

CORONARY HEART DISEASE



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MODULE : COMMUNITY CARE AND MANAGEMENT OF LTC

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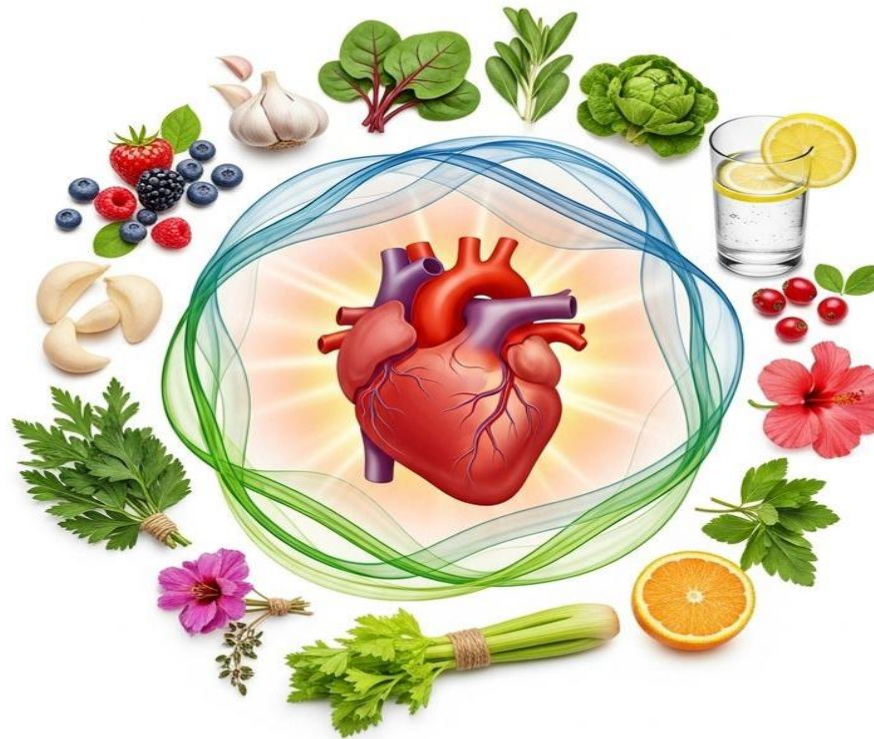
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TARGET AUDIENCE : GP, REGISTERED NURSE, PUBLIC HEALTH PRACTITIONERS , SOCIAL
WORKERS

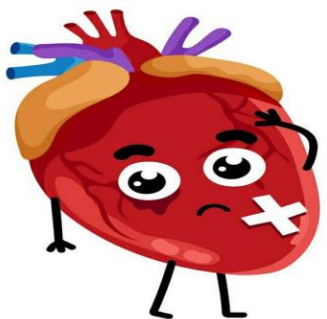
“SMALL CHANGES, BIG HEART PROTECTION”



- **Definition :** Coronary artery disease Atherosclerosis - the build-up of atheromatous plaques in the coronary arteries restricting blood flow to the heart (Kumar & Clark, 2020; NICE, 2023)
- Coronary Heart Disease (CHD) primarily develops due to atherosclerosis, a pathological process in which fatty deposits (plaque) accumulate within the walls of the coronary arteries. This leads to narrowing and reduced elasticity of the vessels, ultimately restricting blood flow and oxygen supply to the myocardium (Kumar and Clark, 2020).

Symptoms :

- Coronary Heart Disease (CHD) commonly presents with **chest pain (angina)**.
- Patients may also experience **breathlessness and fatigue** due to reduced cardiac output and oxygen supply. A characteristic feature is **pain radiating to the arms, neck, jaw, or back**, indicating possible cardiac origin.
- However, some individuals—especially older adults and those with diabetes—may present with atypical or minimal symptoms.



