Office for National Statistics

Methods for identifying prisoners as a non-household population in NHS Talking Therapies

The methods used to identify prisoners as a non-household population in the NHS Talking Therapies administrative dataset.

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1 . Overview

In 2021, the Inclusive Data Taskforce (IDTF) outlined eight important principles to improve the UK's inclusive data infrastructure. Among them was the need to:

- address critical data gaps around groups repeatedly identified as missing even basic demographic information in data; groups highlighted were non-household populations (NHPs) such as those living in care homes or residing in prisons as well as harder-to-reach groups such as asylum seekers, ex-prisoners or Gypsy, Roma and Traveller populations
- improve the inclusivity of data at the point of collection
- make greater use of existing data sources

The IDTF recommends adopting new and innovative approaches to identify those in temporary accommodation, that are often not well recorded, to understand experiences across the whole population of the UK. Administrative data, routinely collected when an individual is registered to a service, could provide additional valuable insight into experiences of currently often underrepresented or missing populations. This may particularly be the case when different sources of administrative data can be linked with each other and with survey data.

Our Experiences of men who access NHS Talking Therapies from prison: 1 April 2018 to 31 March 2020 article uses a novel approach to identify the population of interest and explores the experiences of prisoners who were referred for talking therapies. This research therefore responds to some of those recommendations above and aims to enhance our understanding of NHPs and improve the inclusivity of data. More information about the data we used is available in Section 3: NHS Talking Therapies data.

2 . Methods for identifying prisoners in the NHS Talking Therapies dataset

The aim of our Experiences of men who access NHS Talking Therapies from prison: 1 April 2018 to 31 March 2020 article was to explore how administrative data can be used to better understand the experiences of non-household populations (NHPs), using the example of prisoners. Without having direct identifiers for prisoners in our data we used a different methodological approach that included identifying referrals from prisons in two ways.

Referral route

Firstly, NHS Talking Therapies services record information about the referral source. The justice system is one such referral source which includes prison referrals. Any referrals that were recorded as prison referrals were flagged as prisoners.

Postcode matching

Secondly, to ensure we also capture other referral routes of prisoners, such as self-referral, we carried out a postcode-matching method.

Service providers are instructed to collect data on patient postcode at the time of registration and to review and, if necessary, update this information at each new referral. The postcode is an address nominated by the patient and classified as their "main permanent residence" or "other permanent residence" at this time. To identify potential referrals from prisons, the His Majesty's Prison and Probation Service (HMPPS) prison estate list in England was linked via postcode to NHS Talking Therapies referrals. Using postcode as a proxy for prisons we were able to identify a referral from a postcode containing a prison.

From this we identified three groups:

- group one: prison referrals with prison postcodes
- group two: prison referrals without prison postcodes
- group three: other referral source (including self-referrals) with prison postcodes

For groups one and two, we included all referrals in the research, as the referral came from a prison, suggesting that the patient was resident in prison at the time of referral.

For group three, where postcode was the main indicator of prison residence, we included the most recent referral only, as this is the referral with the most recently reviewed postcode.

Individuals with multiple NHS Talking Therapies referrals between 1 April 2018 to 31 March 2020

To be confident in the use of postcode data to identify prisoners, we excluded all but the most recent referral. This was where a prison postcode match was made but the referral source did not indicate a prison. This removed the possibility that a more recently updated postcode incorrectly flagged an earlier referral. This included the removal of "prison postcode only" referrals within the April 2018 to March 2020 period for individuals that also had a referral in the following year April 2020 to March 2021.

Instances where the same referral spanned both the April 2018 to March 2019 reporting period and the April 2019 to March 2020 reporting period were consolidated by keeping the most recent data.

Coverage

In our Experiences of men who access NHS Talking Therapies from prison, 1 April 2018 to 31 March 2020 article we refer to prisoners and prison referrals. In total, 2,930 men (aged 18 and over) were included in our population of interest. This was 3,485 referrals.

Our statistics suggest that the prisoners we identified in NHS Talking Therapies represent approximately 4% of the total male prisoner population in England between 1 April 2018 to 31 March 2020.

