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Coronary Heart Disease.

<u>Introduction</u>	3
<u>Discussion</u>	3
<u>Approaches used to measure and monitor the disease.</u>	3
<u>Disease control and prevention</u>	3
<u>Consequences of the disease on the individual and the community</u>	4
<u>Health and Social care support services</u>	5
<u>Conclusion</u>	6
<u>Reference List</u>	7

Introduction

Coronary Heart Disease (CHD) is a medical condition in which the coronary arteries narrow due to fatty plaque deposits, limiting blood flow to the heart muscle. Some symptoms that may occur include chest pain, breathlessness, fatigue, and heart attack in extreme cases. Coronary Heart Disease is the biggest killer on earth, with more than 9 million people dying yearly of ischaemic heart disease. There are 2.3 million people in the UK suffering from CHD, while 170,000 deaths are registered every year from heart and circulatory diseases.

Discussion

Approaches used to measure and monitor the disease.

The prevalence of **Coronary Heart Disease** (CHD) is measured using national disease surveillance systems, hospital records, death registration and primary care databases (Cheema *et al.*, 2022). Hospital admission rates, death rates and risk factors are monitored in the United Kingdom through organisations including NHS England and the Office for National Statistics to track the trends in disease (ons.gov.uk, 2025). Patient information is also collected and analysed by the National Institute for Cardiovascular Outcomes Research for the quality of treatment. In the UK, approximately 100,000 people are admitted to hospital with a heart attack each year, meaning that health authorities can find the high-risk groups and plan prevention programmes.

The measures for assessing coronary heart diseases include **Blood Pressure, Cholesterol, Blood Glucose**, and **ElectroCardiograms** (ECG), echocardiograms, exercise stress tests, coronary CT angiography, and coronary angiography (Díaz *et al.*, 2024). The NHS Health Check service involves assessing cardiovascular risks of adults aged 40-74 years who are not suffering from any disease (NHS, 2024). The risk prediction score models, such as QRISK3, assess the risk of having a cardiovascular disease in the next ten years according to one's age, smoking habits, blood pressure, cholesterol level, diabetes, and family history (Feng *et al.*, 2024). It will enable identification of people at risk of getting the disease.

Disease control and prevention

Medicines, lifestyle changes and medical procedures help to treat coronary heart disease. Some of the medicines that are usually prescribed include antiplatelet drugs, statins, beta-blockers, and ACE inhibitors, which aim to decrease the probability of blood clotting, cholesterol levels, and blood pressure (Mackenzie *et al.*, 2022). In cases where the patient is having a severe narrowing of the coronary arteries, the possible treatments include the use of coronary angioplasty and stents or a procedure known as a CABG surgery. Studies show that statin therapy can reduce the risk of major cardiovascular events by about 25–30% in high-risk patients.

Figure: Coronary Heart Disease

(Source: National Heart, Lung and Blood Institute, 2024)

Public health interventions aim at lowering the risk factors before the development of CHD. NHS Health Check is a program developed for detecting adults aged 40 to 74 years who are at increased risk of developing cardiovascular diseases and provides recommendations for lowering this risk (Chen *et al.*, 2024). Smoking cessation services, healthy eating campaigns, physical activity programmes and policies to reduce salt and trans-fat intake also reduce the risk of disease (NHS, 2024). Blood pressure control, blood cholesterol levels and body weight management can be very effective in preventing heart diseases in the future. The rate of smoking has been reduced to about 11% in the UK; this has led to fewer cardiovascular deaths (Chan *et al.*, 2024). Such prevention strategies minimise hospital visits and improve the quality of life.

Consequences of the disease on the individual and the community

Heart disease creates substantial problems related to the physical, mental, and social aspects. A lot of people suffer from symptoms like chest pain, shortness of breath, fatigue, and inability to do certain activities (ons.gov.uk, 2025). Such disorders might result in myocardial infarction, heart failure, or even death depending on the degree of seriousness of the disorder (Santos *et al.*, 2023). The condition also impacts mental health, as many patients develop anxiety and depression, or fear of another heart attack. Family members often act as caregivers, and life within the family becomes highly stressful. **Coronary Heart Disease** is prevalent among a great number of people and communities in the UK, as about 1 out of every 4 people dies per day from heart and circulatory diseases (Zheng *et al.*, 2026).

CHD is an important burden of illness for both the health sector and the social service sector. The NHS spends billions of pounds on the treatment of cardiovascular disease for those patients who have been admitted to the hospital because of cardiovascular disease, which includes medication,

surgery, rehabilitation, and post-treatment care (Wang *et al.*, 2022). Frequent hospitalisations of patients affect hospitals and health workers adversely. Another effect of the disease is low workplace productivity, because many individuals fall sick and take leave from work and retire early (Hasan *et al.*, 2023). Cardiac rehabilitation, community nursing, specialist cardiology services, mental health services, smoking cessation programmes, dietary advice and patient education are provided as part of health and social care services to mitigate these effects. Such services enhance recovery, decrease hospital re-admissions and promote good short- and long-term outcomes and independence for patients.

