Irreversible cell death in progressive neurodegenerative diseases such as Alzheimer's has led me to question why the human body fails to repair particular cells and has increased my interest in understanding how the body functions. Following from my grandfather's own diagnosis of the disease, my curiosity to learn more grew and I delved more into medicine.

A-level biology has informed me of the continuously developing field of genetics and its importance in the fundamental structure and function of humans. The book "Junk DNA" introduced concepts that challenged my initial beliefs about non-coding components within the genome; I discovered its role in gene expression and its potential as diagnostic biomarkers. Reading "Adventures in Human Being" has provided me with a different perspective of the human anatomy and has raised my awareness of the technological advances that have contributed to understanding the body. Studying chemistry allowed me to realise the importance of substances on a molecular level. Investigating the chemical structure of penicillin and its mechanism in inhibiting the synthesis of cell walls in bacteria has increased my appreciation of modern medicine and how it is used to treat people. Problems can be solved with various methods and I have developed the skill to approach them logically from maths, which is vital to determining an all-inclusive treatment for patients.

Organising work experience at Luton and Dunstable hospital has given me the basic exposure to seeing medical applications in a clinical setting. Shadowing a consultant in the respiratory department was enlightening in regards to a doctor's regular routine as I was able to observe ward rounds, where they examined patients to determine their condition and discussed treatments. Throughout my placement, doctors demonstrated unwavering perseverance despite physical and emotional obstacles. This was accentuated during a consultation with a patient who had lung cancer, which developed into bone metastasis. From this, I noticed the importance of appropriately communicating sensitive topics with ease, a high degree of empathy and a holistic approach to care. Furthermore, I witnessed the challenge of encountering patients approaching the end of life, who were no longer responsive to their treatment. This highlighted the ethical considerations concerning life-extending care and the need to balance the importance of patient autonomy with their best interests. To further identify the philosophy behind this issue, I have read books and articles such as those written by Dr. Dan W. Brock.

I was able to truly acknowledge the significance of having a strong foundation in scientific concepts and how practical techniques are used to reach a conclusion at a STEM summer school. During my time, I used analytical skills in order to make decisions and this ability will influence the choices I make whilst studying medicine. Working with others has enhanced my confidence and skill to communicate accordingly and recognise the importance of teamwork, which is an essential aspect in patient-orientated interaction. Being a prominent leader in a youth group for three years has improved my organisation and time management skills, as it requires me to balance academia with a responsibility outside of school. I have organised retreats and fundraisers, which have broadened my understanding of helping others beyond a medical mind-set. To gain a deeper insight and alternative view to healthcare, I also have plans to volunteer at a care home.

It is the interface connecting scientific knowledge and everyday human contact between a patient and physician that has led me to pursue a career in medicine. I believe I have the abilities and motivation to face unsolved problems within the field of medicine and contribute to how it can be developed.