



Module name: Introduction to Public Health

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1. Introduction

Coronary heart disease (CHD) develops when fatty substances slowly build up inside the coronary arteries. As the arteries become narrower, the heart receives less oxygen rich blood, which can lead to chest pain, shortness of breath, or even a heart attack. Some people, such as older adults, women, and those with diabetes, may not show the usual symptoms, making CHD harder to recognise early (NHS, 2024).

Incidence, Prevalence and Mortality

CHD continues to be a major public health concern across the world. According to the World Heart Federation (2024), around 620 million people worldwide are living with cardiovascular disease, while cardiovascular diseases cause approximately 20.5 million deaths each year. In the UK, around 2.3 million people are living with CHD, demonstrating its substantial prevalence. In addition, approximately 100,000 hospital admissions for heart attacks occur annually, indicating the continuing burden of acute cardiovascular events, while CHD causes approximately 66,000 deaths each year in the UK (British Heart Foundation, 2025). These measures demonstrate that CHD remains a significant public health issue. This report discusses how CHD is measured and monitored, the strategies used to control it, its impact on individuals and communities, and the importance of health and social care support in improving outcomes.

2. Measuring and Monitoring Coronary Heart Disease

Coronary heart disease is first assessed by considering a person's symptoms, medical history and risk factors such as smoking, high blood pressure, diabetes, obesity, and family history. Healthcare professionals may also carry out investigations including blood pressure checks, cholesterol and blood glucose tests, electrocardiograms (ECGs) and, where proper, imaging such as CT coronary angiography to confirm the diagnosis and monitor disease progression (NICE, 2023; NHS, 2024). Regular follow up appointments help assess whether treatment is controlling symptoms and reducing the risk of further cardiac events.

Public Health Surveillance

At a population level, CHD is monitored using data collected from primary care records, NHS Health Checks, hospital admissions, mortality statistics, and national cardiovascular disease profiles (Office for Health Improvement and Disparities, 2024). These data allow public health teams to measure prevalence, incidence, and mortality, identify changes over time, compare disease rates between different regions, and recognise health inequalities. The findings are

used to plan healthcare services, target prevention programmes towards high-risk groups and evaluate whether public health interventions are improving outcomes.

Limitations of CHD Data

Although surveillance data provide valuable information, they do not always reflect the true burden of CHD. Some people delay seeking medical advice or have no obvious symptoms, meaning their condition may remain undiagnosed. Differences in access to healthcare, incomplete clinical records, and variations in data reporting between areas can also affect the accuracy of statistics. Therefore, CHD data should be interpreted alongside local health needs and wider social factors when planning services and reducing inequalities

3. How Coronary Heart Disease is Controlled

Primary Prevention

Primary prevention focuses on lowering the risk of CHD before it develops. This involves supporting people to stop smoking, eat healthier, stay active, keep a healthy weight, and manage conditions like high blood pressure and diabetes (NICE, 2023). Public health measures such as tobacco control policies, NHS Health Checks, healthier food schemes and community exercise programmes help people make better choices. However, lifestyle change is harder for people in deprived areas who may struggle to access affordable healthy food, safe exercise spaces or health education.

Secondary Prevention

Secondary prevention aims to spot CHD early and stop it from progressing. NHS Health Checks, regular blood pressure and cholesterol tests, and timely treatment help reduce the risk of heart attacks and other complications (NHS England, 2024). Medicines such as statins, antiplatelet drugs and blood pressure tablets work well, but only if people understand their purpose and take them correctly. Side effects, low health literacy and personal beliefs can affect how well people stick to treatment.

Tertiary Prevention

Tertiary prevention supports people after a heart attack or CHD diagnosis. Cardiac rehabilitation combining supervised exercise, education, lifestyle advice and emotional support helps recovery and lowers future risk (British Heart Foundation, 2025). Some people may also need procedures like angioplasty or bypass surgery. Even though rehabilitation is effective, attendance can be limited by transport issues, work, caring responsibilities or lack

of local services. Reducing CHD therefore requires lifestyle support, effective treatment and public health policies that improve access to prevention and rehabilitation, especially in disadvantaged communities.

4. Consequences of Coronary Heart Disease for Individuals, Families and Communities

Impact on the Individual

CHD can affect every aspect of a person's life. Symptoms such as chest pain, breathlessness and tiredness may limit daily activities, reduce independence, and lower overall quality of life. Many people also experience anxiety, depression, or fear of another cardiac event, which can affect their confidence and willingness to remain physically active (British Heart Foundation, 2025). In England, cardiovascular disease results in hundreds of thousands of hospital admissions each year and is still a leading cause of premature death, placing a significant burden on individuals and healthcare services (NHS England, 2024).

Impact on Families and Carers

CHD also affects family members and unpaid carers. They often provide emotional support, assist with medication, attend medical appointments, and help with everyday activities during recovery. These responsibilities may lead to stress, financial pressure and changes to employment or working hours. When caring responsibilities increase, carers may also neglect their own physical and emotional wellbeing. This highlights the need for support services that consider the needs of both patients and their families.