Health and Social care support services

Individuals suffering from **Coronary Heart Disease** (CHD) should receive care from a team of specialists to reduce the risk of complications and enhance health status. Typically, the team will consist of the GP, cardiologist, specialist cardiac nurses, pharmacists, dietitians, physiotherapists, psychologists and occupational therapists (Zwack *et al.*, 2023). They track symptoms, lead drug prescriptions, recommend nutrition plans, handle risk factors, and can assist in the care of mental health (ons.gov.uk, 2025). The UK has speedy access to chest pain clinics and specialist cardiology providers, which can help in the diagnosis and treatment of patients with some speed to prevent, in the most extreme cases, a serious heart attack (Francis *et al.*, 2024). Early multidisciplinary care has been reported to reduce hospital readmissions and increase survival. Community services aid patients in managing CHD after being discharged from hospitals. The cardiac rehabilitation programs provided by the NHS consist of a mixture of exercise, advice and guidance on changes in the patients' lifestyles, psychological support, and patient education on drugs and risk factors (Razieh *et al.*, 2022). Cardiac rehabilitation is known to reduce mortality from cardiovascular diseases by about 20% and prevent repeat hospital admissions (NHS, 2024). Community nurses and pharmacists keep track of patients' blood pressure, cholesterol and drug intake, and stop smoking and weight loss services help people adopt a healthy way of living (Petermann-Rocha *et al.*, 2023). Patient education gives patients the power to manage their health problems, practice healthy eating habits, engage in physical activity, and identify the symptoms of cardiovascular events (Díaz *et al.*, 2024).

Conclusion

It is to be concluded that **Coronary Heart Disease** (CHD) is still one of the primary reasons for morbidity and mortality across the globe. It was evident from the findings that early disease

surveillance, appropriate screening, proper diagnosis, treatment, and prevention are some key factors necessary to minimise the effects of coronary heart disease. Interdisciplinary care together with community services contributes to the effective recovery and treatment of the disease.

As many as 2.3 million cases of coronary heart disease are diagnosed in the UK, whereas around 9 million deaths each year occur due to ischaemic heart disease globally. Proper prevention, treatment, and health and social care are of great importance in reducing the mortality rate and improving the quality of life.

Reference List

Chan, K., Wahome, E., Tsiachristas, A., Antonopoulos, A.S., Patel, P., Lyasheva, M., Kingham, L., West, H., Oikonomou, E.K., Volpe, L. and Mavrogiannis, M.C. (2024). Inflammatory risk and cardiovascular events in patients without obstructive coronary artery disease: the ORFAN multicentre, longitudinal cohort study. *The Lancet*, 403(10444), pp.2606-2618. Available at: [https://www.thelancet.com/article/S0140-6736\(24\)00596-8/fulltext/](https://www.thelancet.com/article/S0140-6736(24)00596-8/fulltext/) [Accessed on: 29th June 2026]

Cheema, K.M., Dicks, E., Pearson, J. and Samani, N.J. (2022). Long-term trends in the epidemiology of cardiovascular diseases in the UK: insights from the British Heart Foundation statistical compendium. *Cardiovascular Research*, 118(10), pp.2267-2280. Available at: <https://academic.oup.com/cardiovasres/article-abstract/118/10/2267/6568454> [Accessed on: 29th June 2026]

Chen, Y., Yu, W., Lv, J., Sun, D., Pei, P., Du, H., Yang, L., Chen, Y., Zhang, H., Chen, J. and Chen, Z. (2024). Early adulthood BMI and cardiovascular disease: a prospective cohort study from the China Kadoorie Biobank. *The Lancet Public Health*, 9(12), pp.1005-1013. Available at: [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(24\)00043-4/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(24)00043-4/fulltext) [Accessed on: 29th June 2026]

Díaz, L.A., Fuentes-López, E., Idalsoaga, F., Ayares, G., Corsi, O., Arnold, J., Cannistra, M., Vio, D., Márquez-Lomas, A., Ramirez-Cadiz, C. and Medel, M.P. (2024). Association between public

health policies on alcohol and worldwide cancer, liver disease and cardiovascular disease outcomes. *Journal of Hepatology*, 80(3), pp.409-418. Available at: <https://www.sciencedirect.com/science/article/pii/S0168827823052789> [Accessed on: 29th June 2026]

Díaz, L.A., Fuentes-López, E., Idalsoaga, F., Ayares, G., Corsi, O., Arnold, J., Cannistra, M., Vio, D., Márquez-Lomas, A., Ramirez-Cadiz, C. and Medel, M.P. (2024). Association between public health policies on alcohol and worldwide cancer, liver disease and cardiovascular disease outcomes. *Journal of Hepatology*, 80(3), pp.409-418. Available at: <https://www.sciencedirect.com/science/article/pii/S0168827823052789> [Accessed on: 29th June 2026]

Feng, Q., Bešević, J., Conroy, M., Omiyale, W., Woodward, M., Lacey, B. and Allen, N. (2024). Waist-to-height ratio and body fat percentage as risk factors for ischemic cardiovascular disease: a prospective cohort study from UK Biobank. *The American Journal of Clinical Nutrition*, 119(6), pp.1386-1396. Available at: <https://www.sciencedirect.com/science/article/pii/S0002916524003885> [Accessed on: 29th June 2026]

