analysis of hospital inpatient records on an annual basis gives an indication of the number of new cases that develop each year. The rate of hospital admissions for both cardiovascular disease and coronary heart disease has fallen considerably over the last five years, by 10% and 21% respectively.

![Figure 4: Rate of hospital admissions per 100,000 for CVD and CHD]

Source: Patient Episode Database Wales, NHS Wales Information Service
2.4 How many people die from heart disease each year?

There has been a steady decline in the rate of people in Wales dying from cardiovascular disease since 2005. In 2005 just over 12,000 people died from cardiovascular disease; by 2014 this had fallen to just over 8,800 deaths. The main factors associated with the sharp decline in avoidable deaths from cardiovascular disease are advances in the field of medicine and improvements in lifestyle behaviours which reduce the risk of developing or dying from cardiovascular disease.

Figure 5: Death rates (age standardised) per 100,000 population for all cardiovascular diseases

Figure five highlights that the rate of deaths for all heart conditions has also fallen over the past five years. The number of people dying from a heart attack (acute myocardial infarction) has fallen by 245 over the last five years, to 1,367, and those dying from heart failure has almost halved in the last five years by 250 deaths, to 274 deaths in 2014.

Death before the age of 75 years is considered to be premature. In 2014 in Wales, about 26% of premature deaths in men and just over 18% of premature deaths in women were from CVD in 2014. In total that year, there were 2,371 premature deaths from CVD.

There has been a steady decline in the rate of people under the age of 75 in Wales and across the UK dying from premature coronary heart disease, as highlighted in figure three. Over the last 20 years in Wales, the age-standardised CHD death rates have declined by 70% for those dying before age 75. The rate has declined more in women (74%) than in men (70%), whereas overall it is considerably higher in men than women. This is due in part to the improved detection of CHD and CVD amongst GPs, the ban on smoking in public places, prevention strategies led by Public Health Wales, the public health role played by health boards and their partners, and better treatments within the NHS. 
In diseases of the circulatory system, CHD by itself is the most common cause of premature death in Wales in men, as it is in other parts of the UK. In Wales in 2014, 15.1% (923) of male premature deaths under the age of 75 were from CHD. In women the equivalent figure was 328 (or 7.8% of female premature deaths), giving a total of 1,251.\(^1\)

Latest figures from the NHS Wales informatics Service show this increased in 2015 to 1,382. There were 1,023 men and 359 women, or 17% of male premature deaths and in 8.1% of female premature deaths.

### 2.5 How many people survive after a heart attack?

Unfortunately there are occasions when heart disease has not been detected and controlled and this may result in a heart attack. Between 95% and 97% of adults aged between 35 and 74 survive following a hospital admission for a heart attack, highlighting the effectiveness of the emergency response to a heart attack.

\(^1\) British Heart Foundation: Cardiovascular Disease Statistics 2015, Table 1.2
3.0 What is happening across Wales to help improve the heart disease treatment journey?

Heart disease in Wales is overseen by a NHS Wales led Heart Disease Implementation Group which includes representation from health boards, the third sector, British Heart Foundation and Welsh Government. The Group identifies the national priorities for heart disease each year. These are:

- Roll out and implementation of a consistent model for the delivery of cardiovascular risk assessment
- Improve pathways offering consistent and timely access to cardiac diagnostic tests and treatments
- Improve outcomes by increasing participation and case ascertainment in national clinical audit with regular feedback to clinical leads
- Drive measurable service improvement in cardiac rehabilitation services to meet national standards by delivering services consistently and equitably
- Improve the capacity, recruitment and retention of the cardiac physiologist workforce and support the development of educational programmes for advanced and extended roles to support delivery of improved pathways
- Implement the out of hospital cardiac arrest strategy for Wales

Welsh Government allocated £1 million annually from 2015-16 for the delivery of the priorities identified by the Heart Disease Implementation Group. All health boards have been challenged to improve their services for people with heart conditions aligned to the priorities in the Heart Disease Delivery Plan.

The Heart Disease Implementation Group is supported by a clinical network with clinical leads – Dr Richard Cowell, Dr Graham Thomas, Dr Robert Bleasdale, Julie Grigg, Rachel Owen, Alison Turner, Dr Jonathan Goodfellow, and Dr James Barry who have been focused over the past 12 months in ensuring that sustainable changes are made to the way services for patients with heart disease are delivered across Wales.

The Heart Disease Implementation Group ensures that health boards participate in clinical audit and monitors performance of health boards.

Clinical audit and outcome review is critical to continuous service improvement. All health boards participate in all relevant national clinical audits and clinical outcome reviews as set out in the Welsh Government’s national annual audit programme. These include:

- National Heart Failure Audit
- National Heart Rhythm Management Audit
- National Adult Cardiac Surgery Audit
- National Angioplasty Audit
- National Congenital Heart Disease Audit
- Myocardial Ischaemia National Audit Project (MINAP)
- The All Wales Coronary Audit
- Central Cardiac Audit Database (CCAD) Percutaneous Coronary Intervention Audit
3.1 Community Cardiology

The Heart Disease Implementation Group agreed that one of the main priorities for the £1 million allocated by the Welsh Government would be on community cardiology. All health boards were invited to submit bids to the implementation group for the establishment of community cardiology services in their local area.

The new services are already having an impact on patient care:

- Traditionally, GPs refer patients with suspected heart problems to hospital-based consultant cardiologists. However it is estimated that 20% do not actually need the services of a cardiologist, and instead may only require diagnostic assessment and reassurance, or advice about a management plan. Patients who might previously have waited up to six months are now being seen in around 12 weeks and closer to home, through the community cardiology service run by Abertawe Bro Morganwyg University Health Board. Patients with problems such as chest pains, shortness of breath or palpitations are now referred to the new community cardiology service. The team includes five GPs with a special interest in cardiology.

- Planning is underway to introduce community cardiology services to provide basic diagnostics and assessment closer to home in primary care or community hospital premises within Aneurin Bevan University Health Board. Triage for diagnostic tests and their reporting will ultimately be undertaken by GPs with a special interest in cardiology, supported by local consultant cardiologists. This approach will facilitate direct feedback and education in primary care and will also allow secondary care teams to concentrate on patients with more serious pathology.

- The direct access one stop cardiology community clinic is currently being developed as a pilot in the Merthyr Tydfil area for Cwm Taf University Health Board. The clinic will be provided by a multi-disciplinary team consisting of a broad range of specialist staff. Four GPs with a special interest have been appointed and will work alongside an arrhythmia nurse. The direct access cardiac community clinic will allow the majority of patients to see either the GP or a specialist nurse, have appropriate tests on the day and then have their management plan and diagnosis explained. Patients requiring ambulatory investigations will be given monitoring equipment the same day.

