

MODULE NAME: INTRODUCTION TO PUBLIC HEALTH

MODULE CODE: LCHS4008_LON

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COMPONENT 2

REPORT OF HEALTH ISSUE

CORONARY HEART DISEASE

Introduction

CHD arises when fatty material builds up inside the vessels feeding the heart, a process known as atherosclerosis (National Institute for Health and Care Excellence, 2023). As the vessels narrow, patients can develop angina, and a heart attack may follow if blood flow is cut off entirely.

Gauging the scale of CHD means separating three measures: new cases (incidence), people currently affected (prevalence), and deaths caused (mortality); CHD combines a large caseload with a heavy death toll. Between 2017 and 2019, UK incidence of chronic ischaemic heart disease, the clinical name for CHD, was around 351 per 100,000 a year (Conrad et al., 2024). England has around 1.9 million people living with CHD, with close to 19,000 deaths a year among under-75s (British Heart Foundation, 2026b). Globally, ischaemic heart disease is the single biggest killer, responsible for roughly 9.1 million of the 68 million deaths recorded in 2021, close to one in seven (World Health Organization, 2024). This report examines CHD through a public health lens: health promotion, prevention, population-level intervention, health inequalities, access to services, and community-level impact.

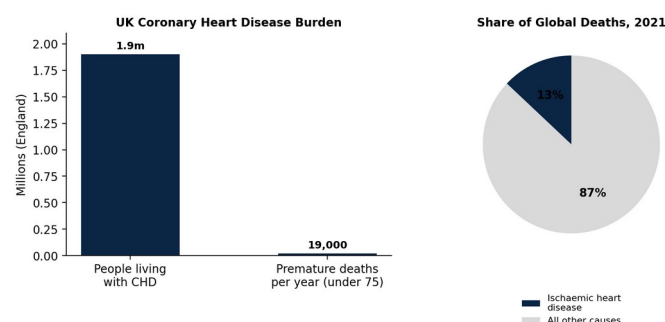


Figure 1: UK CHD burden and ischaemic heart disease's share of global deaths, 2021 (British Heart Foundation, 2026b; World Health Organization, 2024).

What Causes CHD

Most CHD risk comes down to three changeable factors: smoking, an unhealthy diet, and inactivity. Tobacco smoke injures the arterial lining, speeds fatty build-up, and thickens the blood, making clots more likely. Diets heavy in salt and saturated fat raise cholesterol and blood pressure, and an inactive lifestyle adds weight while leaving cholesterol poorly controlled (National Institute for Health and Care Excellence, 2023). None act alone; two or more together carry meaningfully higher risk than each alone. Age, sex and family history matter too but cannot be changed, which is why health promotion, such as national smoking-cessation campaigns, targets the factors people can act on.

Approaches Used to Measure and Monitor CHD

Tracking CHD relies on screening, risk assessment, diagnostic testing, and clinical follow-up. Keeping these apart matters, since blurring them risks false reassurance or unnecessary alarm.

Screening is a population-level intervention casting a wide net before symptoms appear; in England this is a free check offered to everyone aged 40 to 74 (National Institute for Health and Care Excellence, 2023). Its reach is uneven: uptake depends on responding to an invitation, so it is lower among those with least routine contact with services, meaning coverage can track the same inequalities it is meant to catch.

Within that check sits risk assessment, turning blood pressure, cholesterol and lifestyle habits into a single probability using an algorithm-based tool (National Institute for Health and Care Excellence, 2023). That number is a probability, never a diagnosis; a high score means closer investigation is justified, not that CHD is confirmed. The tool has limits: it depends on self-reported data that may be outdated, and its model was built on historical population data, so accuracy can drift for individuals whose circumstances differ from that dataset.

Diagnosis rules disease in or out by examining the heart directly: an ECG traces electrical rhythm; blood tests measure cholesterol and troponin where a heart attack is suspected; a stress test shows cardiac function under strain; and angiography pinpoints where and how severely an artery has narrowed.

After diagnosis, care shifts to periodic review of blood pressure, cholesterol and medication. This is imperfect: some show no symptoms until a serious event occurs, access varies by region and income, and GP records are incomplete, so the true scale of disease likely exceeds official figures. More broadly, such statistics describe averages across large groups and can obscure how risk is distributed within them, which is why deprivation-specific data matter.

How CHD Is Controlled

Two complementary strategies sit behind controlling CHD: primary prevention tries to stop the disease taking hold in people who do not yet have it, while secondary prevention tries to stop a further event in those who already do, the former following purely from a calculated risk score, the latter only once diagnosis is confirmed.

Primary prevention leans on lifestyle change, topped up with statins for anyone whose calculated risk is high enough, even absent diagnosis (National Institute for Health and Care Excellence, 2023). Statins work well at population level, but individual benefit hinges on starting risk, which is why NHS prescribing guidance, itself a policy responsibility, sets a cut-off rather than treating everyone: below it, far more people would need treatment to prevent one event, exposing low-risk patients to side effects for little gain.

Secondary prevention combines statins, antiplatelets, beta-blockers and ACE inhibitors, each addressing a different mechanism, for confirmed diagnosis, where benefit is larger than in primary prevention. That benefit only materialises with continued use: stopping early raises the odds of another event, so a drug effective in trials can fall short where side effects or poor understanding get in the way.

