



Module name: Introduction to public health

Module code: LCHS4008

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Table of contents

Introduction.....	3
Main body - Measuring and monitoring coronary heart disease...	3
Controlling coronary heart disease.....	4
Consequences for people and communities.....	5
Health and social care support.....	6
Conclusion.....	7
References.....	8

Introduction

Coronary heart disease (CHD) is a long-term condition in which the coronary arteries become narrowed or blocked by fatty deposits. This process, called atherosclerosis, reduces blood flow and oxygen to the heart and can eventually cause a heart attack. CHD is therefore both an individual health problem and a major public health concern. Common symptoms include chest pain (angina), breathlessness and tiredness. Chest discomfort may spread to the arm, neck, jaw, back or stomach, although some people have no symptoms before diagnosis (NHS, 2024a).

The scale of the problem is substantial. Cardiovascular diseases (CVDs), which include CHD, caused an estimated 19.8 million deaths worldwide in 2022 and accounted for about 32% of global deaths (World Health Organization, 2025). In England, around 1.9 million people had a recorded GP diagnosis of CHD in the year ending March 2025 (Office for Health Improvement and Disparities, 2025). These figures demonstrate that CHD remains a serious health issue despite improvements in prevention and treatment.

It is also important to recognise that CHD can affect people differently depending on their age, lifestyle, family history and wider living conditions. Understanding these differences helps health professionals identify people who may be at greater risk and provide suitable prevention, treatment and support appropriately within the community over time.

Main Body

Measuring and monitoring coronary heart disease

Public health professionals use several measures to understand CHD. Incidence records new cases over a period, while prevalence shows how many people are living with the condition. Mortality measures deaths, and hospital admission data show the pressure CHD places on acute services. Using these measures together gives a more complete picture than using one measure alone.

UK monitoring demonstrates why this approach is useful. In England, CHD hospital admission rates fell by 46% between the financial years ending March 2005 and March 2025. However, the highest local-authority admission rate in 2024/25 was 696.5 per 100,000, compared with 215.3 per 100,000 in the lowest area. This is more than a threefold difference (Office for Health Improvement and Disparities, 2025). The data suggest that national improvement does not mean that all]

communities are benefiting equally. This is important for service planning because national averages can hide local inequalities.

Risk factors are also monitored. These include smoking, high blood pressure, high cholesterol, physical inactivity, obesity and diabetes. GPs can assess a person's medical and family history, blood pressure, cholesterol and lifestyle. Further investigations can include an ECG, echocardiogram, CT scan, MRI, blood tests or coronary angiography (NHS, 2024b). These approaches measure different aspects of the condition: population statistics show patterns across communities, while clinical tests help identify problems in individual patients.

However, the data have limitations. Prevalence may rise because people are surviving longer with CHD, rather than because more people are developing it. Similarly, hospital admission figures reflect access to services as well as illness. Therefore, valid public health judgements require several sources of evidence to be interpreted together. The use of local profiles by OHID is particularly valuable because it allows commissioners to compare outcomes and identify inequalities when planning services (Office for Health Improvement and Disparities, 2025).

Controlling coronary heart disease

CHD is generally managed rather than cured. Effective control involves prevention, early identification, lifestyle changes, medication and, for some patients, invasive treatment. The first approach is reducing modifiable risk factors. People can reduce their risk by stopping smoking, eating a balanced diet, being physically active, maintaining a healthy weight and controlling blood pressure and cholesterol (NHS, 2024c).

Medication is also important. Statins can reduce cholesterol, while antiplatelet medicines can reduce the risk of blood clots. Other medicines can lower blood pressure or reduce the heart's workload. For people whose symptoms cannot be controlled adequately, coronary angioplasty and stent placement may improve blood flow; some patients may require coronary artery bypass surgery (NHS, 2024d).