Francis, A., Harhay, M.N., Ong, A.C., Tummalapalli, S.L., Ortiz, A., Fogo, A.B., Fliser, D., Roy-Chaudhury, P., Fontana, M., Nangaku, M. and Wanner, C. (2024). Chronic kidney disease and the global public health agenda: an international consensus. *Nature Reviews Nephrology*, 20(7), pp.473-485. Available at: <https://www.nature.com/articles/s41581-024-00820-6> [Accessed on: 29th June 2026]

Hasan, B.S., Bhatti, A., Mohsin, S., Barach, P., Ahmed, E., Ali, S., Amanullah, M., Ansong, A., Banu, T., Beaton, A. and Bolman III, R.M. (2023). Recommendations for developing effective and safe paediatric and congenital heart disease services in low-income and middle-income countries: a public health framework. *BMJ Global Health*, 8(5), pp.012049. Available at: <https://www.nature.com/articles/s42003-021-02996-0> [Accessed on: 29th June 2026]

Mackenzie, I.S., Hawkey, C.J., Ford, I., Greenlaw, N., Pigazzani, F., Rogers, A., Struthers, A.D., Begg, A.G., Wei, L., Avery, A.J. and Taggar, J.S. (2022). Allopurinol versus usual care in UK patients with ischaemic heart disease (ALL-HEART): a multicentre, prospective, randomised, open-label, blinded-endpoint trial. *The Lancet*, 400(10359), pp.1195-1205. Available at:

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(22\)01657-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01657-9/fulltext)

[Accessed on: 29th June 2026]

National Heart, Lung and Blood Institute (2024). *Coronary Heart Disease - Causes and Risk Factors* | NHLBI, NIH. [online] www.nhlbi.nih.gov. Available at: <https://www.nhlbi.nih.gov/health/coronary-heart-disease/causes>. [Accessed on: 29th June 2026]

NHS (2024). *Coronary Heart Disease*. [online] NHS. Available at: <https://www.nhs.uk/conditions/coronary-heart-disease/>. [Accessed on: 29th June 2026]

ons.gov.uk. (2025). *Deaths due to coronary heart disease, by month of occurrence and age group, local authority, England and Wales, 1993 to 2024*. [online] Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/>. [Accessed on: 29th June 2026]

Petermann-Rocha, F., Deo, S., Celis-Morales, C., Ho, F.K., Bahuguna, P., McAllister, D., Sattar, N. and Pell, J.P. (2023). An opportunity for prevention: associations between the Life's Essential 8 score and cardiovascular incidence using prospective data from UK Biobank. *Current Problems in Cardiology*, 48(4), pp.101-540. Available at: <https://www.sciencedirect.com/science/article/pii/S0146280622004376> [Accessed on: 29th June 2026]

Razieh, C., Zaccardi, F., Miksza, J., Davies, M.J., Hansell, A.L., Khunti, K. and Yates, T. (2022). Differences in the risk of cardiovascular disease across ethnic groups: UK Biobank observational study. *Nutrition, Metabolism and Cardiovascular Diseases*, 32(11), pp.2594-2602. Available at: <https://www.sciencedirect.com/science/article/pii/S0939475322003295> [Accessed on: 29th June 2026]

Santos, A.C., Willumsen, J., Meheus, F., Ilbawi, A. and Bull, F.C. (2023). The cost of inaction on physical inactivity to public health-care systems: a population-attributable fraction analysis. *The Lancet Global Health*, 11(1), pp.32-39. Available at: [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(22\)00464-8/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(22)00464-8/fulltext) [Accessed on: 29th June 2026]

Wang, M., Brage, S., Sharp, S.J., Luo, S., Au Yeung, S.L. and Kim, Y. (2022). Associations of genetic susceptibility and healthy lifestyle with incidence of coronary heart disease and stroke in individuals with hypertension. *European Journal of Preventive Cardiology*, 29(16), pp.2101-2110.

Available at: <https://academic.oup.com/eurjpc/article-abstract/29/16/2101/6631436>

[Accessed on: 29th June 2026]

Zheng, C., Wang, X., Gu, R., Wang, W., Tian, Y., Pei, X., Jia, Q., Song, Q., Cao, X., Tian, Y. and Tuerdi, N. (2026). The burden of cardiovascular disease in China: incidence estimates from national surveillance (2023). *Journal of the American College of Cardiology*, 87(12), pp.1453-

1465. Available at: <https://www.jacc.org/doi/abs/10.1016/j.jacc.2025.08.060> [Accessed on:

29th June 2026]

Zwack, C.C., Smith, C., Poulsen, V., Raffoul, N. and Redfern, J. (2023). Information needs and communication strategies for people with coronary heart disease: a scoping review. *International Journal of Environmental Research and Public Health*, 20(3), pp.17-23. Available at:

<https://www.mdpi.com/1660-4601/20/3/1723> [Accessed on: 29th June 2026]