

MSc Public Health and Social Care in Practice

Component 2 Analytical Report

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Module: Social Epidemiology and Public Health Development

Module code: LCHS7000

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Task 1: Social Epidemiological Analysis and inequality

Title: Ethnicity and health inequalities

1-Introduction:

Ethnicity is a group of people that share the same culture, language and traditions (Goff, 2019). Ethnic minority groups are more likely to suffer from health inequalities due to discrimination, socioeconomic statuses, language barriers and access to healthcare (Ajayi Sotubo, 2021). These inequalities vary across different ethnic groups causing prevalences of diseases to rise.

2-Contextual background and underlying factors:

The population part of ethnic minority groups find challenges that must be addressed. The inequalities in service delivery affect ethnic minority groups that suffer from diabetes, cardiovascular disease and mental health issues. Socially the issues these groups face are poverty, cost of living and social isolation and illness.

2.1- The 3 Diseases/illness:

2.1.1-Diabetes:

Diabetes is a condition that is characterised by having high sugar levels in the blood. This is commonly known as hyperglycaemia (Egan and Dinnen, 2019). Asian and Black ethnic groups have two to four times higher risk of developing diabetes compared to White ethnic groups (Nagar *et al.*, 2021), from the age of 25 which is earlier than the White ethnic groups which have the risk of developing it from the age of 40. This risk is caused by socioeconomic factors faced by them. There should be local projects to support health systems within communities to improve delivery and ensure that research and data collection is adequately done for ethnic minorities as it is needed to improve services (Chan *et al.*, 2023).

2.1.2-Cardiovascular disease:

Cardiovascular diseases are conditions that affect the circulatory system, vessels and the heart. Cardiovascular disease is one of the prevalent diseases worldwide along with its complications (Razieh *et al.*, 2022). Ethnic minority groups are more like to develop this due to constant exposure to health-related barriers. These barriers are caused by socioeconomic status. Due to living in deprived environments, there is decreased healthcare access. These factors lead to chronic stress which will impact their psychological state leading to poor decisions (Niakouei, Tehrani and Fulton, 2020). Health outcomes are lower for South Asian and Black ethnic groups as they have higher cardiovascular disease mortality rate compared

to other groups. These decrease life expectancies by 20% (Anand *et al.*, 2025). This shows that deprived areas require accessibility to access healthcare.

2.1.3-Mortality rates:

Ethnic minority groups are more likely to suffer from high mortality rates due to the inequalities faced in receiving care for diabetes (Goldblatt and Raleigh, 2025), cardiovascular disease or maternity. An example of this is that women of Black ethnicity have 330% increased risk of maternity deaths and women of Asian ethnicity have 57% increased risk of maternity deaths compared to women of White ethnicity (Vousden *et al.*, 2024). These risks are higher to ethnic minority groups due to existent discrimination, bias and delayed care. To solve this, professionals must be trained to treat all patients equally following NHS's values.

2.2-The three social issues:

2.2.1-Poverty:

It was found that 19% of Asian and other ethnic groups were living in low-income housing costs, this can also be applied to Black ethnicity groups as there was smaller samples sizes were used in research (GOV.UK, 2025). This occurs due to factors such as hiring discrimination which prevent individuals from obtaining a good paying job or position in a workplace. To solve this issue, policies must be more strongly implemented in the job market to stop discrimination and increase inclusion (Lippens *et al.*, 2023).

2.2.2-Housing in deprived areas:

The houses of ethnic minorities are majorly located in deprived areas meaning that a high number live in a non-decent home. A clear of example of this is that in 2011, 80% of Pakistanis, Bangladeshis, Black Africans and Black Caribbeans lived in very deprived areas in comparison to 46% of White British population (Llyod *et al.*, 2023). These show that these groups are more likely to live in more deprived areas leading to less options of healthy food, physical activity facilities and access to support and healthcare (Beulens *et al.*, 2024). These factors lead to other problems. To solve housing issues, authorities must ensure that all houses quality improve and ensure that local economy improves to decrease deprivation therefore improving quality of living.

2.2.3-Social isolation:

This is one of the most common issue ethnic minorities face. Black and Asian groups are 38% more likely to experience loneliness in comparison to 28% White groups (Nwofe *et al.*, 2024). This most likely happens due to fear caused by prior hostilities, language barriers which difficults communication amongst individuals and lack of belonging. To decrease this social

isolation, there must be stronger measures to stop discrimination and to promote more inclusivity in areas where inclusion is reduced to ensure equal treatment.

3-National Response to reduce health inequalities for ethnicity groups:

To reduce inequalities the NHS' Ethnicity Recording Improvement Plan and Equality Act 2010 are implemented.