At present Cardiff and Vale University Health Board is one of three pilot catheter ablation sites in the UK participating in a study of Patient Reported Outcome Measures. This study is commissioned by NICOR and if proven to be of clinical utility will become incorporated into the National Heart Rhythm Management Audit and may be extended into other areas of cardiology and cardiac surgical practice.
This will allow rapid assessment, diagnosis, treatment plan and discharge. Advice and signposting in relation to wellbeing and lifestyle change and support services will also be provided.

- The new community cardiology service at Betsi Cadwaladr University Health Board will focus on the north west Wales area, providing a comprehensive community stable chest pain assessment service based upon NICE validated investigations for new primary care referrals. It will focus on early detection and management of the three big heart and vascular presentations; ischaemic chest pain, palpitations/arrhythmia and heart failure. The common discharge pathway will include effective cardiac rehabilitation for the most affected patients. There will be a community arrhythmia service which will target case finding of under-represented high-risk groups in primary care, improve community management of atrial fibrillation and improve uptake of warfarin and new anticoagulation for stroke prevention. There will be investment in other areas:
  - expanding the familial hypercholesterolaemia service in primary care
  - supporting nurse-led academic research and innovation
  - training and support of community advanced nurse practitioners and primary care GPs and staff
  - enhanced cardiac rehabilitation
  - heart failure case finding and hospital cardiology ‘in reach’

- The community cardiology clinics in Cardiff and Vale University Health Board are a collaborative project between primary and secondary care, focusing on pathway redesign and community based one-stop cardiology clinics. Each of the three GP champions will lead on one of the following areas of cardiology within Cardiff and Vale University Health Board:
  - breathlessness and heart failure
  - palpitations and atrial fibrillation
  - chest pain

In year one, breathlessness and heart failure will receive a particular focus in order to develop and deliver a service to identify patients earlier and to improve end of life care of patients with terminal heart failure. To achieve this, a monthly one-stop clinic will be established aligned to one or two specific GP clusters that are identified as having the greatest need. It is hoped to locate these clinics in areas servicing the most deprived fifth of the population. This local service will have multidisciplinary input including a heart failure specialist, the GP champion, specialist nurse and a physiologist to provide echocardiography for rapid diagnosis.
4.0 What can I do to prevent heart disease?

The risks of heart disease are influenced by a number of risk factors which also impact upon a number of chronic conditions; these include diet, exercise levels, use of tobacco and alcohol. The risk of both CVD and CHD can be reduced by preventative work including the reduction of alcohol and smoking rates, increasing exercise levels and healthy eating.

There are no proven ways to prevent heart disease. However, through lifestyle changes like stopping smoking, healthy eating, exercise, and managing diabetes, blood pressure and stress, it is possible to reduce the chances of heart disease.

4.1 Reduce or stop smoking

Smoking is one of the leading risk factors for coronary heart disease and heart attacks. Smoking causes a buildup of a fatty substance (plaque) in the arteries, which eventually leads to a hardening of the arteries. Smoking damages organs and worsens many other risk factors for heart disease. It reduces the amount of good cholesterol a person has and raises blood pressure, which can cause increased stress on a person's arteries.

Smoking is the greatest single cause of avoidable mortality in Wales. In people aged 35 and over, smoking causes nearly one in five of all deaths and around one third of the inequality in mortality between the most and least deprived areas.²

The Welsh Government’s strategy is for Wales to become a smoke free nation which would mean that 5% or less of the population would be smokers.

Figure 7: Percentage of all adults in Wales aged 16+ who reported smoking daily or occasionally

![Percentage of all adults in Wales aged 16+ who reported smoking daily or occasionally](source: Welsh Health Survey 2015)

Smoking prevalence among adults aged 16+ has fallen consistently over the past ten years. In 2015, just over 19%\(^3\) of adults in Wales were regular smokers. This is a fall of just over 1 percentage point compared to 2014. This is considerably lower than in the 1970s, but the fall in rates has slowed down in recent years.

Unfortunately this reduction in smoking is not consistent across all parts of Wales; there is a significant variation between communities, with the highest rates of smoking contributing to poorer health outcomes in the most deprived areas. In 2015, the percentage of adults from the least deprived areas of Wales reported as being a smoker was 13% compared to a figure of 29% recorded among the most deprived area adults within the Welsh population.

The 2013-14 health behaviour in school-aged children (HBSC) report showed that smoking is falling amongst school children. Only 4% of children aged between 11 and 16 report smoking at least once a week; this is a reduction of two percentage points from 2010. 2% report that they smoke every day. However the percentage is far higher amongst those aged between 15 and 16 where 9% report that they smoke on a regular basis.

Smoking is estimated to account for around 20% (27,700) of hospital admissions and 5,500 deaths\(^4\) each year in Wales. According to the BMA, the estimated smoking costs for NHS Wales are more than £380m a year, accounting for 7% of healthcare expenditure\(^5\). An economic analysis of the cost of smoking by Action on Smoking and Health (ASH) Wales, found that £288m is lost to productivity through premature deaths, £49.5m lost through excess sickness absence, £4m lost to businesses through smoking breaks, £25.8m spent clearing up smoking-related litter and £45.4m lost through premature death due to second hand smoke exposure.

\(^3\) 19.36%, Welsh Health Survey 2015
\(^4\) http://gov.wales/topics/health/improvement/smoking/?lang=en
4.2 Adopt a healthy lifestyle

Nutrition and diet play a huge role in preventing heart disease. Research\(^6\) suggests that even if a person has a family history or genetic predisposition for heart disease, maintaining a good diet can reduce the risk.

**Figure 8:** Percentage of patients aged 16+ registered with a GP with a BMI greater or equal than 30 in the previous 5 years

![Figure 8: Percentage of patients aged 16+ registered with a GP with a BMI greater or equal than 30 in the previous 5 years](image)

*Source: Quality and outcome framework statistics for Wales, Northern Ireland, England and Scotland 2014-15*

Analysis of the quality and outcomes framework in figure eight illustrates that Wales has a higher proportion of patients with a BMI of 30 or more than the rest of the UK. There are almost 304,000 people registered with a BMI of greater than or equal to 30 in Wales, a drop of 21,224 over the previous year.