Impact on Communities and Health Services

The impact of CHD extends beyond the individual and family. It increases demand for GP appointments, emergency care, hospital admissions, rehabilitation services, and long term social care. The condition also contributes to sickness absence and reduced workplace productivity. People living in deprived communities often experience higher rates of CHD because smoking, obesity, poor housing, lower incomes and limited access to healthy food and healthcare are more common. As a result, local NHS and social care services in these areas face greater pressure and require targeted prevention programmes to reduce health inequalities (Office for Health Improvement and Disparities, 2024).

5. Factors Influencing Health and Wellbeing

Several interconnected factors influence both the risk of developing CHD and recovery after diagnosis.

Biological factors such as age, sex, family history, ethnicity, and conditions like diabetes or hypertension increase CHD risk. These cannot be changed, but early identification supports monitoring and prevention.

Behavioural factors i.e smoking, poor diet, alcohol use, inactivity, and not taking medication also raise risk. Changing these habits is challenging and often requires ongoing professional support.

Psychological factors including stress, anxiety, and depression can reduce motivation, affect lifestyle choices, and make treatment harder to follow. Fear after a cardiac event may limit activity and slow recovery.

Social and economic factors such as low income, unemployment, poor housing, limited education, and restricted access to healthy food make healthy living more difficult. These pressures can increase stress, reduce rehabilitation attendance, and delay recognising symptoms.

Healthcare factors like GP access, waiting times, transport, and availability of rehabilitation also shape outcomes. These issues can affect families and carers, who may face emotional strain, financial challenges, and disrupted routines.

Improving wellbeing therefore requires both personalised support and wider action to reduce social inequalities and improve access to healthcare.

6. Health and Social Care Support and Professional Collaboration

People with coronary heart disease (CHD) often require support from different health and social care professionals. Working together as a multidisciplinary team (MDT) helps ensure that care is coordinated and focused on the individual's needs. The GP usually identifies risk factors, manages long term care and refers the person to a cardiologist when specialist treatment is needed. The cardiologist and cardiac nurse develop the treatment plan and monitor recovery. Pharmacists support safe medicine use and encourage adherence, while dietitians and physiotherapists help people make lifestyle changes and take part in cardiac rehabilitation. Occupational therapists promote independence at home, social workers assess

practical and social care needs, and mental health professionals provide support for anxiety or depression. Voluntary organisations, such as the British Heart Foundation, also offer education and peer support (British Heart Foundation, 2025).

For example, after a heart attack, a patient may be discharged from hospital with a shared care plan. The GP monitors progress, the cardiac team reviews recovery, the pharmacist checks medicines, and rehabilitation staff support exercise and healthy lifestyle changes. Regular communication, right information sharing and clear referral pathways help ensure that care is still person centred. However, waiting lists, transport difficulties, limited community services, and poor communication between organisations can reduce the effectiveness of collaborative care, particularly in deprived areas (NHS England, 2024).

7. Critical Evaluation

Current public health strategies have improved the prevention and management of coronary heart disease (CHD), but their effectiveness is not equal for all population groups. Primary prevention, including smoking cessation, healthier eating initiatives and NHS Health Checks, can reduce cardiovascular risk; however, relying mainly on individual behaviour change may be less effective in disadvantaged communities. Poverty, limited access to affordable healthy food, unsafe environments for physical activity and low health literacy can restrict people's ability to adopt healthier lifestyles (NICE, 2023; Office for Health Improvement and Disparities, 2024). Therefore, population wide interventions should be combined with targeted support for communities experiencing greater health inequalities.

Secondary prevention through blood pressure and cholesterol monitoring and appropriate medication can reduce the risk of further cardiovascular events (NICE, 2023). However, clinical effectiveness depends partly on patients attending appointments, understanding treatment and taking medication consistently. Side effects, health literacy and personal circumstances may therefore reduce the benefits of otherwise effective interventions. This suggests that improving communication, patient education and personalised support is as important as providing treatment.

Tertiary prevention through cardiac rehabilitation can improve recovery by combining exercise, education and emotional support (British Heart Foundation, 2025). Nevertheless, transport difficulties, employment, caring responsibilities and limited local services may prevent some patients from attending. Consequently, the availability of an effective intervention does not necessarily guarantee equal access to its benefits. Overall, the most effective approach is to combine primary, secondary and tertiary prevention with action on

wider social determinants, ensuring that services are accessible and proportionate to the needs of disadvantaged communities (Office for Health Improvement and Disparities, 2024).

8. Conclusion

CHD is still a major public health challenge because it continues to cause illness, premature death and increasing demand on health and social care services. Social deprivation, unhealthy lifestyles, and unequal access to healthcare contribute significantly to differences in health outcomes. Reducing the burden of CHD requires a combination of individual lifestyle support, population-based prevention programmes, and early identification of those at risk. Strong collaboration between health and social care professionals is also essential to provide coordinated, person-centred care. Improving access to prevention, rehabilitation, and support services, particularly in disadvantaged communities, will help reduce health inequalities and improve long term outcomes.

9. References

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