The NHS Ethnicity Recording Improvement Plan has the aim to collect data as accurately as possible to ensure that the needs of ethnic minorities groups are understood so they can provide a high level of response (NHS England, 2025). This plan assists professionals in identifying and interpreting gaps that are found in data. These gaps were created due to staff lacking confidence in requesting ethnicity information to patients and lack of understanding in providing information related to ethnicity. To collect this information, a trust building process occurs so patients can collaborate with professionals to decrease health inequalities.

Equality Act 2010 protects those vulnerable to systemic disadvantage due to characteristics such as race or ethnicity (Mason and Minerva, 2022). This act is applied in many settings such education, employment or in public spaces. This is beneficial as it will reduce social inequalities faced by ethnic minority groups leading to equal treatment and opportunities as those with more advantage. This means that there would be a decrease in socioeconomic disparities and more access to healthcare.

4-Organisation supporting ethnicity groups facing inequality:

Race Equality Foundation is a charity located in the UK with the aim to tackle racism to transform positively the lives of people belonging to ethnic minority groups (Race Equality Foundation, no date). This charity supports the groups in health inequalities, housing and works in improving communities. In terms of health inequalities, the charity is addressing the current data gaps which create inequalities by informing data collection groups to improve policies and practices. To raise awareness of health and social inequalities by training volunteers in events so there can be more people willing to educate the population that is not aware of the current issues. To increase success rates, this charity has different partnerships to reach a wider population.

5-Conclusion:

Ethnic minority groups are more likely to face health inequalities which increase mortality rates due to poor care and are more likely to face social inequalities. These are mainly caused by socioeconomic inequalities which is being addressed by charity organisations and the government to ensure equal care for all population.

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Task- 2: Epidemiological Analysis

1-Introduction:

Diabetes Mellitus (DM) is a condition highlighted by hyperglycaemia which is the elevation of blood of sugar (glucose) levels in the blood stream (Banday, Sameer and Nissar, 2020). This is due to the lack of the ability to uptake sugar by due to the lack of insulin or poor response it. This disease impacts patients socially due to surrounding stigma leading to shame of using medications and poor management (Rebolledo and Arellano, 2016). DM affects individuals culturally by influencing dietary habits and health beliefs. DM also causes health consequences starting from symptoms to complications. Common symptoms include increased thirst, appetite and urination, fatigue and weight loss. If symptoms go untreated, a patient has risk of developing complications such as retinopathy, nephropathy and neuropathy (Forouhi and Wareham, 2019).

Globally there are 830 million cases (WHO, no date), making DM one of the leading causes of mortality and comorbidities. Cases are projected to reach to 1.31 billion by 2050 leading to higher levels of complications (The Lancet, 2023). Prevalence is at risk of being higher due to cases being unreported or misdiagnosed and lack of care in low-income countries. In the UK, it has been reported 5.8 million cases. This shows urgency to respond to high number of cases. The borough of focus in this report is Westminster considering that 45% of residents come from backgrounds 3 times more likely to develop diabetes (City of Westminster, no date).

2-Public health measures in the UK

Public health measures refer to interventions implemented to control and contain the growth of diseases. These measures are based on the 3 P's: Prevention, Protection and Promotion.

Prevention: This decreases exposure to harmful factors that increase chances of developing disease (Caron *et al.*, 2024). However, this is only applicable to type 2 DM as type 1 DM cannot be prevented. Type 2 diabetes is preventable through lifestyle changes. For example, those at risk could start a healthy diet, stop smoking or start exercising as a form prevention.

Protection: This protects populations from hazards such environmental or infectious through controlling spread through immunisation, screening or notifiable reporting. To protect diabetes patients from being vulnerable to the hazards, the NHS offers vaccines to ensure that patients are not affected or have reduced damage. To protect the population from diabetes, those at risk will be notified and referred to programmes to prevent them from developing it.

Promotion: By promoting patient health, patients will become more aware of their conditions and become more independent. Promotion occurs through programmes, courses or

campaigns. In the UK, the NHS Diabetes Prevention Programme promotes increased physical activity, healthier eating and improved lifestyle (NHS England, no date) to promote patient independence.

2.1-The key determinants/ risk factors:

Type 1 DM is caused by an autoimmunity meaning it is unpreventable. However, professionals observe the risk factors including environmental such as lack of vitamin D and climate (Zorena *et al.*, 2022) and genetics.