The Welsh Health Survey undertaken in 2015 reported that 59% of adults were classified as overweight or obese, of which 24% were obese. 32% of adults reported eating five or more portions of fruit and vegetables the previous day. 58% of adults reported being physically active (doing at least 150 minutes of moderate intensity physical activity in blocks of 10 minutes or more in the previous week), and 30% reported being inactive (active for less than 30 minutes in the previous week).

It also reported that excessive alcohol intake is widespread; 40% of adults reported drinking above the guidelines on at least one day in the past week, including 24% who reported drinking more than twice the daily guidelines (sometimes termed binge drinking). However, people do not necessarily drink at these levels regularly.

---

\(^6\) Mayo Clinic
Aneurin Bevan University Health Board introduced the first adult weight management service in Wales in 2014. It allows all healthcare professionals to refer obese patients to a single point of access. The key features of the service include:

- patient centred care
- first fully integrated obesity pathway in Wales
- access for adults with a BMI greater than 30 who have previously tried a community weight loss programme
- a specialist multidisciplinary team of clinicians including dieticians, clinical psychologists, consultant physician, nurses, counsellors and support workers
- support for up to 12 months via a combination of groups (Slim for Life and emotional eating groups) and individual appointments with appropriate clinicians (dietitian, clinical psychologist or a multidisciplinary team).

Between January 2014 and March 2015, approximately 3,800 referrals have been received and 1,815 patients have accessed the service. Of these, 26.13% lost over 5% of their body weight. Over the past year counselling and psychological services have been implemented across Gwent as part of the service.
5.0 What is being done to raise awareness of the risk factors of heart disease?

Obesity and inactivity are both risk factors for the development of chronic conditions such as heart disease. The Welsh Government’s physical activity plan, ‘Creating an Active Wales’, aims to make physical activity a natural part of people's lives. This means creating an environment that:

- makes it easier for people to be more physically active
- supports children and young people to lead active lives
- encourages more adults to be more active, more often
- increases people's participation in sport.

There is good scientific evidence that being physically active can help people lead healthier and even happier lives. Regular physical activity can reduce the risk of many chronic conditions not only coronary heart disease, including type 2 diabetes, stroke, cancer, obesity, mental health problems and musculoskeletal conditions. Even relatively small increases in physical activity are associated with some protection against chronic diseases and an improved quality of life.

The Welsh Government launched Change4Life Wales in 2010 as part of a broader response to help people to achieve and maintain a healthy body weight, to eat well and be physically active. Change4Life Wales runs annual health campaigns focusing on and aiming to address smoking, obesity, healthy eating, physical activity and alcohol.

The Change4Life website offers guidance and support and encourages people in Wales to adopt healthy lifestyles and decrease their chances of developing a chronic illness. There is information available on diet and nutrition, physical activity and lifestyle. Welsh Government has produced guidance on the provision of healthier foods and drinks in leisure centres and youth work settings and have established community food co-ops across Wales which enables people to access good quality fruit and vegetables at affordable prices.

Over the past 12 months, Change4Life Wales has run campaigns aimed at sugar reduction, physical activity and alcohol awareness. The new Change4Life physical activity campaign 'Games4Life' was launched on 12 October 2015 focusing on encouraging families with children aged 5-11 years to become more physically active over the Autumn.

The Change4Life Wales campaign aims to encourage people to eat healthier, be more active and adopt other lifestyle choices which will make them happier. The “Don’t let drink sneak up on you” alcohol campaign targets people who may be unaware they are risking their health by drinking more than they should and also aims to change people’s perceptions about their drinking, getting them to realise that even though their drinking may not be anti-social, or affecting their day to day lives, it is affecting their health.
6.0 What is being done to make sure that heart disease is detected as early as possible?

It is important that systems are developed that ensure that those individuals at risk of heart disease can be identified and then supported to manage their condition. This will require a move to a more preventative, primary and community care led system.

There are a number of risk factors that primary care need to assess to determine whether or not a person may suffer from heart disease in later life. Lifestyle modifications are a major contributor to heart disease. There are, however, other risk factors that may not be immediately obvious and will require primary care support to identify and manage.

The adult congenital heart disease (ACHD) service for south Wales became operational in April 2015 with monthly clinics delivered in each health board in south Wales and a fortnightly ante-natal clinic at University Hospital Wales. This service is delivered by a newly appointed ACHD consultant, 2 clinical nurse specialists and an ACHD specialist cardiac physiologist. This development represents phase one of the ACHD service for south Wales, with a business case for phase two to be developed during 2016-17.

6.1 High blood pressure

High blood pressure is known as hypertension. When the pressure is too high, the heart has to pump harder than normal to keep the blood circulating. Hypertension that is not controlled increases your risk of heart failure.

The number of people with hypertension in Wales continues to rise. The number of patients registered with their GP with hypertension in Wales in 2014-15 was just over 498,500. This represents 15.6% of the population, an increase of just over 12,000 people in the last five years. The identification of hypertension creates a significant workload in primary care but is an extremely valuable opportunity to advise individuals of potential risks and to offer formal cardiovascular risk assessment.

It is important that people are supported to ensure that their blood pressure remains at recommended levels. For those with high blood pressure their condition needs to be managed and controlled and appropriate advice given.

In 2014-15 Wales had the highest percentage of people with high blood pressure (over 140/90) per population, and Northern Ireland the lowest in the UK. (Table 1).
Table 1: Percentage of patients in the UK with high blood pressure, 2014-15

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of patients with high blood pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>13.9%</td>
</tr>
<tr>
<td>Wales</td>
<td>15.6%</td>
</tr>
<tr>
<td>Scotland</td>
<td>13.9%</td>
</tr>
<tr>
<td>England</td>
<td>13.8%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>13.2%</td>
</tr>
</tbody>
</table>

Source: Quality Outcome Framework statistics for Wales, Scotland, England and Northern Ireland

Data from the quality and outcomes framework database highlights that 83% of patients with hypertension who had a blood pressure test (in the preceding 12 months) recorded levels of 150/90 mmHg or less. This indicates that 17% of those tested may not be managing their blood pressure as effectively as possible.

Risk of CHD is directly related to higher levels of both systolic and diastolic blood pressure. Small increases in blood pressure above the recommended levels can increase the risk of death from CHD. Both drug treatment and lifestyle changes can effectively lower blood pressure.

Individuals with high blood pressure need to be identified and given appropriate advice to ensure that their blood pressure is controlled and remains at the recommended level.

With regard to managing hypertension, figure nine shows that in 2014-15, of those that received a blood pressure test, 83.1% were reported as having blood pressure levels of 150/90 or less.

