

GROUP PRESENTATION ON CORONARY HEART DISEASE (MR AHMED CASE STUDY)

Module: LCHS4008 Introduction to Public Health

Lecturer: Emmanuel Audu

Students:

Zarah Islam 2539704

Joy Green Mashour 2540586

Comfort Agyeiwaa 2526197

Silvia Iroquehi Iroquehi 2541271

Sediqa Rahimi 2421927

► **Name: Sediqa Rahimi**

Student Number: 2421927

module Code: LCHS4008

Lecturer Name: Emmanuel Adud

Module Title: Introduction to Public Health

Assignment Title: Approaches and strategies to control coronary heart disease in communities

- ▶ Good afternoon. My name is Sediqa Rahimi. Today, I am going to talk about approaches and strategies to control coronary heart disease in communities, using Mr Ahmed's case study.
- ▶ Coronary heart disease, or CHD, happens when fatty deposits build up inside the arteries supplying blood to the heart. This reduces blood and oxygen flow and can cause chest pain and shortness of breath.
- ▶ Risk factors include smoking, high blood pressure, high cholesterol, an unhealthy diet, physical inactivity, age and family history.
- ▶ **1. Health Education and Healthy Diet**
- ▶ Health education helps people understand how to reduce their risk of heart disease. Healthcare professionals and community organisations can provide advice about healthy eating, exercise and maintaining a healthy weight.
- ▶ The NHS recommends eating more fruit, vegetables and whole grains and reducing salt and saturated fat.
- ▶ As Mr Ahmed is 67, healthy lifestyle advice could help him reduce his risk of heart disease.
- ▶ **2. Physical Activity**
- ▶ Regular physical activity can help control weight, blood pressure and cholesterol. Communities can encourage exercise by providing walking groups, parks and fitness programmes.
- ▶ As Mr Ahmed experiences chest pain and shortness of breath during exercise. He needs medical assessment before increasing his physical activity.
- ▶ **3. Smoking Cessation**
- ▶ Smoking damages blood vessels and increases the risk of CHD. NHS stop-smoking services can help people quit through advice, support and appropriate medication.
- ▶ As Mr Ahmed is a non-smoker, which is positive. However, helping other people stop smoking remains an important community strategy.

▶ **4. Controlling Blood Pressure and Cholesterol**

- ▶ High blood pressure and high cholesterol increase the risk of CHD. Health checks can identify these problems, and healthcare professionals can recommend lifestyle changes or medication when necessary.
- ▶ As Mr Ahmed, his blood pressure and cholesterol are not given in the case study. His GP should assess these as part of his medical care.

▶ **5. Health Checks and Treatment**

- ▶ NHS Health Checks help eligible adults aged 40 to 74 identify their risk of cardiovascular disease. Early identification allows people to receive advice and treatment.
- ▶ People diagnosed with CHD may need medication to control cholesterol, blood pressure or symptoms and reduce the risk of complications.
- ▶ As Ms Ahmed , he is 67, his worsening chest pain and shortness of breath require prompt medical assessment, not just a routine health check. If he is diagnosed with CHD, his healthcare team can recommend suitable treatment.

▶ **6. Community Support**

- ▶ Local authorities, the NHS and community organisations can provide healthy eating programmes, exercise activities, smoking cessation support and health education. These services should be accessible to people from different backgrounds.
- ▶ **Mr Ahmed:** Healthcare professionals should consider his individual needs and make sure he can access appropriate services.

▶ **Conclusion**

- ▶ In conclusion, CHD can be controlled through healthy eating, physical activity, smoking cessation, health checks, controlling blood pressure and cholesterol, and appropriate treatment.
- ▶ Mr Ahmed's case shows why prevention and medical assessment are important. His age and family history are relevant risk factors, and his worsening symptoms need prompt assessment.
- ▶ These strategies can help prevent heart disease, reduce complications and improve the health of communities.
- ▶ Thank you for listening.

