

Data Profile: Local morbidity rates of Global Burden of Disease and alcohol-related conditions

Introduction

Geographical disparities in health present important research and policy challenges. Disparities can be indicative of different forms of spatially patterned advantage or disadvantage. Local age and sex-standardised hospital admissions rates can provide insights into health disparities and may act as input into health geographic research or local policy instruments, such as Joint Area Health Needs Assessments (JSNAs).

Scale and Extent

Field	Value
Data Provider	NHS Digital
Analytical Units	MSOA
Data Format	csv
Temporal Extent	Apr 1999 – Mar 2014
Geographical Extent	England
Variables	10
Observations	6791

Citation Information

The following statement should be included when citing the use of this dataset:

“The data for this research have been provided by the Consumer Data Research Centre, an ESRC Data Investment, under project ID CDRC [Project Number], ES/L011840/1; ES/L011891/1”

Data Classification and Access Summary

These data are classified as Safeguarded and are available only upon approved application. To make an initial application, please visit: <https://www.cdrc.ac.uk/data-services/using-our-data/>

Content

Age and sex-standardised morbidity rates for 27 categories of health conditions at the level of MSOAs for the financial years 1999/00 – 2013/14.

The reference population is the 2001 England population as recorded in the Census 2001.

The 27 health conditions are derived from the 4-digit ICD-10 (International Classification of Diseases v.10) codes recorded in HES. The codes have been aggregated to 20 categories used by the WHO’s Global Burden of Disease (GBD) study, 7 additional groups not captured by the GBD and derived from the U.S. Clinical Classification System (CCS) aggregation level 1 as well as alcohol-related conditions as defined by the Nuffield Trust.

Morbidity rates have been estimated in two variants: crude rates (observed cases / expected cases) and spatially smoothed using a Bayesian spatial structural model estimated separately for each year. A third set will be added shortly, which will be estimates generated from a full spatio-temporal model which allows smoothing over space and time.

Novelty

Comprehensive small area estimation of 27 health conditions by MSOA level of 15 years. It will be possible to study patterns and evolutions of geographical health disparities at a high spatial resolution.

Quality, Representation and Bias

The data represent in-patient data for HES. HES has near-complete coverage of NHS commissioned hospital admissions in England. Coding of diagnoses may vary in consistency but has been validated for research and auditing purposes in an earlier study.

The estimates only related to events recorded in a hospital setting. They do not include out-patient data, events recorded in primary care and data on self-rated health.

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Related Datasets

Hospital Episode Statistics Ethnicity Data
Product – Hospital admission for Global Burden
of Disease conditions by ethnic group

Hospital Episode Statistics Ethnicity Data
Product – Preventable hospitalisation.

Supplementary Information

Separate tables are created for each condition
as detailed in the table below.

GBD Level 1 Disease categories

1A Infectious and parasitic diseases
1B Respiratory infections
1C Maternal conditions
1D Perinatal conditions
1E Nutritional deficiencies
2A Malignant neoplasms
2B Other neoplasms
2C Diabetes mellitus
2D Endocrine disorders
2E Neuro-psychiatric conditions
2F Sense organ diseases
2G Cardiovascular diseases
2H Respiratory diseases
2I Digestive diseases
2J Genito-urinary diseases
2K Skin diseases
2L Musculoskeletal diseases
2M Congenital anomalies
2N Oral conditions
30 Injuries
X102 Nonspecific chest pain
X176 Contraceptive and procreative
management
X251 Abdominal pain
X257 Other aftercare
X259 Residual codes – unclassified
XR Symptoms signs and abnormal clinical and
laboratory findings
XZ Factors influencing health status and contact
with health services

Alcohol-related conditions have been defined
as:

ICD-10 code Description

E24.4 Alcohol-induced pseudo-Cushing's
syndrome
F10 Mental and behavioural disorders due to
alcohol
G31.2 Degeneration of nervous system due to
alcohol
G62.1 Alcoholic polyneuropathy
G72.1 Alcoholic myopathy
I42.6 Alcoholic cardiomyopathy
K29.2 Alcoholic gastritis
K70 Alcoholic liver disease
K85.2 Alcohol-induced acute pancreatitis
K86.0 Alcohol-induced chronic pancreatitis
Q86.0 Foetal alcohol syndrome (dysmorphic)
R78.0 Excess alcohol blood levels
T51.0 Ethanol poisoning
T51.1 Methanol poisoning
T51.9 Toxic effect of alcohol, unspecified
X45 Accidental poisoning by and exposure to
alcohol
X65 Intentional self-poisoning by and
exposure to alcohol, undetermined intent
Y15 Poisoning by and exposure to alcohol,
undetermined intent
Y90 Evidence of alcohol involvement
determined by blood alcohol content
Y91 Evidence of alcohol involvement
determined by level of intoxication

See Currie et al (2015). Alcohol-specific activity
in hospitals in England. London: Nuffield Trust,
report. Retrieved from
www.nuffieldtrust.org.uk/publications/

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Data Triangulation: data sources used to establish provenance

Source	Variable	Spatial granularity of comparator	Temporal granularity of comparator	Note(s)
ONS	msoa11cd	Middle Layer Super Output Area (MSOA)	Annual, NHS financial year (1 Apr – 31 Mar)	Middle Layer Super Output Area (2011)
NHS Digital Hospital Episode Statistics	year	Same as above	Same as above	financial year 1999/00 – 2013/14, a financial year runs from 1 April to 31 March
NHS Digital Hospital Episode Statistics	gbd	Same as above	Same as above	health condition (remains the same in each table)
NHS Digital Hospital Episode Statistics	observed	Same as above	Same as above	observed counts of cases (disclosure controlled, values between 1 and 7 suppressed, rounded to nearest 5 where values are 8 or greater)
NHS Digital Hospital Episode Statistics, ONS Mid-Year Population Estimates for <i>year</i>	smbr0	Same as above	Same as above	Age- and sex-standardised Standardised Morbidity Rate (crude), 2001 England population used as standard population
NHS Digital Hospital Episode Statistics, ONS Mid-Year Population Estimates for <i>year</i>	smbr0_lb	Same as above	Same as above	Standardised Morbidity Rate 95% CI lower bound
NHS Digital Hospital Episode Statistics, ONS Mid-Year Population Estimates for <i>year</i>	smbr0_ub	Same as above	Same as above	Standardised Morbidity Rate 95% CI upper bound

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NHS Digital Hospital Episode Statistics, ONS Mid-Year Population Estimates for <i>year</i>	smbr1	Same as above	Same as above	spatially smoothed Age- and sex-standardised Standardised Morbidity Rate using BYM model according to Besag et al 1991. Further details to be published soon.
NHS Digital Hospital Episode Statistics, ONS Mid-Year Population Estimates for <i>year</i>	smbr1_lb	Same as above	Same as above	spatially smoothed Age- and sex-standardised Standardised Morbidity Rate 95% CI lower bound
NHS Digital Hospital Episode Statistics, ONS Mid-Year Population Estimates for <i>year</i>	smbr1_ub	Same as above	Same as above	spatially smoothed Age- and sex-standardised Standardised Morbidity Rate 95% CI upper bound