**Figure 9:** The percentage of patients with hypertension whose last blood pressure reading (in last 9/12 months) is 150/90 mmHg or less

Source: Quality and Outcome Framework statistics for Wales (in last 12 months for 2014/15).

---

7 Percentage of patients with high blood pressure as ‘Number of patients on GP hypertension register as a percentage of all registered patients.’

8 British Heart Foundation
The prudent healthcare approach encourages a balance between the medical model of care and recognition of the importance of lifestyle behaviours to minimise the risk of over medicalisation. The primary care plan is encouraging greater coordination of community services to ensure that access to smoking cessation, alcohol management, dietary advice and exercise programmes is improved.

6.2 Diabetes

Diabetes occurs when the body can not use glucose properly, either due to a lack of the hormone insulin, or because the insulin produced does not work properly. Diabetes puts extra strain on a person's heart, increasing the risk of heart failure. People with diabetes tend to be overweight and have high blood pressure and high cholesterol, which also increase the risk of developing heart failure. Diabetes substantially increases the risk of CHD.

The number of people with diabetes in Wales is increasing. In 2014-15, 183,348 adults aged 17 or over were registered with their GP as having diabetes. This is 6,136 more people than in 2013-14, an increase of 3%. Figure 10 clearly shows the growth in the number of adults diagnosed with diabetes.

![Figure 10: Number of patients in Wales registered as diabetic with their GP](source: quality and outcomes framework - Wales)

Since 2010-11, there has been an average rise of around 3% each year in the number of people registered with their GP as having diabetes. Between 2010-11 and 2014-15, almost 23,000 additional people in Wales were registered with their GP, an increase of 14%.

Wales has a higher percentage of people aged 17 and over with diabetes (7.1%) than Northern Ireland (5.6%), Scotland (4.9%) and England (6.4%).

---

9 Stats Wales
This means that more than 183,000 adults in Wales have diabetes. If trends continue then it is estimated that this number will rise to almost 288,000 people by 2025.\textsuperscript{10}

### 6.3 Ensuring access to echo cardiogram diagnostic tests

Following successful outcomes from the echo diagnostic clinic originally set up in 2007, in the north west of Wales, plans were developed by the North Wales Cardiac Network to roll out community diagnostic clinics to other areas across Betsi Cadwaladr University Health Board with access to NTproBNP testing for primary care practitioners. There are now 11 community sites operating the heart failure diagnostic clinics.

The clinics are primarily run by the clinical physiologists; with remote support and advice on the diagnosis and clinical management from the GP with a special interest. All patients are given their results on the same day. Patients with LV systolic dysfunction in particular are given an explanation of their diagnosis, a British Heart Foundation booklet and heart failure checklist, then directly referred to the heart failure team in that area. A management plan is sent to the GP usually within a week with any medication suggestions. Patients are usually given a copy of their heart scan clinic report.

Figure 11 indicates that since January 2015, there has been an overall decrease in the percentage of patients waiting over eight weeks for cardiology diagnostic tests (echo cardiogram tests and stress tests). In January 2015, over 34% of waiting patients were waiting over 8 weeks for cardiology diagnostic tests; by March 2016 this has reduced to less than 7%. NHS Wales is working to reduce these timescales, with a view to ensuring that waiting lists for diagnostic tests meet the standard of eight weeks or less.

GP Dr Graham Thomas at Betsi Cadwaladr University Health Board is working with heart failure nurse specialist Viki Jenkins to develop a mobile care package for heart patients in Gwynedd and Anglesey, including the provision of echocardiography.

The vision was to expand the scope of the nurse specialist to become accredited in echocardiography. As a result, Viki is undertaking a two year training programme to build her clinical skills and theoretical knowledge base to become BSE (British Society of Echocardiography) accredited. The training is provided in-house by BSE accredited cardiac physiologists and trainers. Once accredited, Viki will further develop the nurse led service to expand the rapid assessment, diagnosis, treatment and health information for patients with suspected cardiac problems in a one-stop mobile clinic.

\textsuperscript{10} AHPO diabetes prevalence model: http://bit.ly/aphodiates

21
People with familial hypercholesterolaemia (FH) generally have no clinical signs or symptoms for raised cholesterol. FH severely raises levels of LDL cholesterol which in turn can lead to heart disease and stroke. Roughly half of men with FH, if untreated, will develop heart disease by the age of 55, and one third of women by the age of 60. Early treatment with statins and lifestyle changes can help to lower the risk of heart disease and improve life expectancy, as well as generating long-term savings for the NHS.

In Wales, it is estimated that there are thousands of undiagnosed cases of people who have raised cholesterol and may be classified as having FH.

The all Wales FH cascade testing service was set up based on the recommendations in NICE’s clinical guidelines, with the aim of identifying the many thousands of undiagnosed cases of FH in Wales. The team used a combination of cascade testing and a records search using pathology records, as well as educational programmes, to increase detection rates.

The new service commenced in January 2013, and there has been an increase in the number of patients assessed from 775 in 2013-14 to 1,623 in 2014-15. This is 65% higher than the expected number of assessments up to 31st March 2015.
6.4 Cardiovascular risk assessment

The aim of the Inverse Care Law Programme is to improve the life and healthy life expectancy for those areas with the highest levels of deprivation. It is seeking to do this by reducing premature mortality and emergency admissions from cardiovascular disease by improving the identification and management of cardiovascular risk factors.

Three implementation groups - the Heart Disease Implementation Group, the Stroke Implementation Group and the Diabetes Implementation Group - are all supporting this national programme for cardiovascular risk assessment delivery.

Aneurin Bevan University Health Board and Cwm Taf University Health Boards have led on the development of this work, based on the learning from the implementation of their CVD risk assessment programmes. The aim is to have activity in every health board area by 2018.

Following the launch and implementation of the Aneurin Bevan University Health Board ‘Living Well Living Longer’ cardiovascular disease risk assessment programme in February 2015, over 5,000 individuals across two cluster areas have attended for their health check.

Individuals are invited to book their 45 minute appointment, between 8:00am to 6:30pm, in a range of local community venues, including leisure centres, libraries, and community halls.

Supported by customised software, peripatetic healthcare support workers deliver an in-depth CVD risk assessment, including clinical point of care testing and lifestyle behaviour review, calculating personalised diabetes risk score, CVD risk score for the next ten years and heart age. All tests, questions and results are explained in detail increasing understanding and health literacy, and all those participating receive a copy of their personal health results.