For type 2 DM the risk factors are what individuals expose themselves to. If an individual smokes, they will be 37% more likely to develop diabetes (Rouland *et al.*, 2024). Other risk factors include poor diet, sedentary lifestyle and poor sleeping habits. Poor diet involves the overconsumption of ultra processed foods which increases the risk of developing DM by 31% (Delpino *et al.*, 2021). Sedentary lifestyle is one of the main causative agents of DM. This risk factor causes individuals to be at risk of premature deaths, becoming sick or developing comorbidities. A common comorbidity caused by DM is obesity. This condition leads to poorer response to insulin and treatments and leads to cardiovascular diseases due to increase in weight and fat (Li *et al.*, 2022). Finally, another risk factor of diabetes is poor sleeping habits. This factor causes the body to have decreased sensitivity to insulin meaning it that there would be no decrease in blood sugar levels (Darraj, 2023).

2.2-Epidemiological studies: Westminster prevalence:

Westminster is a London borough where 45% of its population has 3 times higher risk of developing DM. Over 70,000 above 16 years of age suffer from a chronic condition, and this prevalence has higher chance of increasing if the residents live in deprived areas. Another factor that suggests that diabetes prevalence will increase in Westminster is the fact that there are 13,400 adults living with obesity which is one of the main causes and consequences of diabetes (City of Westminster, no date). Black ethnic groups are more likely to develop diabetes in this borough as they live in more deprived areas meaning that there is chance of reduced healthcare and socioeconomic disadvantages. Reduced healthcare means that there is reduced support from professionals and services to prevent the development of type 2 DM. Socioeconomic disadvantages mean that the population has less access to better lifestyle options. For example, families in low-income households will choose to buy ultra-processed instead of healthy foods due to it being cheap (Lewis *et al.*, 2023).

This partnership is also utilising the NHS Type 2 Diabetes Path to Remission Programme' which also being applied to the rest of England. This is being implemented in local strategies

as it aims to tackle the prevalence of type 2 diabetes through the promotion of weight loss (NHS England, 2026).

2.3-Public health approaches and strategies to monitor DM:

Diabetes in Westminster is currently being managed under the NHS. To monitor diabetes there are different strategies such as national audits and data collection. The National Diabetes Audit (NDA) is a yearly audit that occurs to analyse if diabetes is being treated following NICE guidelines for high-quality care (NHS England, 2025). NDA also looks into addressing the current gaps that exist in DM care so they can meet all patients needs and identify the best methods to contain the disease. Data collection is crucial in monitoring DM because it will allow professionals to understand groups of patients at risk (in this case people of Black ethnicity), and the risk factors such as lifestyle and socioeconomic status. Data collection contributes to NDA to ensure that all data across the city aligns with the rest of the country. Having this audit occurring is crucial as it will determine the scale of efficiency of current measures and programmes (Foy *et al.*, 2020). Using NDA will help authorities to reduce the disadvantage of the Black population living in deprived areas of Westminster are facing by providing more access to support and referring them to programmes that will reduce their risk of DM.

2.4-Public health impact on population:

Through observing the prevalence of DM within Black population in Westminster and their risks, the short-term impact includes being at risk of developing type 2 DM. This is a short-term term impact as patients will be able to prevent the disease. A long-term term impact of this disease is the irreversible complications that it can cause. This means that the patient would have comorbidities and the prevalence of other conditions are at risk of increasing leading increased health burden.

3-Health intervention plan:

This section will explore an idea of an intervention that resulted from observing the elements above of this report. Ideally, the best method to start educating the populations about DM and risks would be by firstly teaching children in schools as they are more likely to be exposed by ultra processed foods (Rosi *et al.*, 2025). This teaching could be implemented in the education curriculum so children and teenagers can understand that it is crucial to start making healthy decisions early so they can grow into healthy adults. By promoting healthier weight amongst children, they will be less likely to develop diseases such as DM during adulthood and have longevity (Zeng *et al.*, 2026). Along with adding this to education curriculum, schools could host engaging family events to raise awareness of the importance of a healthy lifestyle.

3.1-Strengths of health intervention plan:

The above plan is beneficial as it would be aimed to promote awareness of the dangers of over consuming ultra processed foods and the importance of making healthy decisions from a young age. By children learning this, it would mean that the next generation of adults would be healthier as they would be independent of their health and would be more likely to make decisions which would promote a positive lifestyle. Another strength found is that families would engage in activities and events leading them become more conscious of what they have been ingesting and what foods their children are constantly being exposed to through advertising, cheap prices and accessibility (Dolton and Tafesse, 2022).

