

UK Biobank

Urban and Rural Area Classification

Version 1.0

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

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This manual details the process of deriving the Urban and Rural Area Classification for UK Biobank participants.

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1 Introduction

1.1: The Urban and Rural Area Classification was introduced in 2004 as a single recognised classification system for defining urban and rural areas of residence based on postcode information that is matched to census information on population density.

1.2: The urban and rural classification was incorporated into the UK Biobank resource based on data from the postcode of residence at recruitment using tools provided by the UK Data Service Census Support (see Section 2).

2 Methods

2.1: The urban and rural area classification is produced by the Office for National Statistics (ONS) as part of the ONS Postcode Directory (ONSPD; <http://www.ons.gov.uk/ons/guide-method/geography/products/postcode-directories/-nspp-/index.html>). The content of the ONSPD for Great Britain is available under Open Government Licensing (<http://www.nationalarchives.gov.uk/doc/open-government-licence/open-government-licence.htm>).

2.2: The urban and rural area classification was obtained for UK Biobank participants using the GeoConvert tool (<http://geoconvert.mimas.ac.uk/index.htm>), provided by the UK Data Service Census Support (<http://census.ukdataservice.ac.uk/>). Information on the postcode of residence at recruitment was uploaded to GeoConvert and matched with urban/rural area classification data generated from the UK 2001 census.

2.3: Urban and rural indicators in England and Wales

Postcodes on the ONSPD have been assigned to the urban or rural category of the output area into which each falls. Output areas are treated as 'urban' if the majority of the population of an output area lives within settlements with a population of 10,000 or more. The remaining 'rural' output areas are grouped into three other broad morphological types based on the predominant settlement component – i.e. whether the population density for the output area shows characteristics that are predominantly town and fringe, predominantly village or predominantly dispersed (the latter includes hamlets and isolated dwellings). The classification also categorises output areas based on context – i.e. whether the wider

surrounding area of a given output area is sparsely populated or less sparsely populated (Table 1). Further information about the rural/urban classification can be found on the ONS website (<http://bit.ly/oYKVQR>)

Table 1: Rural and Urban Area Classification for England and Wales

1	Urban \geq 10k – sparse: output area falls within Urban settlements with a population of 10,000 or more and the wider surrounding area is sparsely populated;
2	Town and Fringe – sparse: output area falls within the Small Town and Fringe areas category and the wider surrounding area is sparsely populated;
3	Village – sparse: output area falls within the Village category and the wider surrounding area is sparsely populated;
4	Hamlet and Isolated Dwelling – sparse: output area falls within the Hamlet & Isolated Dwelling category and the wider surrounding area is sparsely populated;
5	Urban \geq 10k – less sparse: output area falls within Urban settlements with a population of 10,000 or more and the wider surrounding area is less sparsely populated;
6	Town and Fringe – less sparse: output area falls within the Small Town and Fringe areas category and the wider surrounding area is less sparsely populated;
7	Village – less sparse: output area falls within the Village category and the wider surrounding area is less sparsely populated;
8	Hamlet and Isolated Dwelling – less sparse: output area falls within the Hamlet & Isolated Dwelling category and the wider surrounding area is less sparsely populated.
9	Postcode in Scotland/NI/Channel Islands/Isle of Man

2.4: Urban and rural indicators in Scotland

The urban/rural classification in Scotland defines rurality as settlements of 3,000 or less people. It also classifies areas as remote based on drive times from settlements of 10,000 or more people. Postcodes on the ONSPD were assigned to the urban or rural category on an individual basis, based upon data received from the National Records of Scotland (NRS, formerly General Register Office for Scotland).

Table 2: Urban and rural Area Classification for Scotland

1	Large Urban Area: Settlement of over 125,000 people;
2	Other Urban Area: Settlement of 10,000 to 125,000 people;
3	Accessible Small Town: Settlement of 3,000 to 10,000 people, within 30 minutes drive of a settlement of 10,000 or more;
4	Remote Small Town: Settlement of 3,000 to 10,000 people, with a drive time of 30 to 60 minutes to a settlement of 10,000 or more;
5	Very Remote Small Town: Settlement of 3,000 to 10,000 people, with a drive time of over 60 minutes to a settlement of 10,000 or more;
6	Accessible Rural: Settlement of less than 3,000 people, within 30 minutes drive of a settlement of 10,000 or more;
7	Remote Rural: Settlement of less than 3,000 people, with a drive time of 30 to 60 minutes to a settlement of 10,000 or more;
8	Very Remote Rural: Settlement of less than 3,000 people, with a drive time of over 60 minutes to a settlement of 10,000 or more
9	Postcode in England /NI/Channel Islands/Isle of Man

3 Data obtained and presented in UK Biobank

3.1: For UK Biobank purposes, the urban and rural area classification for England and Wales and the corresponding classification for Scotland have been combined into one single data field (**Table 3**).

Table 3: Definitions of population density categories in UK Biobank

1	England/Wales - Urban - sparse
2	England/Wales - Town and Fringe - sparse
3	England/Wales - Village - sparse
4	England/Wales - Hamlet and Isolated dwelling - sparse
5	England/Wales - Urban - less sparse
6	England/Wales - Town and Fringe - less sparse
7	England/Wales - Village - less sparse
8	England/Wales - Hamlet and Isolated Dwelling - less sparse
9	Postcode not linkable
11	Scotland - Large Urban Area
12	Scotland - Other Urban Area
13	Scotland - Accessible Small Town
14	Scotland - Remote Small Town
15	Scotland - Very Remote Small Town
16	Scotland - Accessible Rural
17	Scotland - Remote Rural
18	Scotland - Very Remote Rural

5 References

Office for National Statistics (ONS)., 2013. *ONS Postcode Directory User Guide*.