A strong public health approach should not, however, place all responsibility on individuals. The WHO identifies unhealthy diet, physical inactivity, tobacco use, harmful alcohol use and air pollution as important cardiovascular risk factors (World Health Organization, 2025). People's ability to make healthier choices can also be affected by income, housing, education, employment and the availability of healthy food and safe places to exercise. Therefore, prevention should combine individual education with population-level action.

Early detection is another important control measure. Identifying high blood pressure or high cholesterol before a serious event occurs creates an opportunity for intervention. This is more effective than waiting until a person requires emergency treatment. However, access and engagement remain important problems. If people do not attend health checks or cannot easily access services, opportunities for early intervention may be missed.

Consequences for people and communities

The effects of CHD extend beyond the heart. Symptoms may limit a person's ability to work, exercise, travel or complete everyday tasks. Following a heart attack, some people may experience reduced confidence or worry about having another event. This can affect mental wellbeing and social participation.

CHD can also affect family members. Relatives may provide practical or emotional support, particularly when an individual becomes less independent. This can create additional responsibilities for unpaid carers. Financial effects can occur when illness causes absence from work, reduced working hours or early retirement.

At community level, CHD creates demand for GP appointments, medicines, emergency care, hospital treatment and rehabilitation. Preventing avoidable

cardiovascular events can therefore benefit both individuals and the health service. The reduction in England's CHD hospital admission rate since 2005 suggests that prevention and treatment have contributed to progress, but the large differences between local areas show that further action is needed (Office for Health Improvement and Disparities, 2025).

Health inequalities are particularly important. Differences in cardiovascular outcomes between communities indicate that health is influenced by more than personal behaviour. A public health response should therefore target communities experiencing greater risk rather than offering exactly the same intervention to everyone. This could include accessible health checks, smoking cessation support, affordable healthy-food initiatives and community-based physical activity.

Health and social care support

People with CHD may need support from several professionals. GPs and practice nurses can assess risk, monitor blood pressure and cholesterol, prescribe medicines and provide health education. Cardiologists provide specialist assessment and treatment when symptoms or test results indicate more complex disease.

Cardiac rehabilitation is particularly important after a heart attack or cardiac procedure. It can support physical recovery, encourage healthier behaviour and help people regain confidence. Dietitians can provide personalised dietary advice, while smoking cessation services can help people stop smoking. These services demonstrate the value of multidisciplinary care because CHD has several interacting risk factors.

Social care may become necessary when CHD affects independence. Some people may need help with shopping, meal preparation, personal care or household tasks. Family carers may also require information and support. Effective care should therefore consider the person's physical, emotional and social needs rather than focusing only on medical treatment.

A major challenge is accessibility. Transport difficulties, financial pressures, health literacy, language barriers and lack of awareness may prevent some people from

using services. A wholly appropriate response would be integrated, person-centred care, with health and social care professionals communicating effectively and involving individuals in decisions. Community services should also be designed around local need, using population data to identify groups at greater risk.

This approach is supported by the evidence. The WHO states that many CVDs can be prevented through action on behavioural and environmental risk factors and that early detection allows counselling and medicines to begin sooner (World Health Organization, 2025). Therefore, prevention and early intervention should be considered alongside treatment, rather than as separate activities.

Conclusion

CHD remains a major public health issue because it can cause premature death, long-term illness, reduced independence and pressure on families and health services. Worldwide and UK evidence demonstrates a substantial burden, although the fall in hospital admissions in England shows that progress is possible.

Different measures, including incidence, prevalence, mortality, hospital admissions and clinical tests, are needed to understand CHD accurately. The evidence also shows that improvement at national level can exist alongside considerable local inequality. This means that public health decisions should be based on both national and local data.

CHD can be controlled through healthier lifestyles, early identification, medication, specialist treatment and rehabilitation. However, the strongest approach is not to place responsibility entirely on individuals. Wider social and environmental factors influence health opportunities and outcomes. A combination of prevention, accessible services, multidisciplinary working and person-centred care is therefore the most appropriate response. This approach can reduce avoidable illness while supporting people already living with CHD to maintain their health, independence and quality of life.

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