Brief intervention and motivational interviewing techniques are used, supporting the individual to identify goals where improvements can be made to reduce their risk of CVD and demonstrate the impact on their current heart age and CVD risk score.

The results are transmitted to GP systems, updating patient records within 24 hours. This will include the dates where clinical triggers will indicate further GP intervention.

5,000 attendees post health check identified their own goals as follows:

- 41% weight management;
- 20% increase physical activity;
- 17% improve cholesterol;
- 8% (of total attendees) stop smoking
- 7% reduce alcohol consumption;
- 7% reduce blood pressure.

30% of citizens attending for their health check were found to have previously undiagnosed health issues. These were clinically referred for further GP intervention. GP practices are supported by a local enhanced service to support identified patients.
Ambulatory blood pressure monitors and CPD training have also been provided to support GP practices.

2% of attendees were identified as high risk of CVD in the next ten years, and referred to their GP for clinical intervention; 14% were identified as increased risk and given direct referrals to lifestyle support services; and 84% identified as low risk were provided with advice, information and support to maintain and further reduce their risk of CVD.

Direct onward referrals to lifestyle support services were as follows:

- 30% smokers - Stop Smoking Wales
- 240 - national exercise referral scheme
- 106 - adult weight management referrals
- 14 - Gwent drug and alcohol service
- 11 - expert patient programme.

6.5 Reducing emergency admissions

As NHS Wales becomes better at preventing or diagnosing heart disease, we would expect there to be fewer admissions to hospital. Reviewing the number of emergency admissions to hospital for CVD and CHD gives us a feel as to how effective the NHS is with regard to preventing heart disease.

Figure 12 shows the number of emergency admissions for CHD has fallen by 20% over the past five years to 8,983 admissions. The number of emergency admissions for CVD has risen slightly over the past five years by 4%, but between 2014 and 2015 has decreased by 786 emergency admissions, from 26,025 to 25,239.

**Figure 12:** Emergency admissions for cardiovascular and coronary heart disease - all persons, all ages, Wales

Source: NHS Wales Informatics Service (NWIS)
7.0 Will I need to go to hospital for treatment?

The aim of the heart disease strategy is to ensure that wherever possible, patients are treated within the community and primary care rather than going to hospital. In the last decade treatment has changed dramatically, with considerable increases in the number of prescriptions dispensed for antiplatelet drugs to counter the medical risk factors of CVD. In 2015, 23.5million\textsuperscript{11} prescriptions were issued for the treatment and prevention of CVD in Wales, the costs of these prescriptions was £65.7 million.

On 1 April 2015 the transfer of the complex cardiac device implantation service from Cardiff and Vale University Health Board to Cwm Taf University Health Board took place. This service now supports patients to be treated nearer to home.

However there will be a need for medical interventions, and the use of surgical coronary interventions, which improve survival rates after a CHD event, have become more commonplace. The challenge to the NHS is to ensure that patients in every area of Wales get the most cost-effective and appropriate service that meets their needs.

7.1 How long will I have to wait for my treatment?

If a patient does require treatment within hospital, then the NHS aims to assess and treat patients as promptly as possible. NHS Wales is working to achieve waiting time targets. It is important that these improvements are sustainable and lead to system changes. Improving patient pathways using appropriate service improvement methodologies will improve patient experience. The Welsh Government is committed to listening to patients and clinical experts to ensure future targets reflect best practice.

In Wales, patients with heart disease are monitored within the 26 week referral to treatment (RTT) target. This means that 95% of patients should wait for treatment no longer than 26 weeks from referral by a GP. The Welsh Government expects the waiting time targets to be met and sustained on a consistent basis.

\textsuperscript{11} StatsWales - Prescriptions dispensed in the community in Wales, 2015
The 95% RTT target was last achieved for cardiac patients in April 2012. In January 2015 89% of patients were waiting less than 26 weeks, while in March 2016 this had increased to 93%. There is now an increased focus within health boards to ensure that this target is achieved.

Cardiff and Vale University Health Board has introduced an e-referral system and an e-advice system within cardiology. These are designed to improve communication with primary care and reduce new referrals. A new nurse led cardioversion clinic has been established as well as a physiologist led palpitations clinic, designed to provide an alternative to consultant clinics. Investment has been made into additional clinic activity to ensure that outpatient waiting times have been reduced.

Locum consultants have been appointed to ensure that utilisation of available capacity is maximised. Work has been ongoing throughout the last year to deliver an increased contract for cardiac surgery, with the ultimate aim of providing 1.5 additional operating days each week. A new list on alternate weeks has been introduced and work remains ongoing to staff a further weekly list. In the mean time, Saturday operating has been introduced to deliver this additional activity. A new High Dependency Unit has been developed to support this additional work and this will open in 2016.

NHS Wales has been working with the Welsh Health Specialised Services Committee (WHSSC) to ensure that all patients have improved outcomes by reducing waiting times for cardiac surgery in South Wales. This strategy has been effective:

- The maximum waiting times target that no patients should wait longer than 36 weeks from referral to treatment was achieved for cardiothoracic surgery in both Cardiff and Vale University Health Board and Abertawe Bro Morgannwg University Health Board at the end of 2014-15.

Source: Welsh Government

Figure 13: Percentage cardiac referral to treatment, within 26 weeks, all Welsh residents

Source: Welsh Government

Includes cardiology and cardiothoracic surgery and non-Welsh providers
- In 2015-16, this target was maintained for cardiothoracic surgery in both of these health boards for the vast majority of patients, as shown in figure 14. There were a very small number of exceptions where particular circumstances led to patients waiting longer.
- Due to the improved waiting times, the number of patients treated as elective patients admitted from home increased, and the number of patients treated as in-patients decreased. This is better for patients who spend less time in hospital, and better for the health service which can use its beds more efficiently and to the benefit of a greater number of patients.
- During 2015-16, building work commenced to enhance cardiac intensive care capacity at Morriston Hospital. This work is scheduled to complete in the summer 2016, with the first patients admitted to the new facility from early September. This extra capacity will ensure the cardiac surgery service at Abertawe Bro Morgannwg University Health Board is able to sustainably meet patient need for the mid and west Wales population.

**Figure 14:** Number of patients waiting over 36 weeks for cardiothoracic surgery at Welsh provider health boards

*Source: Welsh Government Statistics*

Figures from the Society for Cardiothoracic Surgery showed the cardiac unit at University Hospital of Wales within Cardiff and Vale University Hospital (UHW) had a survival rate of 98.67%. It was placed with Southampton and Papworth as the three best-performing. The figures, from April 2011 to March 2014, showed the rate at Morriston Hospital, Swansea, was also doing well against the UK average of 97.7%.
7.2 What happens if I have a heart attack?