Name: Silvia Iroquehi Iroquehi

Student Number: 2541271

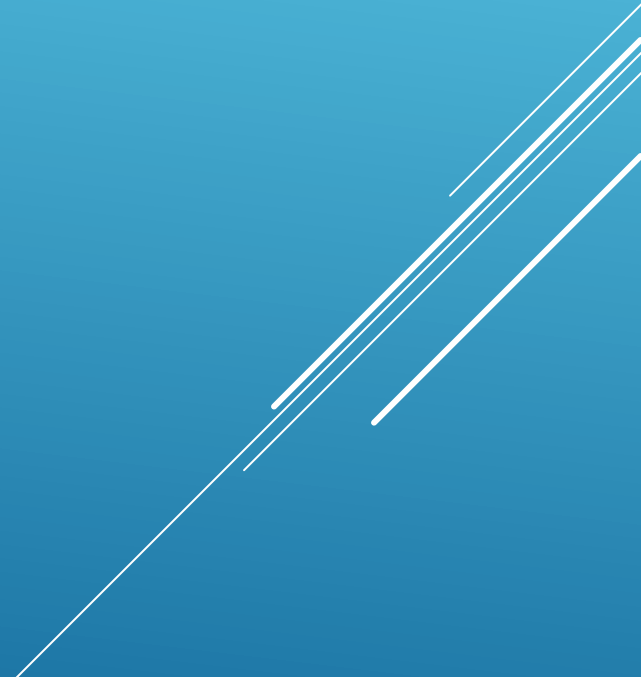
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Assignment Title: Approaches and Strategies to Measure Coronary Heart Disease (CHD)

Date: 16th October 2026



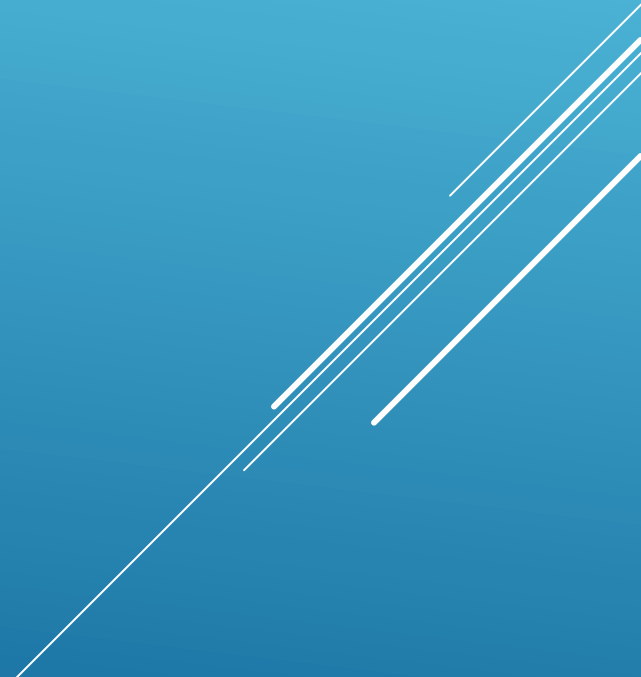
INTRODUCTION

I will be discussing the approaches and strategies used to measure coronary heart disease (CHD), focusing on the case study of Mr Ahmed but also placing his individual story within the wider public health picture.

According to (NICE, 2023; British Heart Foundation, 2025). South Asian communities are known to face a higher risk of CHD, often at a younger age, so getting an accurate assessment early is really important for Mr Ahmed.

WHAT IS CORONARY HEART DISEASE? Coronary heart disease happens when the arteries that supply blood to the heart muscle become narrowed or blocked by a build-up of fatty material called atheroma or plaque. This process is known as atherosclerosis. It can reduce blood flow to the heart, causing chest pain or angina, and if a vessel becomes fully blocked, it can lead to a heart attack (WHO, 2024; NHLBI, 2025).

To understand CHD fully, we look beyond the individual diagnosis to five key public health concepts: Prevalence, Incidence, Morbidity, Mortality, and Surveillance. Together, these tell us how many people are affected, how many new cases, how many illness impact quality of life, how many death, and how we keep track of the disease over time (WHO, 2024).

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FIVE KEY PUBLIC HEALTH MEASURES:

Prevalence means the total number of people living with CHD. According to (Public Health England, 2022). Understanding prevalence matters because it shows Mr Ahmed is not alone. It also reminds us that South Asian communities have a higher prevalence, meaning more people in those communities are living with the condition often undiagnosed which is why awareness and proactive checking are vital.

Incidence measures the number of new cases arising in a population over a specific period usually one year . In the UK, there are around 156,000 new acute coronary events each year, roughly one every three minutes (AIHW, 2024; British Heart Foundation, 2025). For Mr Ahmed, his symptoms represent a potential new presentation of CHD. If we can identify and support people like him early, we may help reduce future incidence in his community.

Morbidity How does CHD affect health and quality of life. This is deeply personal for Mr Ahmed: his chest pain means he can no longer walk as far or climb stairs comfortably. That loss of independence the morbidity of CHD is just as important to measure as the physical narrowing of his arteries. It reminds us that health isn't just about survival; it's about living well.