Female prisoners are only a small proportion of the overall prison population and only make up 1% in the referrals identified as residing in prison. To avoid disclosure risks and because of the small size of this population of interest, female prisoners have been excluded from this analysis.

3 . NHS Talking Therapies data

Our analysis of prisoners accessing NHS Talking Therapies (formerly Improving Access to Psychological Therapies or IAPT) uses programme administrative data acquired by the Office for National Statistics (ONS) from NHS Digital. Launched in 2008, NHS Talking Therapies offers adults in England access to talking therapies for depression and anxiety. Patients can self-refer; however, they do need to be registered with a General Practitioner (GP). Patients do not need to have a diagnosed mental health condition to be referred. NHS Digital regularly publish aggregated programme data in monthly, quarterly and annual reports covering activity, waiting times and patient outcomes.

This research covers incoming referrals dated between 1 April 2018 and 31 March 2020. The decision was taken not to include data prior to 2018 as there was less confidence in the accuracy of the postcode data. In addition the programme, first rolled out in 2008, has steadily grown since then, meaning the later years of data were assumed to be more applicable to the current implementation. The decision was also taken not to include data for the reporting year 1 April 2020 to 31 March 2021 in this research because of the coronavirus (COVID-19) pandemic, which NHS England notes has influenced the quality and coverage of their data.

4 . Undertaking a Data Quality Assessment

A Data Quality Assessment (DQA) was conducted to ensure the dataset was suitable and of sufficient quality for our proposed analysis.

The resulting subset of referrals was reviewed to check whether the number of identified referrals was sufficient to run the analysis. This included whether it would be possible to analyse differences by demographic characteristics, such as age and ethnicity.

We assessed all years of data available to us at the time of the DQA, from 2012 to 2021. This included checking variables for quality, such as unexpected entries and missingness by year. We also reviewed the quality of the postcode match and conducted manual checks to ensure prison postcodes were unique using the Office for National Statistics (ONS) Postcode Directory look-up. We evaluated the size of our population of interest, that is, prisoners who access NHS Talking Therapies.

Our main findings were:

Variable quality:

- variables needed for research questions were found to be of suitable quality; the variables for research included those on problem descriptors and referral information, therapy type and attendance, as well as outcome variables, such as completed treatment
- the variables that needed deriving were possible to derive, for example, calculating wait time between referral and first appointment

Quality of postcode match:

- postcode information is a mandatory field however, when data extraction occurs, only the most recent demographic information is extracted, leading to the adoption of the methodology described in Section 2: Methods for identifying prisoners in the NHS Talking Therapies dataset

Identifying referrals of patients residing in prisons:

- it was possible to identify referrals from prison in NHS Talking Therapies using a combination of source of referral and postcode information
- a strategy for cases of multiple referrals for one individual and duplicate referrals across years was needed, as described in Section 2: Methods for identifying prisoners in the NHS Talking Therapies dataset
- the population is not representative of the wider prison population in England as NHS Talking Therapies are not currently offered in all prisons

Differences by demographic characteristics:

- breakdowns of analytical variables by demographic information were not always feasible, because of underlying small counts in some categories
- demographic information on gender, age and source of referral were found to have high levels of valid information
- however, data on ethnicity, religion, sexual orientation, and long-term conditions were found to have high levels of missingness
- the possibility to use demographic data from the 2011 Census was explored but not taken forward given the time elapsed between 2011 and the research period; using 2011 Census demographic data would have excluded anyone who was not present in the UK on Census Day 2011

5 . Strengths and limitations

There are several limitations that should be considered.

This research describes the experiences of specifically those men who accessed NHS Talking Therapies from prison between 1 April 2018 to 31 March 2020. The results cannot be generalised to the whole male prisoner population, meaning it cannot be assumed that all male prisoners would have the same experience of NHS Talking Therapies if they were referred. It is important to note that mental health provision varies across prisons, with NHS Talking Therapies offered in some prisons but not all. NHS England acknowledge in their Improving Access to Psychological Therapies Manual (PDF, 6627KB) that people in prison or in contact with the justice system tend to be underrepresented in NHS Talking Therapies. Additionally, NHS Talking Therapies is not the only mental health service available in prison. This means that looking at the NHS Talking Therapies data alone cannot tell us about access to treatment for depression and anxiety, or the prevalence of these conditions. Furthermore, research has shown that there are socio-demographic differences in access to NHS Talking Therapies which may mean certain groups are more likely to be underrepresented in this research.