(NICE, 2023; British Heart Foundation, 2024)

CAUSES

➤ Main Cause:

- Atherosclerosis - the formation of a fatty plaque within the coronary arteries, which reduces blood flow to the heart (Kumar & Clark, 2020; NICE, 2023).
- These factors narrow the coronary arteries, decreasing the heart's oxygen supply and increasing the risk of a heart attack (WHO, 2023)

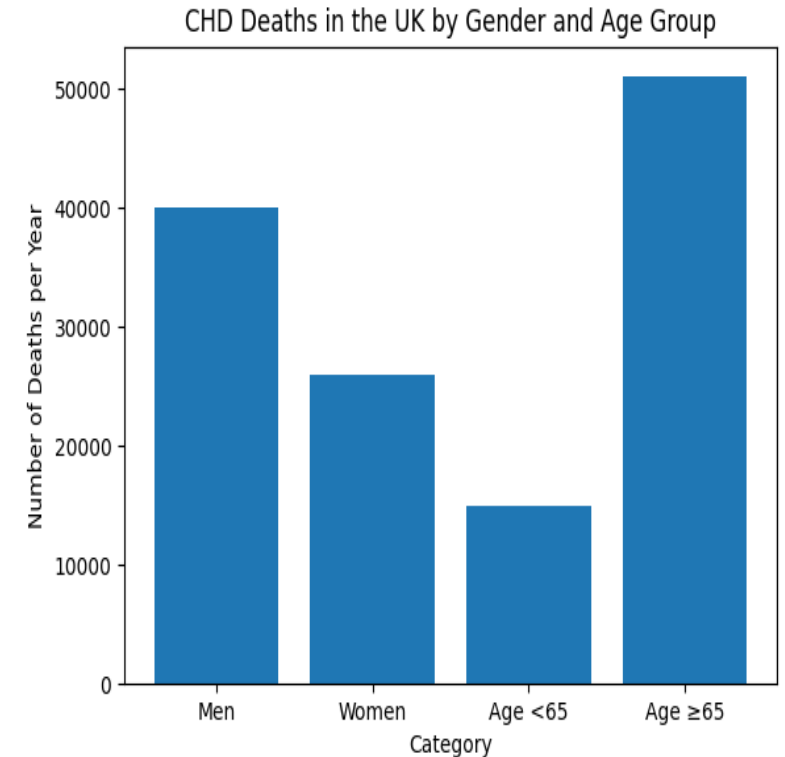
➤ Key Risk Factors:

- Smoking
- High LDL Cholesterol
- High Blood Pressure
- Diabetes
- Physical Inactivity
- Unhealthy Diet

(BHF 2024, NICE 2023,WHO, 2023)

Prevalence Of CHD UK And Worldwide

- The graph demonstrates contrasting trends in CHD and cardiovascular mortality. In the UK, CHD-related deaths have significantly declined from around 120,000 in 2000 to approximately 66,000 in 2023, largely due to improved prevention strategies, early diagnosis, and advances in treatment (British Heart Foundation, 2024; NHS, 2023).
- In contrast, global cardiovascular deaths have continued to rise, increasing from around 15 million in 2000 to 17.9 million in 2023. This increase is mainly driven by population growth, ageing, and rising prevalence of risk factors in low- and middle-income countries (WHO, 2023).
- For health and social care professionals, this comparison highlights that while national interventions in the UK have been effective, there is still a need to address health inequalities and strengthen global prevention strategies (Marmot et al., 2020)



World Health Organization. (2023).
Cardiovascular diseases (CVDs).

Economic & Social Burden

➤ Economic Burden (CHD)

- **High cost to NHS:**

- Cardiovascular disease (including CHD) costs the NHS in England ~£7.4 billion per year (BHF, 2024).

- **Long-term medication and management:**

- An estimated 7.6 million people in the UK are living with heart and circulatory diseases.

- circulatory diseases, which require continuing treatment (BHF, 2024).

- **Loss of productivity:**

- CVD causes ~27 million lost working days annually in the UK (BHF, 2024).

