

# UK Biobank

## Address change history data

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Version 1.0

<http://www.ukbiobank.ac.uk/>

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This manual details the procedure for the derivation of address change history data.

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## 1 Introduction

**1.1:** Some research projects require data on changes to participants’ residential address over time. Address details (i.e. postcode) are not disclosed to researchers owing to their potential identifying nature; only designated members of staff have access to this information.

**1.2:** Instead, UK Biobank has provided grid co-ordinate data-fields, available in two levels of resolution: 100-m and 1-km grid postings. Researchers who request these data are encouraged to use those at the lower resolution (i.e. 1 km), which will be of sufficient granularity for most research purposes. Grid co-ordinates to a 100-m resolution will only be released for specific research projects that fully require this level of granularity.

## 2 Source of data

**2.1:** Data on address change history via GP registration for participants resident in England and Wales are provided to UK Biobank by the Administrative Data Liaison Service (ADLS) [<http://www.adls.ac.uk/adls-trusted-thirdparty-service/>]. The data are managed by NHS Digital [<https://www.digital.nhs.uk/>].

**2.2:** Data on address change history via GP registration for participants resident in Scotland are provided to UK Biobank by the Information Services Division (ISD) [<http://www.isdscotland.org/>].

**2.3:** The datasets from NHS Digital and ISD contain the date the address change was entered on the GP system and the postcode attached to the historical residential location. Full address, including the household number and street name, is only provided for the most recent address.

**2.4:** In addition to the two datasets mentioned above, UK Biobank participants can inform us directly of changes to their address (and are encouraged to do so through the annual newsletter).

## 3 Data cleaning and derivation

**3.1:** Where the full address is present and is verified to be valid, software package DataPlus (provided in the QuickAddress Batch packet), is used to transform the address data into the grid coordinates.

**3.2:** Where only the postcode is present, the grid coordinates were generated with the aid of on-line mapping tools: doogal [<https://www.doogal.co.uk/>] and uk-postcodes [<https://www.uk-postcodes.com/>]. Further details of this process are available from relevant websites.

## **4 Reference system**

**4.1:** The grid coordinate data are provided in the British National Grid (i.e. OSGB1936) projection. OSGB1936 is the Ordnance Survey National Grid geographic reference system (i.e. it is not latitude and longitude).

**4.2:** The grid co-ordinate measurements refer to easting and northing with a reference point near the Isles of Sicily. The data is usually projected in the units of meters, and there are no negative values (as they are in the case of latitude/longitude convention).