

MRC – Outcomes of MRC funded PhD students

Kate Foster | BA Criminology

Overview of the Data Fellowship

During the Summer between my second and third year of University I partook in a data fellowship with the Medical Research Council (MRC) where I worked with a small team working on a project looking at the career's pathways of MRC funded PhD students.

The internship allowed me to immerse myself into the working culture of a governmental organisation, where I learned about the roles available and how the organisation is run. I also got the opportunity to meet the other interns working for the company, where it was really interesting to learn about their individual projects. Despite the internship being run remotely, I gained a real sense of the community within the employees of the MRC and how people from different teams and projects collaborate to achieve their goals

- A key highlight throughout my 8-week internship with the MRC was having a zoom call with Fiona Watt (executive chair of the MRC). I got the sense that the MRC benefit from not only the research conducted by interns itself, but also by having a fresh perspective from those not already working for the MRC. This was a highlight for me as I could really understand the mutual benefits of an internship

Data Analysis and Methods

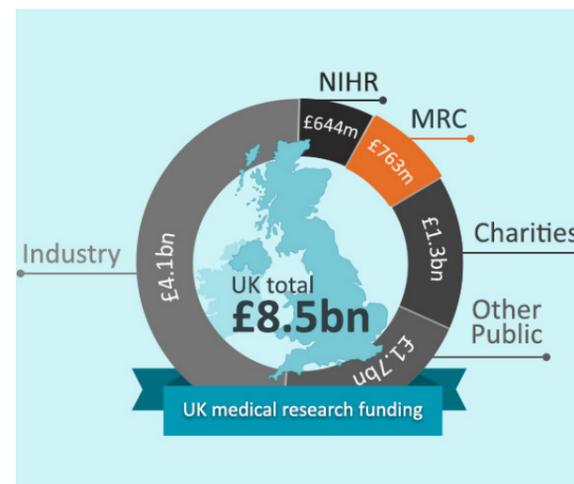
I developed a series of bar charts using R-studio from two separate datasets. One dataset was a complete excel spreadsheet containing information about MRC funded PhD students from 2010-2020. The second dataset I worked with was an incomplete spreadsheet of the career's pathway of previous MRC funded PhD students. I also conducted a number of statistical tests to examine the significance of these findings.

- In order to conduct my analysis, I had to finish the incomplete dataset. I had to fill in any gaps within the excel spreadsheet which involved me finding people on LinkedIn. I noted down their first positions after their post-graduate degrees and their current positions, including the company name and which particular sector their role was in.
- In terms of data analysis, I initially used exploratory analysis to 'get to know' the individual variables and formed basic bar charts and uncovered statistics.
- Following this, I made bar charts addressing any correlations that there may be between variables, where recoding and rearranging the outcomes of the variables was often required. I did this through R-Studio, a platform I am familiar with from University
- I then proceeded to carry out Anova tests within RStudio which concluded that my correlations were statistically significant. This is a process which I had not used before and was supported by my team on how to carry out and understand the outcomes of the code. This meant the results of the data analysis could be confidently used.
- At the end of the internship, I produced a word document where I presented my findings. This meant the rest of the team could clearly see and use my conclusions for further analysis and to benefit the wider functioning of the MRC. For this I used my experience with concluding data gained throughout my degree.

Findings

Due to reasons of confidentiality, I am unable to share any specific statistics regarding my findings throughout the internship. However, I have made a few conclusions on the more general results of my analysis:

- Overtime, the MRC have funded students from a wider variety of institutions, including an increase in those who attended Universities outside of the traditional 'golden triangle' institutions. Therefore, the MRC can be said to have diversified their use of funding and have become more inclusive to less-prestigious Universities
- The majority of students went directly into further education or the academic sector after gaining their PhDs. The likelihood of this was dependent on the academic institution they attended, although many students proceeded into sectors and roles outside of the medical remit, suggesting that skills gained from PhDs are transferable.
- The specific type of funding received by the MRC may impact the particular sector they work for after completing their PhDs, both immediately and in their current roles.



An example of how MRC funding is distributed. Source: UKRI MRC 'our successes'

Key Skills Learnt

The Q-step internship offered many opportunities to develop my existing skills and learn new ones. These skills or something I can use going forward in my degree and future employment post-graduating

- I learnt how to use Anova tests to test for statistical significance within the data. Before starting the internship, I questioned my knowledge of data analysis as I was worried my existing skills were not developed enough to succeed and be a reliable member of the MRC team. However, due to significant support from the team was able to carry out analysis that I never thought I would be able to do in a confident manner and find conclusions from a real-life and important data source.
- In terms of more transferable skills going forward, I found the internship to increase my confidence within working environments. Previously, I had only worked in retail part-time, so therefore working for the MRC was completely out of my comfort zone. I soon learnt that asking questions and engaging with the rest of the team working on the project wasn't as daunting as I expected and started to embrace this. This engagement allowed me to understand the structure of the MRC and gave me the confidence to ask for help when I faced any challenges within my analysis.