- **Absenteeism & early retirement:**

- Economic productivity losses (including early death) cost the UK economy ~£15–19 billion per year (BHF, 2024).

- **Rising financial pressure**

- Total annual cost of CVD to the UK economy (healthcare productivity + informal care) is ~£29 billion (BHF, 2024).

➤ Social burden CHD

- **Reduced quality of life:**

- Over 2.3 million people in the UK live with coronary heart disease specifically (BHF, 2024).

- **Mental health impact:**

- Up to 1 in 3 heart patient experience anxiety or depression (WHO, 2023)

- **Burden on families/caregivers:**

- Informal care costs in the UK estimated at ~£8 billion annually (BHF disability 2024).

- **Disability & loss of independence:**

Cardiovascular diseases account for ~17% of total years lived with disability (YLDs) globally (WHO, 2023).

- **Health inequalities:**

- People living in the most deprived areas of the UK are ~2 times more likely to die.

- CVD deaths early in life are more common in deprived areas (BHF, 2024).

- **Global impact:**

- CVD causes ~20.5 million deaths per year worldwide (WHO, 2023)

Diagnosis & Assessment of (CHD)

- ***Clinical Assessment:***

- Its diagnosis is by taking a history (chest pain, risk factors such as smoking, diabetes and hypertension) and physical examination (NICE, 2023).
- Electrocardiogram (ECG): Detects abnormalities in heart rhythm and evidence of ischemia or previous myocardial infarction (BHF, 2024).
- Blood Tests (Cardiac Biomarkers): Troponin levels help confirm myocardial injury and acute coronary syndrome (NICE, 2023).

- ***Imaging Tests:***

- Echocardiography: Assesses heart structure and function
- Coronary Angiography: Gold standard to visualize coronary artery blockages (ESC, 2022)
- Stress Testing: Exercise ECG or imaging evaluates reduced blood flow during exertion (AHA, 2023).
- CT Coronary Angiography (CTCA): In the UK, CTCA is the first-line investigation for patients with stable chest pain (NICE, 2023).

CHD Long-Term Management (UK – NICE Guidance)

➤ **Follow National Institute for Health and Care Excellence guidance**

- Lifestyle changes: stop smoking, healthy diet,
- Medications: antiplatelets, statins, ACE inhibitors, beta-blockers
- Control risk factors: BP, cholesterol, diabetes
- Cardiac rehabilitation

(NICE, 2023)

➤ **Models/Frameworks:**

- Chronic Care Model – proactive, team-based care (Wagner et al., 2001)
- NHS Long Term Plan – prevention & integrated care (NHS England, 2019)
- House of Care Model – personalised care (NHS England, 2016)

➤ **Goals:**

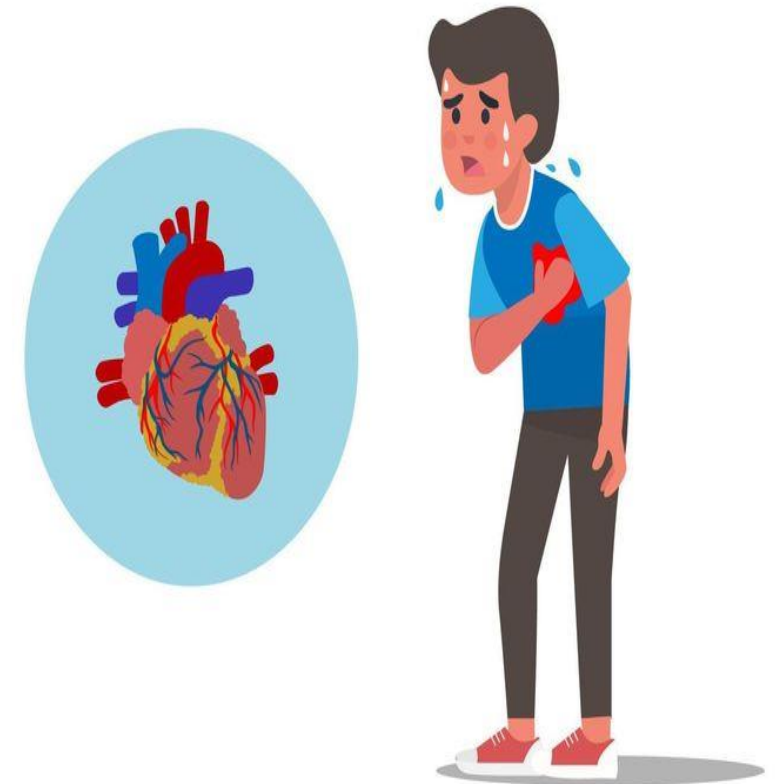
- Reduce complications & admissions
- Improve quality of life (NICE, 2023)
- Support self-management