Acute ST-elevation myocardial infarction (STEMI) is a type of heart attack in which one or more of the coronary arteries (blood vessels supplying blood to the heart), becomes blocked by a blood clot (coronary thrombus). This blood clot cuts off the supply of oxygen to the heart muscle behind it, which if not treated quickly, can result in partial or complete damage to the affected area of the heart, and/or death.

A non-ST segment elevation myocardial infarction (Non STEMI) is a type of heart attack that does not show a change in the ST segment elevation on an electrocardiogram and that results in less damage to the patient's heart. As with STEMI the heart muscle is also at risk but there is time to improve things non invasively. Such patients need prompt admission to hospital and early medical therapy with transfer to a heart attack centre (for NSTEMI this includes Royal Gwent) for angiography and revascularisation within 96 hours.

The signs and symptoms commonly associated with acute STEMI include sudden onset of central chest pain, often described as crushing or as a heavy weight, breathlessness, profuse sweating and nausea. Paramedics provide a crucial role in the early identification of STEMI, because the condition is most commonly detected through the use and interpretation of 12-lead electrocardiogram (ECG). ST-elevation on the ECG usually indicates complete blockage of a coronary artery and immediate action is required to unblock the affected artery.

Acute management of STEMI can include immediate transfer to hospital for primary percutaneous coronary intervention (PPCI), or, if indicated, pre-hospital or in-hospital thrombolysis. PPCI is the preferred and most effective treatment available, so pre-hospital management is focussed on early identification and transfer to hospital. Thrombolysis (administration of a clot-buster) may be provided as an initial treatment for patients whose journey to a PPCI centre may exceed 90-minutes. As a consequence of the development of PPCI services in Wales, the number of patients eligible for pre-hospital thrombolysis is and will continue to decline.

The primary objective of the new clinical model is to provide an ambulance service for Wales which is clinically focussed and provides high quality care when it is needed. Historically the quality of ambulance services care has been measured by the length of time it takes to drive to an incident; these standards were first developed in 1974. Ambulance services today provide much more sophisticated levels of care. Time based measures, in isolation, do not reflect clinical need or effectiveness of care delivered in terms of patient outcomes.

The correct clinical response for a patient having a heart attack is to dispatch an emergency ambulance with at least one paramedic on blue lights and sirens to assess, treat and convey the patient to a PPCI unit. Under the previous clinical model the nearest, not necessarily the right response, would have been sent. If this was a rapid response vehicle, the paramedic would then have to call for an emergency ambulance to convey the patient. This introduces a delay in reaching a definitive treatment centre.

Ambulance services need to ensure delivery of rapid assessment and treatment for patients experiencing this type of heart attack, as this is crucial to the cardiac care pathway.
The pre-hospital STEMI care bundle requires that all STEMI patients should in addition to a 12-lead ECG, receive aspirin, GTN, two pain scores and analgesia as part of their package of care. Compliance to the provision of the individual components of the care bundle ranges from 82.6% to 90.6% for the period October 2015 to March 2016. Compliance against the combined bundle for the same period was 65.5%, which is an improvement on 55% reported from April 2014 to December 2014. It should be noted that the combined bundle performance is reliant on all elements of care being provided to each patient, so must therefore be interpreted alongside the percentage compliance for the individual elements of the bundle.

As part of the clinical modernisation strategy, WAST has invested over five million pounds in new state of the art defibrillator/monitors which are now on all emergency ambulance vehicles. These new devices will support an enhanced level of care for patients, particularly those with cardiac-related symptoms, because the ECGs recorded by paramedics at the scene, can be sent directly to the cardiac team in the PPCI lab, via secure internet technology.

Source: Welsh Ambulance Service Trust

Figure 15: Compliance against the STEMI clinical indicators

Aspirin  GTN  2 Pain Scores  Analgesia  Care Bundle

Source: Welsh Ambulance Service Trust
7.3 How quickly will I receive treatment following a heart attack?

Evidence\textsuperscript{13} suggests that 80\% of patients suffer cardiac arrest at home and 20\% in public places. Improved outcomes occur with early resuscitation in the community and the early use of a defibrillator. Guidelines recommend that patients be considered for emergency or urgent angiography and PCI where appropriate.

The Myocardial Ischaemia National Audit Project (MINAP) is managed by the National Institute for Cardiovascular Outcomes Research (NICOR) and is one of the largest registry databases in the world. It collects data on the patient heart attack pathway from call for help to intervention for acute coronary syndrome (ACS) patients admitted to hospital. This includes both ST-segment elevation myocardial infarction (STEMI) patients, non-STEMI (NSTEMI) and unstable angina diagnoses.

National and international guidance recommend that in the emergency treatment of patients with STEMI, primary PCI should be performed within 90 minutes of arrival at the primary PCI centre (door-to-balloon time) and within 150 minutes of a patient’s call for help (call-to-balloon time).

The sooner a patient receives this treatment, the better the outcome. The use of primary PCI continued to increase in 2013-14. In Wales 79.5\% patients had primary PCI compared to 72\% in 2012-13. There was an increase in direct admissions from 457 in 2012-13 to 663 in 2013-14.

The proportion of patients receiving primary PCI within 90 minutes continues to rise in Wales - 87\% of eligible patients were treated within 90 minutes in 2013-14 compared to 85\% in 2012-13.

\textsuperscript{13} National Audit of Percutaneous Coronary Interventions Annual Report 2015
The call-to-balloon time is the interval from a call for professional help to the time that the primary PCI procedure is performed. It is largely a shared responsibility of the relevant ambulance service and the admitting hospital.

Usually all patients with a diagnosis of STEMI confirmed by a paramedic crew are taken directly to a Heart Attack Centre. This however is not always possible, particularly where there is diagnostic uncertainty, or in remoter parts of the country. In Wales in 2013-14 75% out of 424 eligible patients were treated within 150 minutes (and 52% within 120 minutes) compared to 70% in 2012-13.

Patients with non-STEMI have a smaller risk of death within the first month after their heart attack. The performance of angiography and coronary intervention soon, and within the first 2-4 days, is a key element of treatment for the majority of these patients. Ideally, admission should be to a cardiac facility where nursing staff have cardiac nursing expertise and there is easy access to cardiological advice. In 2013-14 in Wales:

- 66% of non STEMI patients reported to MINAP were admitted to a cardiac unit or ward in Wales
- 85% of non STEMI patients were seen by a cardiologist or member of their team
- 80% of non STEMI patients were referred for or had angiography
- 11% of non STEMI patients undergoing angiography do so within 24 hours of admission, and 41% do so more than 96 hours after admission.

