Overview of the Data Fellowship

My data fellowship took place with the Northern Care Alliance (NCA), an NHS trust delivering healthcare to over one million people across Salford, Oldham, Rochdale, and Bury, as well as specialist services to patients from all across Greater Manchester. At the NCA, a team of over 20,000 staff deliver integrated health and social care to patients in the community or in one of their four hospitals – Salford Royal Hospital, The Royal Oldham Hospital, Rochdale Infirmary, or Fairfield General Hospital.

I worked with the Equality, Diversity, and Inclusion (EDI) team during my fellowship. The NCA and its hospitals serve a richly diverse population and strive to ensure all their services are fair and equally accessible to everyone. The EDI team work to ensure the NCA achieves its equality and human rights objectives. They oversee group-wide equality, diversity, and inclusion activity including reviewing action plans, strategy development, and meeting and reporting NHS England equality standards and regulations, such as the Workforce Race Equality Standard and the Workforce Disability Equality Standard.

Data Analysis

During my time with the EDI team, I created a report providing an analysis of staff retention within the NCA. The NHS as a whole is facing challenges in maintaining the workforce needed to deliver high-quality care. My report sought to understand the various factors associated with staff retention in the NCA, and examined whether staff characteristics, such as demographics and personal factors, were contributing to staff turnover rates. Using the NHS Electronic Staff Record (ESR) I created a dataset with all current and former employees of the trust from the previous three financial years in order to be able to look closely at the demographic makeup of the NCA's workforce and to investigate patterns in employees deciding to leave their positions at the NCA.

My report examined the characteristics of staff members who were leaving the organisation and conducted statistical analysis techniques including chi-square tests and logistic regression to examine the associations between staff characteristics and leaving the organisation. I also conducted qualitative research to understand the factors associated with leaving decisions of individual staff members in the trust, by designing and administering a staff survey that sought to better understand staff experience members' experiences, feelings, and perspectives of working within the NCA. Responses to the survey were thematically analysed using the framework method, popular in the analysis of qualitative data in multi-disciplinary healthcare research (Gale, 2016).

Findings

Analysis undertaken of the demographic characteristics of past & present staff members of the NCA showed that these factors played a significant role in staff retention in the trust and had a significant effect on the probability of a staff member leaving the NCA.

When multiple demographic factors were fed into a logistic regression model, the adjusted odds ratios produced showed us that several staff characteristics were significant predictors of leaving the organisation. Whilst holding the other predictors constant: Staff members who reported having a disability are 1.4 times as likely to leave than those who didn't. Staff members who identify as male are 1.7 times more likely to leave than their female counterparts. Staff members of non-British nationality are 0.8 times less likely to leave. Staff members who are Black, Asian, or any other non-white ethnic minority group are also 0.9 times less likely to leave the NCA. Staff members on the lowest pay scale are 1.6 times more likely to leave than those on the highest.

My analysis of staff data and demographics demonstrated the importance of ongoing EDI initiatives in the trust, some already underway such as the cultural ambassador programme which aims to eliminate bias in the selection and discipline process, with the aim of encouraging diversity in appointments to senior grades and reducing the likelihood of dismissal. The findings of the report emphasised the need for managers to remain engaged with staff to understand the workplace culture, as well as be aware of and promote equality training to become better equipped at becoming an inclusive team.

In the responses to the survey I designed as part of my qualitative research, 'understaffing' or 'staffing pressure' were reoccurring themes. Improving staff retention in the NCA will help facilitate better staffing levels, thus alleviating pressure on existing staff members who may be struggling with high workloads.
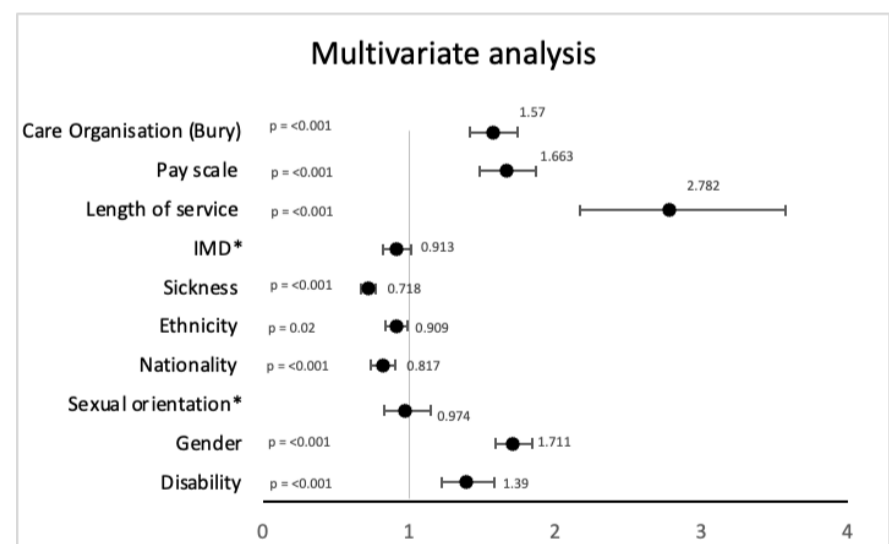
Forest plot chart showing adjusted odds ratios for leaving outcomes based on staff characteristics

Key Skills Learnt

- Designing a research project from conception by reviewing previous literature to identify and define problems, conducting independent research, and focusing on one large piece of work for an extended period of time.
- Technical data skills (data cleansing, visualisation and presentation, manipulation, and oversampling).
- Built on skills taught at university in the statistical software SPSS to perform descriptive and statistical analysis, specifically to create regression models to obtain odds ratios.
- Presenting findings in a clear and succinct way for a non-academic audience and key stakeholders.
- Qualitative research, from designing a survey, recruiting participants, and thematic analysis of responses.