Mortality measures deaths caused by a specific the disease. For Mr Ahmed, this is not just a statistic: it's why his symptoms deserve urgent attention. Early diagnosis directly reduces his risk of becoming one of those mortality statistics (Swerdlow et al., 2024).

Surveillance is the ongoing, systematic collection, analysis, and interpretation of health data and using that information to prevent and control disease. Surveillance is also how we know that South Asian communities face higher risks because data has consistently shown these patterns over time. Without surveillance, we wouldn't know where to target resources or whether our efforts are making a difference (Public Health England, 2022).

Several factors place Mr Ahmed at higher risk of CHD and these are exactly the kinds of factors that surveillance and risk assessment tools help us identify: - **Ethnicity:** People of South Asian descent have approximately a 50% higher risk of CHD compared to the general UK population, and CHD tends to develop at an earlier age (British Heart Foundation, 2024; Public Health England, 2022). **Family history:** Having a brother who developed cardiovascular disease before age 60–70 is a recognized independent risk factor (NICE, 2023). **Age and gender:** Risk rises significantly in men over 65, due to long-term exposure to factors that damage artery walls (Swerdlow et al. 2024). **Occupational history:** As a retired lorry driver, he may have had years of sedentary work, which contributes to raised blood pressure, cholesterol, and weight all key CHD risk factors. (Department of Health and Social Care, 2023). Being a non-smoker is protective, but it does not eliminate risk entirely (NICE, 2023).

CLINICAL ASSESSMENT FOR MR AHMED Alongside population data, there are clear clinical steps we take: - First, we look at his symptoms — chest pain on exertion is a key sign of angina (NICE, 2023) - An ECG and blood tests help us check his heart rhythm, cholesterol, and blood sugar levels (NIHR, 2025) - A stress test or scan may be used to see how well blood is flowing through his heart (NICE, 2023) - QRISK3 calculates his overall 10-year risk, taking into account his age, background, and family history (Hippisley-Cox et al., 2023).

CONCLUSION: **Prevalence** shows us how many people are affected, **Incidence** tracks new cases, **Morbidity** captures how the condition impacts daily life, **Mortality** measures lives lost, and **Surveillance** guides where we need to focus our efforts. By combining clinical care with public health information, we can support people like Mr Ahmed more effectively both as individuals and as part of the bigger picture. Early and accurate measurement is vita: it allows timely treatment, reduces the chance of heart attack, and improves both length and quality of life (British Heart Foundation, 2025). All these approaches work together to give Mr Ahmed the best possible care as one individual, within the context of what we know about his community and the wider population.

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MONITORING CORONARY HEART DISEASE

Presented by: Comfort Agyeiwaa 2526197

CIRCUMSTANCES THAT IMPACT HEALTH WITHIN CORONARY HEART DISEASE

1. Lifestyle and self management- Maintaining a healthy weight, regular physical activity and eating healthy can make these lifestyle changes easier step by step. Balanced diet with fruits, vegetables, proteins, and healthy fats can lower the risk of CHD by reducing cholesterol levels and improves blood flow.
2. Social- Having a good support system around like family and friends can encourage and motivate to make choices in your best interest.
3. Age- Arteries stiffen and become less elastic with age; bad habits early on will have a negative impact as age increases.
4. Mental Health – Being diagnosed or going through a negative heart event can cause stress afterwards and lead to depression. Stress can also make heart symptoms worse which can affect wellbeing.

(British Heart Foundation,2018; NHS,2024)

MAINTENANCE AND PREVENTING CHD

1. Be physically active — regular exercise like walking, swimming, dancing. These things strengthen the heart, lowers cholesterol, and helps maintain healthy blood pressure.
2. Maintain a healthy weight — use BMI guidance or speak to a GP or nurse to understand your weight range you should aim to be within.
3. Stop smoking —NHS support and stop-smoking medicines can triple your chances of quitting successfully.

(Heart Research UK, 2025 ; NHS, 2024)

HOW TO REDUCE THE EFFECTS OF CORONARY HEART DISEASE

1. Be as honest as possible about your symptoms and conditions with the doctors and GP. This is so that they can give the best help possible and understand how to help effectively.
2. Listen closely and follow any advice they may give so that you can be the most educated on your condition as possible.
3. Improving life environment and general wellbeing can better mental health reduce stress cycle and avoid heart issues stress related.