7.4 How long will I need to stay in hospital for?

It is hard to estimate how long each person will need to recover after being admitted to hospital with heart disease, or after an operation. Figure 16 below gives an indication of the average number of days a person typically spends in hospital.

Patients who are admitted for a percutaneous coronary intervention (PCI) typically spend less than four days in hospital following the intervention. PCI (sometimes called angioplasty with stent) is a non-surgical procedure that uses a catheter (a thin flexible tube) to place a small structure called a stent to open up blood vessels in the heart that have been narrowed by plaque build up.

Those suffering from either CVD or CHD typically spend longer in hospital.
Figure 16: Average length of stay

Source: Patient Episode Database Wales, NHS Wales Informatics Service
8.0 Living with heart disease

The number of people living with heart disease as a chronic condition has increased in recent years in line with improving treatments and survival rates. Some of these individuals may have complex and ongoing physical, psychological and social needs. It is important that NHS Wales can effectively manage the side effects of treatment, ensuring that patients remain out of hospital, unless absolutely necessary. This will have significant benefits for improving patient outcomes and quality of life.

We need to ensure that NHS Wales have appropriate levels of cardiac rehabilitation and community-based self care education support.

People need to take active steps to manage their own health through self care. This means they will need to take responsibility for their own health and wellbeing with support from the people involved in their care. A healthy diet and regular physical activity can help improve symptoms and help prevent other conditions. Giving up smoking can improve your overall health, prevent further damage to your lungs, and reduce the risk of serious conditions such as cancer.

The target for smoking cessation was introduced in April 2013 to reduce the prevalence of adult smoking to 20% by 2016 and 16% by 2020. This requires 5% of smokers to be treated with the support of NHS smoking cessation services, with at least a 40% co-validated quit rate at 4 week follow-up.

Performance so far has been disappointing with no health board yet treating 5% of their smoking population and less than half achieving the 40% co-validated quit rate in 2014-15 and in the first three quarters of 2015-16. However there have been some improvements in performance most notably at Betsi Cadwaladr University Health Board with 3.6% of the population being treated with the support of NHS smoking cessation services in 2014-15.

All health boards have recently introduced community pharmacy smoking cessation services. The majority also have a hospital based smoking cessation service and all are considering or have introduced specialist services for pregnant women.

8.1 Will I need to take medication?

It is very important that a person take any prescribed medication, even if they start to feel better. Some medicines are designed to protect or heal the heart, as well as preventing or delaying the symptoms getting worse. Taking secondary prevention drugs after an acute heart attack reduces the risk of death and further heart attack following discharge from hospital.

The proportion of patients who survived to be discharged and who received all the drugs for which they were eligible was 88% in England, 73% in Wales and 94% in Belfast.
8.2 Do I need to have a flu vaccination?

Everyone with heart failure is encouraged to get a yearly flu jab each autumn to protect against flu (influenza)

Some people may be more likely to develop potentially serious complications of flu, such as bronchitis and pneumonia. The following are classed as “at risk” and therefore should have an annual flu jab:

- aged 65 or over
- pregnant
- have certain medical conditions including heart disease
- are very overweight
- are living in a long-stay residential care home or other long-stay care facility
- receive a carer's allowance, or are the main carer for an elderly or disabled person whose welfare may be at risk if you fall ill
- are a front-line health and social care worker.

Figure 17 highlights the improvements which have been made amongst many of the at risk group. However there is still a lot to do to ensure those individuals aged under 65 and at risk actually have the flu vaccination. The uptake amongst this group is around 50% each year, considerably below the target of 75%.

Figure 17: Uptake of the flu vaccination amongst at risk groups in Wales (75% target)

[Bar chart showing flu vaccination uptake from 2010-11 to 2014-15]

Source: Public Health Wales Health Protection Division

GPs are the main provider of flu vaccinations. Community pharmacies support those individuals who are less than 65 years of age in at risk groups and those who do not routinely get vaccinated. Health boards are identifying and building on examples of good practice, where GP practices and their community pharmacy partners have worked collaboratively, to develop a coordinated approach that strengthens local arrangements and improves coverage. Community pharmacies have discretion to immunise individuals aged 65 years or over if they consider they are unlikely to visit their GP for vaccination.
8.3 What is cardiac rehabilitation?

Cardiac rehabilitation is most often offered to people who have had a heart attack, coronary angioplasty, or bypass surgery. It can also be helpful if someone has had an implantable cardioverter defibrillator (ICD) fitted, or have stable heart failure, stable angina, cardiomyopathy or congenital heart disease.

Cardiac rehabilitation helps people learn how to manage their heart condition in the long term and how to reduce risks as much as possible.

A good cardiac rehabilitation programme will always consider what individual needs are, how those can be met and how to support a person to enjoy the best possible health in the future. Cardiac rehabilitation programmes will help:

- in understanding the condition
- recovery from surgery, procedure or heart attack
- to make changes to your lifestyle that will help improve your heart health
- reduce the risk of further heart problems.

Cardiac rehabilitation starts as soon as a person goes into hospital for heart surgery or treatment, or after they have had a heart attack. A patient will normally be visited by a member of the cardiac rehabilitation team whilst on the ward to provide information about the condition, the treatment that has taken place and the recovery. This will support a person to get back to their usual activities as soon as possible. The cardiac rehabilitation programme should start about four to eight weeks after leaving hospital.

A cardiac rehabilitation programme will reduce risk factors, protecting a person’s heart and long-term management of their condition. This will include ways to improve lifestyle, such as diet, and stopping smoking and physical activity. It also involves exercise sessions.

Uptake of cardiac rehabilitation in Wales has increased to 42% in 2014-15 (up by 4%) which is primarily a consequence of a 17% increase in uptake in CABG (coronary artery bypass grafting) patients which meant that 180 extra patients attended cardiac rehabilitation. There was a 6% and 5% increase in MI+PCI and PCI patient groups respectively in 2014-15. Despite this increase, this remains below the UK uptake rate of 47% and the “agreed” standard\textsuperscript{14} of 60%.

The cardiac rehabilitation uptake of 38% ranges from 18% for post myocardial infarction (MI) to a highly successful 85% for MI+PCI and CABG. The procedures for recruiting patients following MI+PCI and CABG are obviously working well and should be applied to post MI and elective PCI patients to overcome the much lower uptake to cardiac rehabilitation from these groups. The low uptake in patients following MI (18%) and elective PCI (35%) is of particular concern. NHS Wales will be expected to make improvements in this area over the next 12 months.