(NHS England, 2019)

Treatment Options (UK)

- Management of cardiovascular disease (CVD) in the UK focuses on both pharmacological and surgical interventions.
- Medications such as statins are widely prescribed to lower cholesterol levels and reduce the risk of atherosclerosis, while aspirin is used as an antiplatelet agent to prevent blood clots (NICE, 2022).
- Lifestyle: Stop smoking, healthy diet, exercise
- Medications: Antiplatelets, statins, beta-blockers, ACE inhibitors
- Procedures: PCI (stents) or CABG surgery for severe cases
- Rehabilitation: Cardiac rehab for recovery and prevention

(NICE, 2023; NHS, 2024; BHF, 2024)



Comorbidities

- CVD is often associated with multiple comorbid conditions that increase morbidity and mortality. Diabetes mellitus is a major risk factor, contributing to vascular damage and increasing the likelihood of coronary artery disease (Diabetes UK, 2023).
- Additionally, individuals with CVD are at a higher risk of stroke, due to impaired blood flow or clot formation in cerebral vessels (Stroke Association, 2022). Effective management of these comorbidities is essential to reduce overall disease burden.

Prevention of CHD

- Healthy diet (low saturated fat, high fibre, reduced salt <6g/day) (NICE, 2023; WHO, 2023)
- Regular physical activity (≥ 150 min/week moderate exercise) (WHO, 2023)
- Smoking cessation (risk of CHD halved within 1 year of quitting) (NICE, 2023; BHF, 2024)
- Weight management (maintain BMI 18.5–24.9) (NICE, 2023)
- Blood pressure control (<140/90 mmHg; lower in high-risk patients) (NICE, 2019)
- Cholesterol reduction (LDL lowering with statins significantly reduces risk) (NICE, 2023)
- Diabetes control (tight glycaemic control reduces complications) (WHO, 2023)
- Limit alcohol intake (≤ 14 units/week in UK guidelines) (NHS, 2022)
- Stress management & mental wellbeing (chronic stress increases CHD risk) (BHF, 2024)
- Regular screening & early intervention (NHS Health Check for ages 40–74) (BHF, 2024)

Skills for Co-productive Care

- Co-productive care in **coronary heart disease (CHD)** requires effective **communication, clinical competence, and shared decision-making skills** to support patient involvement in care (NICE, 2023).
- Core values such as **empathy, respect, and patient-centred care** promote autonomy and long-term adherence to lifestyle changes (NHS England, 2019). Additionally, behaviours including **active listening, collaboration, and non-judgmental support** enhance trust and self-management (WHO, 2021).
- However, challenges such as **time constraints, low health literacy, and socio-economic barriers** may limit effective co-production (CDC, 2022).