(British Heart Foundation,2018; NHS,2019)

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FACTORS AFFECTING THE HEALTH AND WELLBEING IN CORONARY HEART DISEASE

PRESENTED BY: ZARAH ISLAM 2539704

FACTORS AFFECTING HEALTH AND WELLBEING IN CHD

- ▶ Age – CHD risk increases as people get older.
- ▶ Family history – heart and circulatory problems in the family may increase.
- ▶ Ethnicity – people from South Asian backgrounds have a higher risk of CHD.
- ▶ Lifestyle – smoking, unhealthy diet and lack of exercise.
- ▶ Social factors – income, education and access to healthcare.

Case study – Mr Ahmed: aged 67, from a South Asian background, with a brother who suffered a stroke at 68.

(NHS, 2024; British Heart Foundation, n.d.)

HEALTH AND PREVENTION OF CHD

- ▶ Encourage a healthy, balanced diet.
- ▶ Aim for at least 150 minutes of moderate exercise each week.
- ▶ Stop smoking and avoid second-hand smoke.
- ▶ Attend NHS health checks when eligible.
- ▶ Manage blood pressure, cholesterol and diabetes.
- ▶ Recognise symptoms and seek medical help.

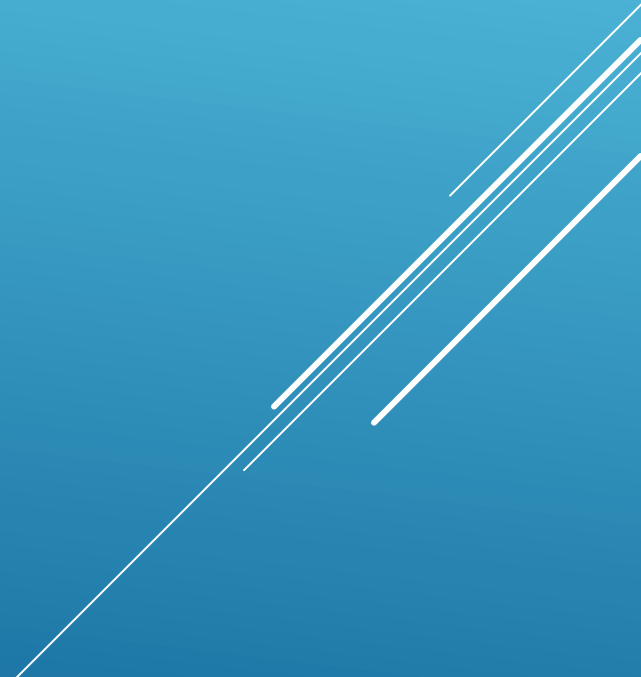
Health education should be culturally appropriate and accessible to communities such as Mr Ahmed's.

(NHS, 2023; NICE, 2023)

REDUCING THE IMPACT OF CHD

- ▶ Improve awareness of CHD risk factors.
- ▶ Identify people at risk through early screening.
- ▶ Reduce CHD prevalence through prevention.
- ▶ Reduce morbidity (illness and complications).
- ▶ Reduce mortality (deaths caused by CHD).
- ▶ Improve quality of life and wellbeing.

(NHS, 2024; NICE, 2023)

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- **Name: Joy Green Mashour**

Student Number: 2540586

module Code: LCHS4008

Lecturer Name: Emmanuel
Adud

Module Title: Introduction to
Public Health

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communities

Group Presentation:

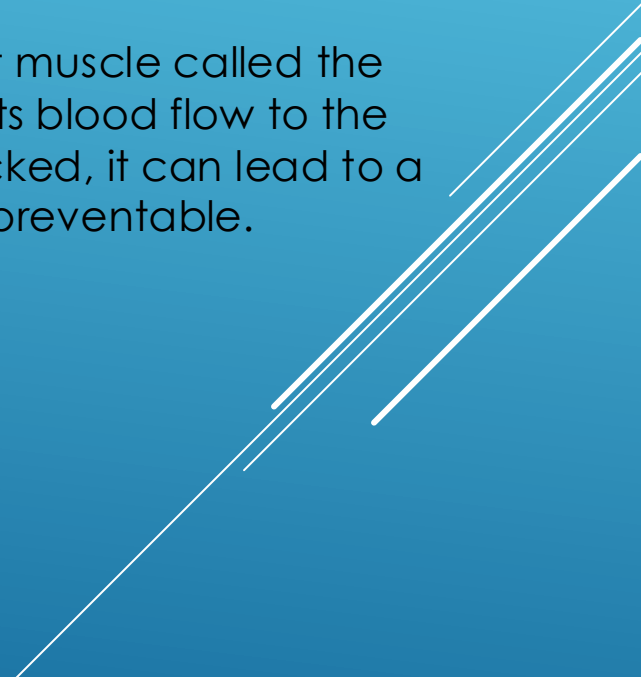
Controlling Coronary Heart Disease: The Mr Ahmed Case Study Introduction & What is CHD?