\textsuperscript{14} The National Audit of Cardiac Rehabilitation Annual Statistical Report 2014
There is guidance from NICE (National Institute of Clinical Excellence) that cardiac rehabilitation should start within 28 days of referral for most patients following post MI medical management and PCI. The timeframe for patients undergoing CABG is just over seven weeks or 50 days. Figure 19 shows that patients are waiting too long before starting cardiac rehabilitation.

For the majority, the outcome from attending a programme translated into improvements in exercise status, psychosocial well-being, blood pressure and cholesterol control and health related quality of life specifications.
The National Exercise Referral Scheme has worked with local leisure service to ensure that there is easy transition from formal rehabilitation services to regular use of local services to maintain these improvements.

A nurse led coronary re-vascularisation clinic has been established in Cwm Taf University Health Board. The service is delivered by experienced cardiac rehabilitation specialist nurses at both acute sites, providing equitable access to prompt high quality follow up for the uncomplicated cardiac patient following coronary revascularisation by PCI or CABG. This has resulted in reduced input required from the consultant team, allowing them to focus on new and complex patient referrals. There have been reduced patient waiting times for both general cardiology follow up and the rapid access chest pain service allowing the health board to improve performance. The service also avoids duplication of care as a large majority of patients are also receiving cardiac rehabilitation as part of their treatment pathway. This promotes prudent healthcare and utilises services in the most efficient manner.
9.0 Why should I participate in clinical research?

There is good evidence that treatment centres involved in clinical research achieve better outcomes for their patients. Advances in research can improve quality of life, influence patient care, and save resources. Research is critical to effective heart care.

![Figure 20: Recruitment to Cardiovascular Health and Care Research Wales Clinical Research Portfolio Studies](chart)

Source: Health and Care Research Wales Clinical Research Portfolio (CRP) Cardiovascular Recruits 2015-16

It is encouraging to see in figure 20 that the number of individuals recruited to Health and Care Research Wales cardiovascular trials increased by over 1,000 people in 2015-16 (1,817) compared to the previous year (773). This increase is predominantly due to increased activity at Abertawe Bro Morgannwg University Health Board who recruited 984 patients to an arrhythmia trial.

Cardiologists at Aneurin Bevan University Health Board are contributing to three multi centre, international, randomised clinical controlled trials which commenced in 2015:

- Paradigm Extension and Paragon (assessing a novel treatment in systolic and diastolic heart failure)
- Ensure AF (comparing a direct oral anti-coagulant with Warfarin prior to cardioversion)
10.0 Conclusion: looking ahead

We have made progress in improving the care of people with a heart condition in Wales over the last 12 months. We will continue to strive to achieve more in the future. This is a tribute to all those involved in the planning and delivery of this important area. This includes staff in the NHS and those in other parts of the public sector. We must also acknowledge the invaluable work of the community and voluntary sector.

In several areas, we have performed well and seen progress in many of our performance measures. We will continue to assess our progress to ensure that we are delivering the best possible care across Wales.

Innovative projects such as the development of the familial hypercholesterolemia programme, community cardiology, enhanced cardiovascular risk assessment, the adult congenital heart disease service in south Wales, direct access for primary care to diagnostics, nurse led diagnostics, and e-referral and e-advice systems have all been supported by NHS Wales resulting in improved outcomes for patients.

As the national delivery plans have progressed in their implementation, several other plans contain elements intended to impact positively on cardiovascular health. This includes the respiratory delivery plan which focuses on smoking cessation, the stroke delivery plan with a focus on blood pressure control, and the diabetes delivery plan which has a focus on healthy lifestyles.

Heart disease remains a high priority for the Welsh Government and health care economies across Wales. The two cardiac networks work with Welsh Government and collaboratively with a wide range of stakeholders across geographical and organisational boundaries to support the planning and implementation of improved quality and safety of care, and cardiac outcomes and experiences across Wales, within a once for Wales and prudent healthcare approach. The move to a single cardiac network for Wales within the coming year will result in a strengthened resource which will allow it to do all that is possible to continue to deliver services for people with heart disease and build upon this to deliver both improvements in health outcomes and transformational change.

In next year’s annual report we will look back at how we have progressed during the year.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHD</td>
<td>Adult Congenital Heart Disease</td>
</tr>
<tr>
<td>AED</td>
<td>Automated External Defibrillator</td>
</tr>
<tr>
<td>CABG</td>
<td>Coronary Artery Bypass Grafting</td>
</tr>
<tr>
<td>CHD</td>
<td>Coronary Heart Disease</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td>ECG</td>
<td>Electrocardiogram</td>
</tr>
<tr>
<td>ESP</td>
<td>European Standardised Population</td>
</tr>
<tr>
<td>GTN</td>
<td>Glyceryl Trinitrate</td>
</tr>
<tr>
<td>LHB</td>
<td>Local Health Board</td>
</tr>
<tr>
<td>MI</td>
<td>Myocardial Infarction: heart attack</td>
</tr>
<tr>
<td>MINAP</td>
<td>Myocardial Ischaemia National Audit Project</td>
</tr>
<tr>
<td>NISCHR</td>
<td>National Institute for Social Care and Health Research</td>
</tr>
<tr>
<td>nSTEMI</td>
<td>not STEMI: less serious MI</td>
</tr>
<tr>
<td>NWIS</td>
<td>NHS Wales Informatics Service</td>
</tr>
<tr>
<td>PACS</td>
<td>Picture Archiving and Communications System</td>
</tr>
<tr>
<td>PCI</td>
<td>Percutaneous Coronary Intervention</td>
</tr>
<tr>
<td>PEDW</td>
<td>Patient Episode Database for Wales</td>
</tr>
<tr>
<td>PPCI</td>
<td>Primary Percutaneous Coronary Intervention</td>
</tr>
<tr>
<td>QOF</td>
<td>Quality and Outcome Framework</td>
</tr>
<tr>
<td>ROSC</td>
<td>Return of Spontaneous Circulation Care</td>
</tr>
<tr>
<td>RTT</td>
<td>Referral to Treatment Time: target waiting time</td>
</tr>
<tr>
<td>STEMI</td>
<td>Myocardial Infarction with ST-segment Elevation: serious MI</td>
</tr>
<tr>
<td>WHSSC</td>
<td>Welsh Health Specialised Services Committee</td>
</tr>
</tbody>
</table>