The identification of prison referrals uses postcode data which service providers are requested to review and update for each referral. Postcode data is not collected repeatedly throughout a referral and so this research assumes that those who self-reported as residing in prison during their most recent referral received treatment while residing in prison.

The use of self-reported postcode data to identify prison referrals risks mistakenly including non-prisoners and mistakenly excluding prisoners. For example, if a patient left prison before or during their referral without their postcode being updated in the system they would be included in our research. Conversely, if a patient received treatment while residing in prison but nominated another permanent address instead of their prison postcode when asked by the service provider they would be excluded from our research. If these cases were more likely for some patients than others, this would introduce bias into the results.

Missing data may result in bias and limits our ability to analyse differences in experience by protected characteristics. Not all information is mandatory to record, resulting in missingness (the absence of data) for some non-mandatory variables or incomplete records, including some demographic information. If data are not missing at random (for example, if data are more likely to be missing for some patients compared with others) then this would introduce bias into the results. More information about NHS Talking Therapies data quality can be found on the NHS website on data set reports.

There are potentially important individual-level prisoner characteristics that were outside the scope of this research. Available data did not include information on prisoner characteristics such as sentence type, length, or offence behaviour. This would require linking NHS Talking Therapies data to criminal justice data. These are all factors that may influence a prisoner's mental health and their access to and interactions with services from prison. Without this information it is difficult to answer the question of who is and who is not accessing NHS Talking Therapies while residing in prison.

The reporting period covered by the research overlaps with the coronavirus (COVID-19) pandemic which may affect NHS Talking Therapies activity and reporting. NHS England notes that the pandemic has influenced the quality and coverage of their data. The final month of the reporting period used in this research may be influenced by this.

Despite the limitations described, this research generates new insights about experiences of non-household populations (NHPs) accessing NHS Talking Therapies, starting with those who self-refer or are referred while residing in prisons.

6 . The potential of administrative data for research into non-household populations (NHPs)

Non-household populations (such as those that live in communal establishments or are homeless) are those commonly left behind in routine data collection. Surveys traditionally sample private residential households which misses populations who reside in communal establishments or have no fixed abode. This limits the research and analytical insights for these groups.

Administrative data has the potential to respond to these evidence gaps and generate new quantitative insights into the experiences of groups that are not easily reached by routine surveys. However, there are various challenges associated with accurate identification of non-household populations in administrative data.

Good metadata helps assess feasibility of identifying NHPs in a dataset of interest. Prior to applying for access to the dataset for this research, we investigated the metadata for variables that would help us identify prisoners and answer our research questions.

Presence of NHPs in NHS Talking Therapies administrative data

To be counted in the administrative data, NHPs must have interacted with NHS Talking Therapies. For example, people residing in a prison had to have a referral to the service as outlined above. The analysis is therefore limited to those prisons where this service was offered in the relevant period. More generally, it is worth considering barriers to accessing services for NHPs, such as:

- not being registered with a General Practitioner (GP)
- literacy skills
- spoken languages
- awareness and knowledge of the service
- internet access

Postcode linkage

To enable address information to accurately identify NHPs, it needs to be kept up to date over time. For those NHPs which do have an address or postcode, relying on this for identification requires additional quality checks for timeliness and uniqueness to avoid mis-identifying a population.

As part of our initial scoping, we reviewed the possibility of applying the same postcode methods to other NHPs, as a lack of information on these populations was identified as a critical gap in data by the Inclusive Data Taskforce.

We considered the feasibility of identifying other NHPs in NHS Talking Therapies based on the ease of identification using available variables in the dataset, as well as other contextual factors.

The postcode method has been used successfully by the Nuffield Trust for prisoner health care and Hospital admissions from care homes (PDF, 1557KB).