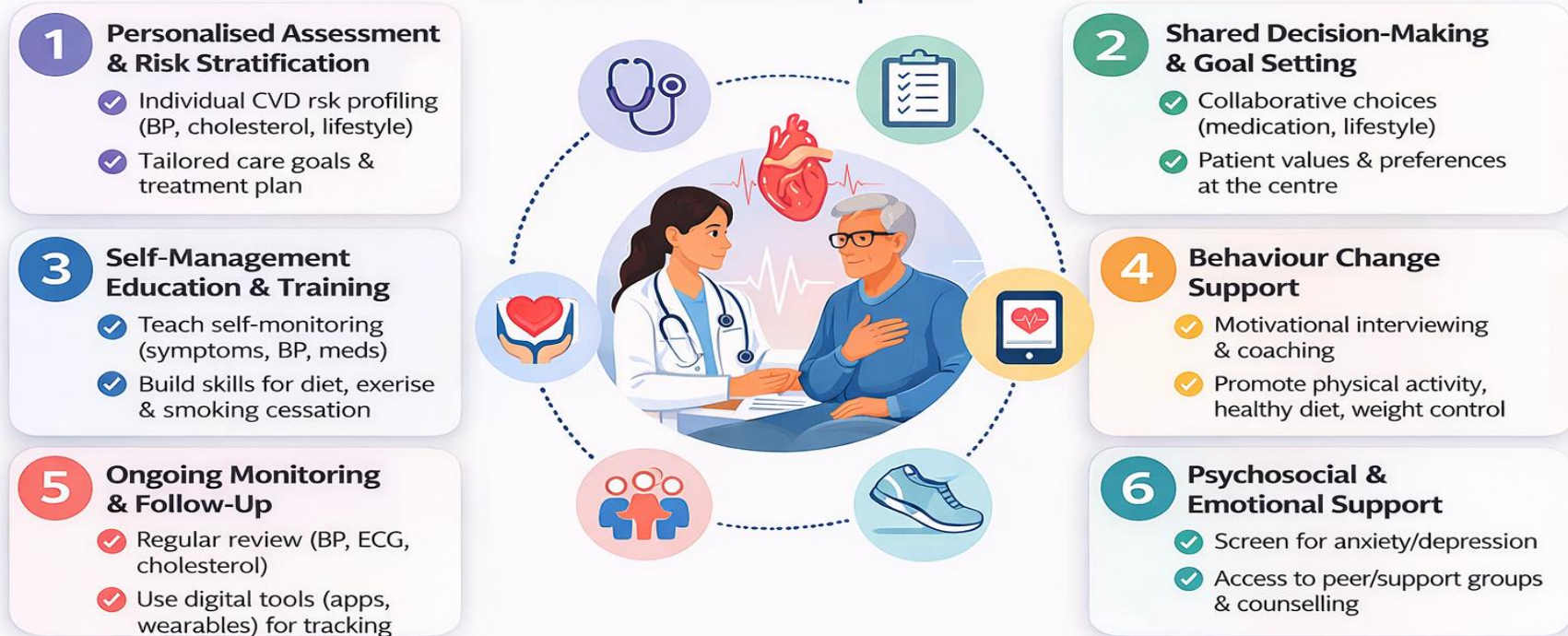
Healthy Heart



Healthy You

Comprehensive Model of Personalised Care & Self-Management Support for **CHD**

Six Evidence-Based Components



Patient-centred • Proactive • Evidence-based • Collaborative

Adapted from: (NHS England, 2019; NICE, 2023; WHO, 2021)

Conclusion

- CHD is a leading cause of death globally and in the UK, contributing significantly to morbidity and healthcare burden (WHO, 2023; BHF, 2024).
- It is primarily caused by atherosclerosis, resulting from both modifiable and non-modifiable risk factors (NICE, 2023).
- Early diagnosis and timely management are essential to prevent complications such as myocardial infarction and heart failure (NHS, 2024).
- Effective treatment includes lifestyle changes, medications (e.g., statins, antiplatelets), and surgical interventions when necessary (NICE, 2023).
- CHD is largely preventable through public health strategies focusing on risk reduction, awareness, and healthy lifestyle promotion (WHO, 2023).
- Reducing CHD prevalence requires a combined approach involving individuals, healthcare systems, and policy-level interventions (BHF, 2024).

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