Describe the pattern of endocrinological disease in North East London, and discuss this in the context of global health

The endocrine system functions to control many bodily functions through the release of hormones via a variety of endocrine glands. Each of these glands releases a specific hormone which travels in the blood to various targets thereby coordinating body processes. The endocrine system is involved in bone and tissue growth, glucose metabolism, and conception. Improper function leads to the formation of a host of endocrinological diseases.

Endocrine disease may result through hormonal imbalance, in which too much or too little or a hormone is released, or through lesions such as tumours. Examples of endocrine disease include: Diabetes (Type 1 & 2), Thyroid Disease, Addisons Disease, Cushings Disease, and Parathyroid Disease. The focus of this report will be on Diabetes due to the word limit of the report.

Diabetes is a fast growing threat to public health. The number of people with diabetes has doubled since the year 1996. There are approximately 3.5 million people who have been diagnosed with Diabetes, with an estimated 1 million more with the disease but not yet diagnosed, through the use of estimates calculated with QOF figures and Diabetes prevalence models.

There is a 6.1% expected increase in population in north east London, from 1.95 million to 2.07 million. The level of growth is different in various minority ethnic groups. In the south Asian groups, population is expected to increase by 10.5%, while the growth in the black community is lower than the average at 5.1%. These groups are known to have a greater probability in having high risk health condition including diabetes.

Black and South Asian groups have a greater risk of developing diabetes. Black groups are 3 times more likely and South Asians 4 times more likely, in having diabetes as compared to the white population. North East London faces a stern challenge in the prevention of diabetes and its control.

Globally the prevalence of diabetes has risen from 4.7% to 8.5% from 1980 to 2014. The current world population with the disease is estimated to be 422 million according to the

World Health Organisation. The prevalence has had a greater rate of increase in low to middle income countries. The WHO predicts that Diabetes will be the 7th leading cause of death by the year 2030.

Describe the pattern of health provision in North East London for endocrinological disease, and contrast this with the rest of the UK

Health provision refers to the way in which underlying aspects of good delivery of care including money, drugs, and equipment are combined to ensure the best care possible.

In most instances Diabetes is treated completely by the National Health Service, which provides structured care for diabetics at various stages of their disease progression. Diabetes care by the NHS can be seen to be fairly complex, which mirrors the complexity of Diabetes as a disease itself.

Care for diabetics includes primary care, secondary care in the case of emergency, admission, or follow up, as well as the use of annual care reviews and Diabetes health checks. Eye, foot, and kidney function should all be appropriately assessed for complications.

It is estimated that the NHS utilises just fewer than 10% of its total hospital expenditure in the treatment of diabetes and its complications. It has also been estimated that 10% of patients admitted to hospital have diabetes. The 'Diabetes in the NHS' report expressed that the total cost of managing diabetes is £3.5 Billion per annum.

NICE guidance should be used to maximise good care in diabetics. The Right Care analysis carried out in North East London CCG's showed an increase risk in mortality. It also expressed that the proportion of type 1 and 2 diabetics in the national diabetes audit who received optimal NICE guided care was poor. This needs to be improved to decrease the risk of mortality and complications in the diabetic population of North East London. On a positive note, the pilot scheme of the NHS Diabetes prevention project has been given the green light for boroughs in North East London.

In terms of spending it has been shown that primary care spending costs for endocrine disorders in general is high, and savings of £5 to 10 million is a target.

Describe genetic and environmental aspects which cause for variety in the pattern of endocrinological disease between the UK and globally

The clinical and physiological spectrum of Diabetes had expanded widely through knowledge gained from various genetic studies.

In type 2 Diabetes, several sources of evidence had expressed an increased risk of disease depending genetic susceptibility. The risk is 40% if one parent had diabetes, but up to 70% if both parents are diabetic. The genetic pattern does not follow typical Mendelian inheritance. Type 1 diabetes also has a genetic element but less so than type 2.

Environmental factors also play a role in developing the disease. These include sedentary lifestyles, obesity, raised cholesterol, and smoking. It is thought that there is an interaction between the patient environmental risk and genetic susceptibility, which leads to disease formation.

The genetic risks are raised in the Asian, Black, and Hispanic communities as compared to the white population. IT is also the case that there is increased risk in developing countries. In the UK, risk of diabetes is greater in minority ethnic groups. It has been noted that there is increased prevalence of diabetes in communitities with these ethnic minorities.

Explore the difficulties surrounding compliance and ability to manage illness amongst patients from low to middle socioeconomic background

Diabetes requires high levels of self-management involving blood glucose monitoring, adherence to medication, and dietary decisions, which all contribute to having optimal blood glucose control. A lower socioeconomic background is however related to poorer self-management. Education and poverty are factors associated with poor diabetic control, and indirectly related to loose glycaemic control due the presence of depressive symptoms and avoidance coping.