Given equivalent postcode lists for care homes or students in halls of residence, it would be possible to attempt the same postcode-matching method that we used for prisoners. However, we acknowledge these populations will have special considerations that may be different to people residing in prison. For example, the accuracy of student address information may limit accurate identification.

Additionally, groups that do not have a permanent address, such as people who are sleeping rough or sofa surfers, are more difficult to identify without an identifier or linking other data sources providing those identifiers.

The collection of the accommodation status in NHS Talking Therapies, which began in April 2022, should allow easier identification and analysis of people who are homeless than has previously been possible. This variable will also provide an additional check for other NHPs, such as care homes, those living in university or college accommodation and mobile accommodation.

Additional insights into some NHPs may be found by linking the data to Census 2021.

Feasibility of identifying other NHPs in NHS Talking Therapies data based upon our scoping phase

Care home residents are:

- suitable for postcode methodology given the availability of the postcode list; the CQC Care directory with filters would allow collation of a postcode list of care homes
- other considerations include that NHS Talking Services acknowledge inequality in access to service for older people

Students in halls of residence are:

- suitable for postcode methodology given the availability of the postcode list; the Student Accommodation Code provides a lookup of halls of residence by university, and by building
- other considerations involve the fact that identification of this group needs a clear definition of which students to include and which to exclude; students living in halls will vary in age and stage of course and additional consideration is needed about whether to consider private student halls of residence; there are also likely to be a range of mental health services available to students beyond NHS Talking Therapies

Gypsies and Travellers in caravan sites are:

- suitable for postcode methodology with some manual additions to the DLUHC Traveller Caravan Count list
- other considerations are that identification of these groups needs to distinguish between ethnic group and living arrangements

People who are homeless are:

- not likely to be suitable for postcode methodology as it is unlikely to capture all types of homelessness; Homeless England have a database of homelessness services
- other considerations are that the NHS acknowledges that homeless people are underrepresented in NHS Talking Therapies

7 . Glossary

NHS Talking Therapies

The NHS Talking Therapies services (previously known as the Improving Access to Psychological Therapies or IAPT) is an NHS service designed to offer psychological talking therapies to adults living in England who experience common mental health problems like stress, anxiety disorders and depression. Patients need to be registered with a General Practitioner (GP) in England to access the services, but they do not need a referral from the GP to access it. These services offer a variety of different treatments such as guided self-help, Cognitive Behavioural Therapy (CBT), counselling, Interpersonal Therapy (IPT), mindfulness and many more. More information on NHS Talking Therapies services can be found on the NHS website.

Non-household population

The non-household population (NHP) includes people living in communal establishments, some core groups of homeless populations, as well as those who fall between institutions and households and have an "absent" or "temporary" household status. More specifically, the NHP population includes people living in care homes, prisons, students in halls of residence. More information can be found in our Alternatives for including non-household populations in estimates of personal well-being and destitution working paper.

8 . Related links

Experiences of men who access NHS Talking Therapies from prison: 1 April 2018 to 31 March 2020
Article | Released 26 April 2023
The NHS Talking Therapies programme (previously known as Improving Access to Psychological Therapies or IAPT programme) helps to treat common mental disorders such as depression and anxiety. We explore the experiences of those accessing NHS Talking Therapies from prison in England in the period 1 April 2018 to 31 March 2020.

Socio-demographic differences in use of Improving Access to Psychological Therapies services, England
Article | Released 17 June 2022
Characteristics of patients treated in the Improving Access to Psychological Therapies (IAPT) services and whether patients are representative of the population with a probable Common Mental Disorder (CMD) as defined by the UK Household Longitudinal Study (UKHLS) in England. This identifies groups with lower access to IAPT to help to improve the coverage of the service.

Alternatives for including non-household populations in estimates of personal well-being and destitution
Working Paper | Released 12 December 2018
Summary and recommendations from the research report to Office for National Statistics and Joseph Rowntree Foundation by Heriot-Watt University in association with Kantar Public, investigating existing and alternative ways in which "non-household" populations can be counted in measures of living standards and personal well-being.

9 . Cite this methodology article

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