When narrowing is severe, blood flow can be restored via a stent or, for more extensive blockages, bypass surgery; both ease symptoms and lower immediate risk but neither treats the underlying atherosclerosis, so both accompany medical therapy.

Cardiac rehabilitation, pairing supervised exercise with education and psychological support, has strong evidence behind it: a meta-analysis of recent trials put the reduction in cardiovascular deaths at roughly a quarter, with a similar fall in readmissions, relative to standard care (Dibben et al., 2023), strong enough that planners now prioritise access over treating it as optional (NHS England, 2024). These figures describe outcomes for attenders; wider effectiveness depends on referral and completion too.

Consequences for People in the Community

A CHD diagnosis affects far more than the heart itself. Breathlessness, tiredness and chest pain can make ordinary tasks and paid work difficult, and some need long-term help with daily life. Living with a serious, ongoing condition also brings higher rates of anxiety and low mood, and fear of another event can push people away from exercise and social contact, feeding back into the risk factors behind the diagnosis.

The knock-on effects reach whole households. Many people with CHD cut their hours or retire sooner than planned, denting household income; the UK's overall cardiovascular disease cost was put at

£29.021 billion in 2021/22, though this covers cardiovascular disease broadly, not CHD alone (Shih et al., 2025). Family carers often reshape routines around appointments, with consequences for their own wellbeing.

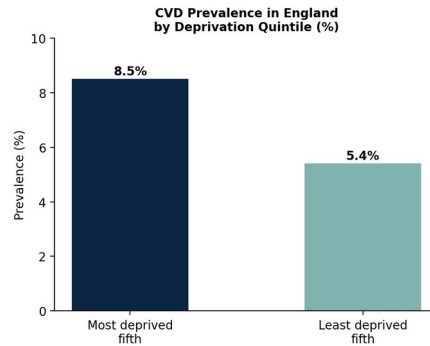


Figure 2: CVD prevalence in England by deprivation quintile, most vs least deprived fifth (British Heart Foundation, 2025b).

This is health inequality in practice: cardiovascular disease affects 8.5% of the most deprived fifth of the population, against 5.4% of the least deprived fifth (British Heart Foundation, 2025b). This gap reflects a self-reinforcing cycle: smoking prevalence is markedly higher in deprived communities, affordable fresh food is less available where retail investment is low, and chronic financial stress is itself linked to poorer outcomes independently of these behaviours. The resulting burden falls on GP surgeries and cardiac services that are themselves under-resourced, so the same disadvantage driving up risk also limits local capacity to respond.

Health and Social Care Support Services

Support for people with CHD spans distinct healthcare and social care services, accessed via different routes.

Healthcare support centres on the cardiac rehabilitation team, GPs and specialist nurses, who monitor patients, review medication and support lifestyle change. Pharmacists help with adherence, physiotherapists guide safe return to activity, and psychologists support anxiety or low mood where available.

Social care runs alongside this, though often less visible at diagnosis. A needs assessment can flag whether someone requires domiciliary care, occupational therapy, or home adaptations. Unpaid carers are entitled to an assessment of their own, which can open the door to respite care, and social workers often arrange safe hospital discharge.

This depends on the two systems coordinating. Joint meetings and shared care plans help stop patients falling into the gap between separately funded services, and where coordination is missing, poorer outcomes plausibly follow. This coordination, with charitable support, is where community-level impact is most visible: the point where national policy translates into a patient's actual experience.

Challenges in Tackling CHD

Two mutually reinforcing challenges make CHD hard to reduce, helping explain why interventions effective on average still fail to narrow outcome gaps in poorer communities. The first is deprivation itself. People in more deprived areas carry a higher CHD burden yet face more obstacles reaching the interventions above: fewer complete rehabilitation where transport, rigid hours or caring duties intervene, and referral itself is inconsistent, since clinicians do not refer uniformly; among those referred, unfamiliarity with a supervised setting can discourage attendance, and adherence is harder where several long-term conditions or financial pressure compete for attention. Years of policy attention have not closed this gap (British Heart Foundation, 2025b).

The second challenge, a direct matter of government and NHS responsibility, is strain on NHS capacity and funding. Rising demand for diagnostics, clinics and rehabilitation, combined with staff shortages, has extended waits for statins, angiography and revascularisation. Because deprived areas already carry a heavier caseload, this strain hits hardest where need is greatest, so an intervention proven in trials can arrive later, or less completely, for communities that stand to gain most. Prevention spending also competes with acute care for limited budget, and because savings only show years later, it is an easy target for cuts despite long-term value (Shih et al., 2025).

Conclusion

CHD remains one of the leading causes of death and long-term illness in the UK and worldwide, yet much of that burden is preventable through timely screening, effective treatment and lasting lifestyle change. Taken together, the evidence shows most interventions work well on average, but this hides variation in who benefits: statins rely on correctly targeted risk, secondary prevention relies on adherence, and rehabilitation relies on referral and attendance, each harder to secure in deprived communities. This bears directly on public health policy: narrowing the outcome gap takes more than clinically effective treatments alone; government and the NHS share responsibility for sustaining population-level prevention and health promotion, while attending to the access barriers and practical support that determine real community-level impact for those who need it most.

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