

## The Starship Children's Hospital- Rachel Longwell

My 5th year elective placement was carried out within the paediatric haematology/oncology department of the Starship children's hospital in Auckland, New Zealand (NZ). Whilst there, I was supported by a team of inspiring and motivating nurses and doctors who gave me the opportunity to fully incorporate into the clinical team. This allowed me to gain a deeper understanding of the diagnosis and management of a wide range of oncological and haematological conditions including the use of and the complications associated with chemotherapy. In my time on the ward I was able to build relationships with long term patients and their families and I gained an appreciation of the impact that a chronic medical condition can have on a young child's life. The department also housed a bone marrow transplant unit and I was fortunate enough to witness every stage of bone marrow transplantation from counselling patients and searching for donors, to harvesting cells in theatre and finally to administration of the cells and the short and long term complications that unfortunately can arise.

Whilst on my placement, I became interested in the unique cultural and historical background of NZ. After finding out that certain ethnic groups in NZ (in particular those from Māori or Pacific Island backgrounds) face inequalities in both access and quality of healthcare, I carried out a retrospective analysis of NZ National Bone Marrow Donor Registry (NZBMDR). All searches for both adult and paediatric patients seeking unrelated HLA-matched haematopoietic stem cell donors in the past 10 years were analysed. Information was gathered regarding patient ethnicity, availability of donor, time taken to identify a suitable donor and the date of search. The aim was to see whether any ethnic group had a higher probability over another in finding an appropriately matched donor. The information gathered was analysed using statistical measures such as unpaired t-tests, calculations of probability and chi squared tests.

282 patients were identified as having a donor search carried out between 2004 and 2013. 85% of these searches resulted in a successful match. Differences were seen amongst ethnic groups regarding availability of donor ( $p=0.003$ ). Compared to non-European populations, European populations were more likely to find a successful match ( $p=0.01$ ). No differences were noted between ethnicity and time taken to find a match ( $p=0.33$ ).

In 1999, a similar analysis was carried out by Velickovic, Z.M. et al. The results of this study showed a statistically significant difference between the chances of European individuals in finding a donor compared to Māori and Pacific Island individuals ( $p<0.042$ ,  $p<0.01$  respectively). This study initiated a recruitment strategy by the NZBMDR to increase numbers of voluntary donors from Māori and Pacific Island backgrounds. As the analysis I carried out potentially showed lower levels of bias against Māori and Pacific Island individuals, it potentially has been shown that this positive change has worked in increasing haematopoietic stem cell donor availability for minority ethnic groups within NZ.

Both personally and professionally, my elective was a life changing experience. I had the opportunity to live, work and travel in a stunningly beautiful part of the world where the people respect their culture and history and love to share it with you. My passion to work in the field of paediatric haematology was strengthened and I now have a new found wish to live and work out with the UK again in the future. I would like to thank the Scottish haematology society for the bursary that made my time in NZ possible.