Community Alarm Uptake by Ward

Ward	Community Alarm Users	Uptake
Woodhouse Park	188	1.22%
Higher Blackley	183	1.18%
Baguley	184	1.15%
Brooklands	172	1.13%
Northenden	154	1.02%
Burnage	189	1.02%
Sharston	175	1.00%
Chorlton Park	169	0.96%
Didsbury East	141	0.96%
Gorton & Abbey Hey	199	0.95%
Miles Platting & Newton Heath	178	0.92%
Charlestown	155	0.89%
Clayton & Openshaw	172	0.86%
Harpurhey	168	0.84%
Old Moat	128	0.83%
Moston	155	0.82%
Didsbury West	111	0.74%
Chorlton	92	0.72%
Withington	97	0.63%
Crumpsall	109	0.60%
Fallowfield	88	0.59%
Levenshulme	112	0.57%
Moss Side	115	0.54%
Ardwick	110	0.52%
Whalley Range	86	0.52%
Longsight	104	0.50%
Hulme	82	0.42%
Cheetham	89	0.41%
Rusholme	66	0.38%
Ancoats & Beswick	56	0.38%
Piccadilly	20	0.17%
Deansgate	10	0.07%
Not Given	25	
TOTAL	**4,082**	**0.65%**

*Total excludes 18 with a primary address out of area and 7 not known. Uptake based on 2021 census populations.

Proportion of Community Alarms by Ward

Percent of All Citizens with Community Alarms

- 0.07% - 0.42%
- 0.43% - 0.63%
- 0.64% - 0.86%
- 0.87% - 1.02%
- 1.03% - 1.22%

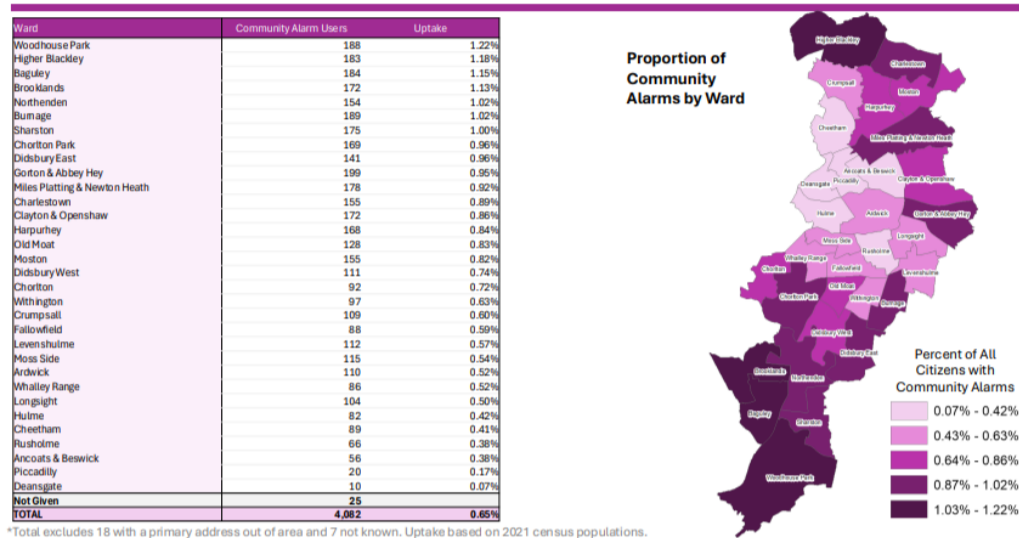## Overview of the Data Fellowship

Tech-enabled Care (TEC) devices consists of the utilization of community alarm services and peripheral devices to uplifts independent living via preventive worsening of health. This method incorporates assistive technology to ensure TEC-serviced individuals can safely live in their own homes indefinitely, while also delaying the needed formal emergency care and support services. The project looked at strategic opportunities to increase number of citizens receiving TEC by extending service to Manchester Wards imposing challenging demographics and geographical locations, in hopes of depleting inequality of residence TEC uptake.

The completion of the 8-week data fellowship in the Council allowed us to perform variety of useful quantitative and qualitative skills. We had to conduct primary research and analysis of secondary demographics, and conveying our findings and recommendations in a coherent manner through a presentation to the head of social care and departmental senior stakeholders of MCC to contribute insightful data.