3.2-Weaknesses of health intervention plan:

The main weakness of the above plan is the target audience. The plan should have aimed at adults as they choose what makes up their diet and lifestyle. Children often do not choose what to eat at home meaning that if their parents or carers provide them with unhealthy foods which they would be learning about, they would have no choice on what to consume. It would be important to consider the children's background to provide them and families with support if required. Another weakness found in the plan is that implementing a new curriculum will require time as schools would need to adapt to new teaching and related training meaning that it does not the urgency it has.

4-Conclusion:

DM is a chronic disease that affect everyone but specifically those living in vulnerable areas or are exposed to risk factors. To understand and control this disease, it is crucial to observe prevalences and the NDA to ensure that interventions are meeting their goals or if they need to be altered. While authorities are looking after the population through programmes and interventions, the public could get involved in preventing DM by altering their lifestyles.

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MSc Public Health and Social Care in Practice

Component 2 Analytical Report-Part 2

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1-Introduction:

Human Immunodeficiency virus (HIV) is a virus that weakens the immune system leading to the increased the risk of serious illness (Dipo *et al.*, 2024). Symptoms of this are rashes, sore throat or swollen glands (Zhu, Zhao and Hu, 2019). This disease causes patients to become vulnerable socially, culturally and in their health consequently. Socially, HIV patients face stigma due to fear associated with the disease, verbal discrimination which leads to their isolation (Asrina *et al.*, 2023). Culturally HIV reshapes views on topics such as family. For example, there are cultures where a big family is important however if a person is infected, there might be fear to build a large family due to transmission. The consequences on health include Acquired Immune Deficiency Syndrome (AIDS) which is the progression of HIV leading to patients becoming more vulnerable to diseases.

Worldwide, it is estimated that there are 40.8 million cases of HIV. These include 1.4 million children and 39.4 million adults (WHO, no date). In the UK, diagnosed cases rose to 6,512 from 2022 to 2023 (National AIDS Trust, 2024). This suggests that there is risk of rise.

Within this report, the measures taken to prevent, educate and study this disease will be explored and assessed to ensure that the correct awareness of the danger is being given.

2-Public health measures available:

Public health measures utilised to prevent and control HIV is based on the 3 P's of public health below: prevention, protection and promotion.

2.1-Prevention:

One of the main prevention methods being utilised by the public health in the UK is by offering education and campaigning about sexual health. (Cabecinha and Saunders, 2022). This should be mainly aimed at young people as they are more vulnerable. Another prevention method in the UK is Harm Reduction. These are policies aimed to lower health, social and economic harms caused by utilising drugs (Dennis, Rhodes and Harris, 2020). One of these harms is infection through sharing needles. Additionally, there are Needle and Syringe Programmes (NSPs) used to prevent misuse of needles and syringes. These have shown to be effective (Kronfli *et al.*, 2025).

2.2-Protection:

A main protection method is the provision of free testing and diagnosis. This is being provided in the UK to end the transmission of the virus (GOV. UK, 2025). This testing can be done in person or at home allowing people to feel more comfortable in taking tests in case of a suspicious case. Another method highly used to protect is the provision of Post-exposure prophylaxis (PEP) in A&E and sexual clinics. PEP is a drug administered after a suspected

exposure to HIV (Maisano *et al.*, 2025). This method of protection is important as it will prevent a case of infection of occurring.

2.3-Promotion:

This involves raising awareness of the disease to avoid transmission. This can be done through campaigns such as “It starts with me”. This campaign encourages to get tested in specific times of the year. By promoting testing and screening, it means that stigma will decrease due to the normalising of this action.

3-The Key determinants/ Risk factors of HIV:

HIV had several risk factors which include unprotected intercourse, sharing of needles or syringes, mother to child transmission and unsafe blood transfusion.

An individual might be exposed and develop HIV during unprotected intercourse due to getting into contact of their partner’s bodily fluids which will travel through their bloodstream and cause infection (NHS, 2025). Sharing of needles or syringes also exposes individuals to the virus as needles would contain an infected person’s blood which would infect other individuals through injection (Yeh *et al.*, 2023). By an individual encountering an infected person’s bodily fluids or blood, they are not only at risk of HIV but of contracting infections. These forms of transmission show that risk factors are dependent on lifestyle behaviours.

Mother to child transmission occurs while the mother carries her baby in the uterus, during delivery or during breastfeeding (Cervený, Murthi and Staud, 2021). This type of transmission might occur without being detected as the mother might unknowingly have HIV. This reinforces that the disease takes years to be detected as symptoms. Unsafe blood transfusions are another risk. This is most likely to occur due errors, insufficient screening and poor infrastructure for screening in developing countries and due to a donor giving blood without knowing that they are positive for the virus (Scott and Wu, 2019). In high income countries, these types of transmission have been controlled however in low- and middle-income countries these can still occur leading to rise infections.

