

Coronary Heart Disease (CHD)

Module Name: Introduction to Public Health

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Introduction

Coronary Heart Disease (CHD) is a long-term cardiovascular illness where fatty deposits gradually narrow or block the coronary arteries, a process known as atherosclerosis, which limits the flow of oxygenated blood to the heart. Over time this can result in angina, heart attacks, heart failure, and early death. Typical symptoms include chest tightness or pain, breathlessness, tiredness, light-headedness, and discomfort spreading to the arms, jaw, neck, or back (NICE, 2023; British Heart Foundation, 2024).

CHD continues to place enormous pressure on health and social care systems globally because of how common it is and how many lives it claims. According to the World Health Organization, ischaemic heart disease is the single biggest cause of death worldwide, responsible for close to 9 million deaths in 2021, roughly 13% of all deaths recorded that year. Within the UK, an estimated 1.9 million people in England live with CHD, around 3% of the population, and although death rates from the condition have fallen in recent years, premature mortality linked to CHD is still a major public health issue (OHID, 2025). Given this scale of impact, prevention, timely diagnosis, and effective ongoing management must remain central priorities for health and social care provision (OHID, 2025; WHO, 2024).

Measuring and Monitoring Coronary Heart Disease

Coronary Heart Disease is measured and monitored through four core epidemiological indicators — prevalence, incidence, mortality, and morbidity — enabling health organisations to assess disease burden, identify at-risk groups, and evaluate interventions (OHID, 2025). Prevalence is tracked mainly via the NHS Quality and Outcomes Framework (QOF), which logs GP-diagnosed cases. Around 1.9 million people in England have diagnosed CHD (3% of the population), with roughly 3.0% of GP-registered patients affected nationally, though rates vary by region (OHID, 2025; NHS England, 2024; Economics by Design, 2025). Local data reveal inequalities within boroughs: Hammersmith and Fulham records 1.3% prevalence overall (below the 3.1% national average) but rising to 1.6% in some neighbourhoods, reflecting differing risk factors and healthcare access (British Heart Foundation, 2025).

Incidence monitoring draws on GP records, hospital admissions, disease registries, and demographic surveillance. Age is a major driver, with risk rising sharply from around 45 and accelerating after 65 (NICE, 2023). Men typically develop CHD earlier than women, whose risk increases post-menopause with declining oestrogen (British Heart Foundation, 2024).

Ethnicity also matters: South Asian populations show higher incidence, linked to elevated diabetes, obesity, and metabolic syndrome rates (Public Health England, 2023; British Heart Foundation, 2024).

Mortality is measured via ONS death registration data. Premature CHD mortality (under-75s) fell from 41.8 to 39.1 per 100,000 between 2022 and 2024 (OHID, 2025). Regional inequalities are stark: the North East, North West, and Yorkshire and Humber have the highest rates, tied to deprivation, while Greater Manchester shows particularly poor outcomes linked to smoking, obesity, and diabetes (OHID, 2025). London's overall rate is lower but masks borough disparities — Barking and Dagenham, Newham, and Tower Hamlets show markedly higher rates than wealthier boroughs (OHID, 2025). In Wales, over 400,000 people live with cardiovascular disease, with around 9,260 deaths annually (British Heart Foundation, 2026). Locally, Hammersmith and Fulham's premature mortality rate (33 per 100,000) sits below the national figure (38), though CVD still caused 234 deaths in 2022 (British Heart Foundation, 2025). Age, sex, and ethnicity continue to shape mortality, with older adults, men, and South Asian populations disproportionately affected (British Heart Foundation, 2026; British Heart Foundation, 2024). Globally, WHO surveillance recorded 19.8 million cardiovascular deaths in 2022 (32% of all deaths), with ischaemic heart disease causing roughly 9 million deaths in 2021 (WHO, 2025; WHO, 2021).