Data Analysis

As part of our data fellowship, we received advanced Excel training, and we were taught how to use ArcMap GIS. This equipped us with the skills to clean a dataset of 4,500 citizens. As the data we received was pulled from two systems we had to make a lot of decisions such as re-calculating citizens' wards from their postcode, and deciding which system provided more reliable information. After cleaning the data, we were left with 4,082 records suitable for analysis.

During analysis, we utilised complex nested formulae in Excel in order to extract various statistics on the demographic make-up of citizens receiving TEC. This involved integrating multiple datasets, such as those receiving adult social care in the city, and data from the 2021 census.

These insights allowed us to deliver visually appealing, visualisations of the data. Moreover, geospatial data was mapped across Manchester, achieved through multiple training sessions on ArcMap GIS. These visualisations demonstrated the depth of geographical inequality in access to TEC in Manchester, informing future strategic change in how this service is delivered.
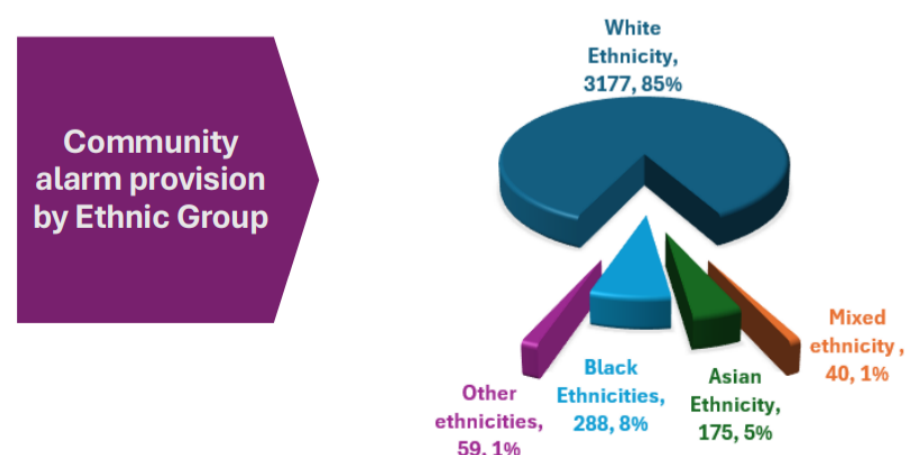
Findings

- Of the 650,000+ citizens of Manchester, only a minor 0.65% of the population are enjoying the benefits of Tech-Enabled Care. The uptake percentage is much lower than Scotland (1.81%) in terms of Community alarm or Telecare
- Community Alarm uptake concentrated in Wards furthest away from the Core of Manchester, with usage rate >9 times than Deansgate (20) and Piccadilly (10).
- 69% of community alarm users inflicted with limb damage or mobility limitations, common in citizens age 60+ with poor physical health.
- Digital literacy strategy measures deemed highly inefficient: Tablets distributed to older citizens aged 70+ reached 4%
- Pakistani and African groups are some of the largest ethnic groups in Manchester but respective population TEC uptake% remains at <0.2%. There are also no Roma people receiving TEC.
- Accessibility challenge of the TEC Smart Suite
  - 46.12% of health deprived households in Manchester do not own a private vehicle, increasing reliance on public transport for potential and existing service users.
  - Normal walking time (10 minutes) to public transport extended for Disabled (limb damage or Dementia afflicted) adults, Journey time reaching 1 hour of travel.

Key Skills Learnt

As a result of working with real-world data, we learned a lot about the process of extracting, cleaning and organising data to make it useable, and about the various challenges that data analysts encounter during their work.

We gained valuable knowledge on how Manchester City Council operates, having the opportunity to meet with people across departments, explore the roles of different teams, and collaborate with and present to a wide range of employees. We gained significant presentational skills, delivering an hour-long presentation of our final findings to a meeting of almost 30 senior stakeholders across Adult Social Care in the council.

Community alarm provision by Ethnic Group

- White Ethnicity, 3177, 85%
- Black Ethnicities, 288, 8%
- Asian Ethnicity, 175, 5%
- Mixed ethnicity, 40, 1%
- Other ethnicities, 59, 1%

* 691 missing and invalid cases were excluded for analysis

Pie Chart of Ethnic Group Distribution of Citizens with TEC