4-Epidemiological studies: Prevalence of HIV among young people:

In the UK, young people aged between 15-24 are also affected by HIV. This age group has the lowest treatment rates compared to other age groups. In this age group tests have fallen by 7% suggesting decrease in cases (UK Health Security Agency, 2025). Young people under the age of 25, make up for 10% of new diagnosed cases in the UK, showing that they are the group less affected as others (25 years of age or above) make up for 68% of cases (Stanford, 2025). The way this group gets infected with HIV primarily through unprotected intercourse and through sharing of needles.

5-Public health approaches and strategies:

Public health uses different methods to monitor the rise of new cases. One of the methods used to track the number of cases by UK Health Security Agency is the HIV and AIDS Reporting System (HARS). HARS is a dataset developed to track outcomes of treatments of patients utilising HIV services, identify groups at risk, and evaluates treatments and prevention policies (NHS, 2018). This method of surveillance will allow to observe the development of HIV across all age groups and across all demographics in the UK. HARS would allow to identify prevalence changes among young people through reporting of cases and data observation. Another strategy used to monitor this virus is the 'HIV Action Plan 2025 to 2030'. This method aims to stop the spread of HIV by 2030 through preventing the spreading of infection, testing to ensure that there are no undiagnosed incidents, treating patients and suspected exposures to avoid worsening the condition into AIDS or new HIV cases and by addressing existing stigma to improve the live of current HIV patients (Department of Health & Social Care, 2025). This plan also has the aim to strengthen systems that deal with the virus to ensure efficient and non-judgemental care which is one of the main needs of patients.

6-Short- and long-term impacts in young people:

HIV has the capacity to cause short and long-term effects in the lives of young people. The short-term impact of this virus is the initial exposure to HIV. This is the acute phase (Suanzes *et al.*, 2023), which occurs within 2 to 6 weeks of infection. During this period the patient will have a high viral load leading to higher chance of infection to other individuals. This impact occurs in both symptomatic and asymptomatic patients meaning that initially there is no or limited control of spread (Letizia *et al.*, 2022).

The long-term effect of HIV includes comorbidities (Morales *et al.*, 2022). The diseases that HIV might promote are cardiovascular disease, diabetes, chronic kidney disease, osteoporosis and malignancies (Currier, 2018). Patients with HIV will be constantly exposed to the risk of developing these diseases leading to a possible increase in their prevalence which cause challenges in the handling of HIV. Another long-term effect that might occur is the undetected development of AIDS. For HIV to progress into AIDS it might take a minimum of 5 years (Jia *et al.*, 2020). AIDS is a chronic advanced form of HIV which causes immune system to be more vulnerable to infections increasing chance of mortality rates and decreasing young people's lifespan.

7-Health intervention programme proposal:

To decrease HIV cases, the ideal method would be to tightly control drug users. There could be tighter policies and consequences if caught in possession or under the influence of drugs as they are illegal. This could specifically target users who utilise syringes and needles as the

plan is to reduce HIV transmission. Drug users would be the main target as it is the only activity that authorities would be able to control through policies. Consequences of utilising needles or syringes could include attending mandatory educational sessions about the use of drugs and sharing needles. These sessions could occur between 2 to 5 months as it is the time required to create health related habits (Singh *et al.*, 2024). The habit these sessions would aim to create is the stopping of needle sharing and stopping drug usage as it is illegal, harms health and creates risks of other infections such as hepatitis and bloodborne diseases (McCarthy *et al.*, 2020). From this, sessions would work as a rehabilitation method instead of a punishment to increase the success rates in decreasing the number of drug users in general but specifically those who inject themselves.

7.1-Strengths of health intervention proposal:

The strength of the above plan is that it aims to rehabilitate drug users. Rehabilitation creates better behaviour change compared to punishments as drug addiction is seen as a health condition (Tomaz, Moreira and Souza Cruz, 2023). This would promote the stoppage of using drugs in general and not only the sharing of needles.

7.2- Weaknesses of health interventional proposal:

The main weakness of the plan is that it does not aim to all groups at risk of contracting HIV infection. This is because other factors are non-controllable. This is because it depends on an individual's lifestyle choices. The only method to control other risk factors would be to make campaigns and raise awareness.

8-Conclusion:

HIV is a disease that can lead to several other diseases including AIDS. This is a public health concern as it is transmitted through different factors which are based on individuals' choices which cannot be controlled. To decrease prevalence of this, authorities must keep campaigning and create policies and plans to target factors that can be managed.

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