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ARC BITE

Brokering Innovation Through Evidence

Linked NHS and council data – what can it tell us and how can it support delivery of more equitable health and care services?



One major public health problem is the rise in the number of those living with multiple chronic conditions (multimorbidity). Could linked NHS and council data advance our understanding of multimorbidity, and inform future service provision?

Some NHS organisations and local councils are joining ('linking') their administrative data records to help deliver more integrated and patient-focused care. These datasets present opportunities to improve our understanding of public health problems, like multimorbidity, and inform the delivery of more equitable services.

What was the aim of the project?

People in more disadvantaged social circumstances are more likely to develop multimorbidity. This research aimed to investigate whether data that joins up NHS and council records could help better understand how people's social circumstances are associated with multimorbidity (Aim 1).

This research also aimed to understand whether this linked data could be used by senior decision makers to inform the delivery of more equitable health and care services (Aim 2).

What did we do?

To address Aim 1, this research conducted:

- A review of literature examining how social characteristics related to the households and areas in which people live are associated with multimorbidity
- An analysis of the Care City cohort (a linked health and council dataset extracted from resident records in Barking and Dagenham). This was to examine and quantify associations between household tenure and multimorbidity. This study acts as a proof of concept for using linked health and council datasets to understand social determinants of local public health problems.

To address **Aim 2**, this research conducted interviews with senior leaders of health and care organisations in North London. The interviews explored the barriers and facilitators of analysing residents' health or care records ('analytics') for informing strategic and equitable decision-making across organisational boundaries.

What we found and what does this mean?

For **Aim 1**, this research found that:

- Household social determinants of multimorbidity such as household tenure are under-explored, despite evidence suggesting they are more strongly associated with multimorbidity compared to area-level social determinants.
- In Barking and Dagenham, the odds of multimorbidity were greater for working age residents of social housing and privately rented properties when compared to owner-occupiers.
- Using linked NHS and council data to address gaps can reveal important associations that are not revealed when data is held separately.

For **Aim 2**, the research found that:

- Half of senior decision makers factored health inequalities into their decision-making and half did not. Analytics were mainly used to help inform investment and disinvestment,

plan new or redesign existing services and understand the impacts of new services models.

- Relationships between leaders and analysts, and leaders of different organisations, were key for overcoming organisational and logistical barriers to data sharing, access, and use.
- The interplay between factors related to three areas – working environments, the people involved in the process and decision, and data quality – produced different outcomes in relation to analytics use.

Recommendations

This research demonstrates that linked NHS and council data can improve our understanding of local public health problems that cross organisational boundaries. To tackle multimorbidity, resources should be targeted to those residing in social housing.

To realise the UK Government's aspiration for data as a driving force for health and care integration, more is needed to better integrate organisations, align organisational priorities, and build and sustain cross-organisational relationships between leaders and analysts, and leaders of different organisations. If local areas want to increase the use of data for informing decisions, creating linked NHS and council datasets will be insufficient without strategies to address these further key barriers to analytics use.

What next?

This research generated further questions that warrant future investigation:

1. Does household tenure cause multimorbidity status or vice versa?
2. What other local public health problems can be investigated in this type of linked NHS and council data that cannot be investigated if the data is held separately?
3. How can local areas successfully better integrate organisations, align priorities, and build and sustain relationships between leaders and analysts, and between leaders of different organisations?

Who needs to know

Senior decision makers designing services for those with multimorbidity; areas or

organisations creating and attempting to utilise linked NHS and council datasets; and areas or organisations looking to improve the use of data and analytics for informing the delivery of health and care services.

Find out more

Ingram E, Ledden S, Beardon S, Gomes M, Hogarth S, McDonald H, Osborn D P, Sheringham J. Household and area-level social determinants of multimorbidity: a systematic review, *Journal of Epidemiology & Community Health* **75**, 3 (2021). <https://jech.bmj.com/content/jech/75/3/232.full.pdf>

Useful links

Information about the dataset used: <https://www.carecity.london/component/content/article/95-what-we-do/216-care-city-cohort>