The Networked Data Lab: Analysis plan for Topic 1 on shielding patients during COVID-19

Satellite analysis for NHS Leeds CCG & City Council

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## Background and research question

The Leeds Health and Care Hub is a BI, IG & IT partnership between Leeds CCG and Leeds City Council with strong working relationships across the health and care system in Leeds. To support future ways of working to improve the health and wellbeing of people in Leeds, it is key we understand the interplay between non-health and health services. This analysis should provide a timely, informative, practical example to develop other organisations understanding of the Leeds Data Model and how it can be used for the future commissioning of services in the city.

Leeds City Council have enhanced the Shield Patient Lists received from MHCLG and now NHS Digital for Leeds residents with flags to indicate whether an individual was already in contact with Council services, and further enhanced these data with ethnicity and deprivation information. This has enhanced reporting of equity of access and support to underserved population groups.

The satellite research questions for Leeds are:

* Does contact with Leeds City Council services confer a protective effect on people registered on the Shielding Patient List (SPL) with respect to their use of urgent and emergency services? Is the effect different for people in contact with Leeds City Council services and not on the SPL?
* Are people registered on the SPL who were previously known to Leeds City Council Services or the Leeds Neighbourhood Networks more or less likely to request city council support designed specifically for people who are shielding?

## Aims

* We aim to understand the impact Leeds City Council and where possible 3rd sector services have had on people who are shielding. We would like to understand if they are effective, the equity of access and subsequent health outcomes. We want to understand the effect demographic difference between populations have on the effectiveness of these services.
* This work will form the initial stage in developing an understanding of whether local services to support people who are shielding are valued and understand where and for whom there are any gaps in the current services.
* This satellite analysis will support and extend the central analysis by using adult social care data in addition to the demographic and secondary health care datasets. Once we have defined our cohort, understood its health characteristics and changing pattern in secondary health care we would then like to understand what the impact of social care and the third sector have had on the outcomes for this cohort.

## Data and data linkages

* All of the data we plan to access are currently included in the Leeds Data Model. These include data from General Practice, Leeds Community Healthcare Activity, Hospital Inpatient, Outpatient and A&E Activity, Urgent Care System data (including 111 and Urgent Treatment Centres) and Adult Social Care data. In addition to the routinely available data listed above we will be adding in the NHS Digital Shielded Patient List and linking this on a pseudonymised NHS number.
* There are currently 42,000 patients on the SPL, so this will be the maximum sample available for this analysis.

## Methods

* The approach to the analysis is still in very early stages. We have identified a brief approach; however, the detailed plan will not be available until the Senior Data Science vacancy has been filled and a more detailed investigation of the available data has been undertaken.
* Preliminary thoughts on the methodology include performing regression analysis to determine the protective effect of being on the SPL accounting for the interactions of age, gender, ethnicity, IMD and a basic geographic location (rural v urban). In addition, we would investigate which, if any, of the above variables had an independent effect on the final model. Outcome variable(s) are to be determined, but are likely to be use of urgent and / or emergency services.

## Local audience

* There are numerous boards, groups and meetings in the current governance structures for the city which we would plan to share this analysis with. These include:
  + Bronze City Command Group for Shielding Support
  + Health and Wellbeing Board
  + Leeds City Council Adults and Health directorate
  + Forum Central, a third sector umbrella organisation for Leeds
  + NHS Leeds Clinical Commissioning Group
  + Leeds Informatics Board
  + Various business intelligence fora in Leeds such as Leeds City Council BI Community
* In addition, we would work with the engagement lead for the NDL to understand how best to present the results of this complex analysis to other groups not traditionally involved in analytical outputs. This may include but not be restricted to:
  + Public/ Patients
  + Third Sector Organisations
  + Wider GP Practice representatives

## Dissemination plan

* We will develop a set of presentation tools for use in sharing the analysis at meetings for the currently identified local audiences. However, a wider dissemination plan will be developed and supported by the NDL engagement and communication lead once appointed.