Morbidity is assessed through hospital admissions, complications, healthcare utilisation, and patient-reported outcomes. Admissions have fallen 46% since 2005 nationally (OHID, 2025), with Hammersmith and Fulham reporting 412.2 per 100,000 versus a national average of 469.9 (British Heart Foundation, 2025). WHO uses surveillance systems, mortality records, and health surveys, revealing that over 75% of cardiovascular deaths occur in low- and middle-income countries (WHO, 2025) — evidence used to target public health policy toward populations with greatest need.

How Coronary Heart Disease is Controlled

Managing CHD relies on three main approaches: prevention, early detection, and long-term care. Primary prevention targets modifiable risk factors, encouraging people to stop smoking, eat more healthily, exercise regularly, and manage their weight (World Health Organization, 2025). The NHS Health Check offers adults aged 40 to 74 a free cardiovascular risk assessment, helping to identify problems early so action can be taken (NHS England, 2024). Secondary prevention aims to stop the disease progressing once it has developed, using treatments such as statins to lower cholesterol, antiplatelet medication,

blood pressure control, and diabetes management (NICE, 2023). Tertiary prevention involves cardiac rehabilitation programmes, which support recovery after a heart attack or cardiac procedure through supervised exercise, education, and mental wellbeing support. Together, these three levels of prevention work to stop CHD developing, slow its progression once present, and help people live well following a cardiac event.

Consequences of Coronary Heart Disease on Individuals and Communities

CHD affects far more than physical health; it impacts individuals, families and wider communities. Physically, it can cause ongoing chest pain, reduced mobility, heart failure and repeated hospital visits (NICE, 2023). Many patients also experience anxiety, depression and reduced quality of life after diagnosis or a cardiac event. Family members often take on caring responsibilities, creating emotional strain and financial pressure. CHD can also lead to social isolation, difficulty maintaining employment, and loss of independence, particularly among older people (British Heart Foundation, 2024). The cost of CHD to society is considerable. This includes direct healthcare costs such as GP appointments, tests, emergency admissions, surgery, medicines and rehabilitation (British Heart Foundation, 2024). Indirect costs include time off work, lower productivity, early retirement and disability benefit payments. The British Heart Foundation (2024) describes cardiovascular disease as one of the costliest long-term conditions for the UK, in both healthcare spending and lost income. As obesity, diabetes and high blood pressure continue to rise, this burden is likely to grow unless stronger prevention measures are introduced. Local authorities and NHS commissioners must therefore weigh the cost of prevention against the higher long-term cost of treating advanced disease.

Health and Social Care Support Services

Supporting people with CHD effectively requires health and social care services to work together. GPs are usually the first point of contact, responsible for early detection, risk assessment and ongoing monitoring. Cardiologists provide specialist tests and treatments, while cardiac rehabilitation teams help patients recover and manage their condition independently (NICE, 2023). Community pharmacists review medicines and support patients to take them correctly. Dietitians, physiotherapists and psychologists help patients make healthier lifestyle choices and cope emotionally with a long-term illness. Social care services, including home care, occupational therapy, welfare support and community groups, help people stay independent and reduce unnecessary hospital admissions. Together, this

reflects person-centred care and leads to better outcomes for people living with CHD (NHS England, 2024).

Conclusion

Coronary Heart Disease (CHD) remains a serious public health concern, affecting large numbers of people and placing heavy demands on health and social care services. Measures such as how often the condition occurs, how many people live with it, and death and illness rates provide useful data for tracking patterns, identifying health inequalities, and shaping effective responses (OHID, 2025; NHS England, 2024). While progress in prevention, treatment, and rehabilitation has helped reduce early deaths and hospital admissions, inequalities persist across regions, income groups, and ethnic communities (British Heart Foundation, 2024; OHID, 2025). Managing CHD effectively requires a well-rounded approach combining primary, secondary, and tertiary prevention, supported by coordinated multidisciplinary care (NICE, 2023). Continued investment in public health programmes, early identification, and person-centred support remains essential for reducing disease impact, improving quality of life, and addressing ongoing inequalities in cardiovascular health outcomes (World Health Organization, 2025; NHS England, 2024).

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