"Good morning everyone. Today I'm going to talk about coronary heart disease, how we control it, and what it means for patients like Mr Ahmed.

Main approaches and strategies to control CHD in communities :

Introduction:

What is coronary heart disease? It happens when the blood vessels that supply your heart muscle called the coronary arteries become narrowed or blocked by a build-up of fatty material. This restricts blood flow to the heart. It can cause chest pain known as angina, and if a vessel becomes completely blocked, it can lead to a heart attack. It's one of the most common health conditions in the UK but it's also largely preventable.

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So today I'll walk through the three stages of disease control primary, secondary, and tertiary prevention and will apply them directly to Mr Ahmed, our 67-year-old retired lorry driver of South Asian heritage."

Primary Prevention:

stopping CHD before it develops. Mr Ahmed already had several risk factors: South Asian ethnicity, which doubles the risk of CHD, a family history of stroke, his age, and his former job long hours sitting, irregular meals, and a diet likely high in processed food. Even though he doesn't smoke, his risk was elevated (BHF, 2026).

What should have happened? An NHS Health Check between ages 40 and 74, using the QRISK3 tool. This would have flagged his risk early and offered support with diet and activity including culturally tailored advice, which research shows makes a real difference (NHS Digital, 2025; PHE, 2022)."

Secondary Prevention:

slowing and managing the condition now symptoms have started. Mr Ahmed has worsening chest pain on exertion that's angina. At this stage, control means three things:

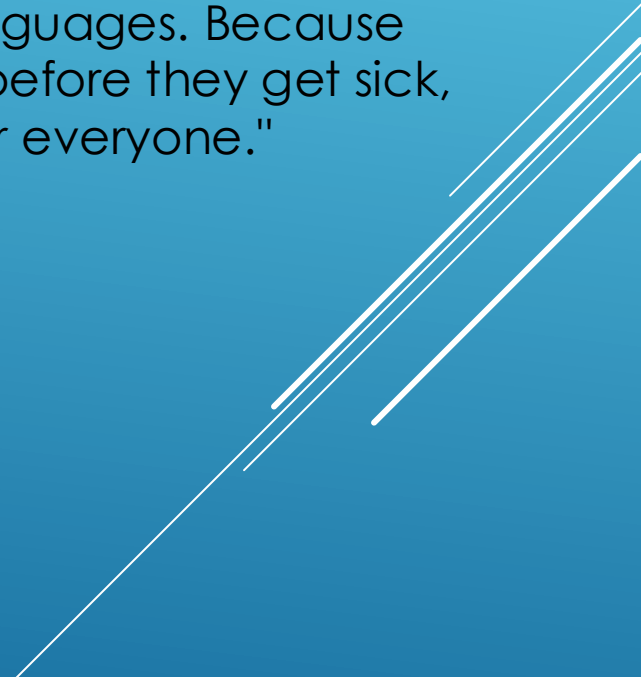
- Clinical care: blood tests, an ECG, and medication like statins and aspirins these cut heart attack risk by around 25–30% (NICE, 2024)
- Lifestyle changes: healthier eating and gentle, regular activity
- Education: teaching him exactly when to call 999 if pain lasts more than 15 minutes, or spreads to his jaw or arm. Early action here can stabilise his condition and protect his future health."

Tertiary Prevention:

preventing complications if his condition worsens. This means specialist care, possibly procedures like stenting to open up narrowed arteries, and cardiac rehabilitation. Rehab programmes combine exercise, education, and emotional support they reduce premature deaths by around 25% and hospital readmissions by 20% (NACR, 2025).

But we also need to watch for barriers that affect Mr Ahmed personal transport to appointments, language needs, and anxiety. These aren't small issues; they directly affect whether he takes his medication and attends follow-up.

And finally wider control. South Asian communities are often diagnosed later. We need screening in community centres, mosques, and pharmacies. Information in people's own languages. Because controlling CHD isn't just about giving someone pills it's about reaching people before they get sick, acting fast when they need help, and making sure our services actually work for everyone."

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Conclusion:

In conclusion coronary heart disease is when narrowed arteries restrict blood flow to the heart. Primary prevention could have caught Mr Ahmed's risk earlier. Secondary prevention can now manage his angina. Tertiary prevention is there if he needs it. But his story also shows we must do better reaching people from all backgrounds, because early, fair access is the most powerful tool we have.

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