**Appendix 1: Understanding the rising rate of detentions in England: Relevant data for study hypotheses**

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# Overall rates of involuntary hospitalization in the UK from 1989 to 2017, as well as total rate of detention per 100,000, rate of conversions from s.2 to s.3, rate of conversion from s.135&s.136 to s.2 and s.3, and rate of revocation of CTO’s.

## Rate of involuntary hospitalization orders per 100,000 including rate of detentions in non-NHS hospitals.

## Conversions between detention orders per 100,000 population



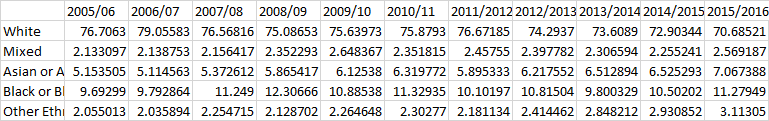
Data for overall rates of involuntary hospitalization in the UK from 1988-1989 to 2016-2017, including total rate of detention per 100,000, rate of conversions from s.2 to s.3, rate of conversion from s.135&s.136 to s.2 and s.3, and rate of revocation of CTO’s.

Notes:

* Comments about the data:
  + In 1996 the dataset changed from KH15/KO37 to KP90. There is a small dip then jump in the number of detentions in the following years that may be an artefact.
  + In 2016-2017 the dataset changed from KP90 to MHSDS, and detention figures for 2016-2017 are underreported.
* Calculations:
  + The rate of detention per 100,000 (second line) was calculated from the total detentions number and the population number. Population estimates were obtained from the ONS website here: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/timeseries/enpop/pop>
  + The total detentions figure (third line) was calculated from 1) the total number of sections on admission (s.2, s.3, s.4, and sections under part 3 of the MHA – forensic sections), 2) conversions from informal and short detentions (s.135, s.136, s.5(2), s.5(4)) to section 2 or 3, and 3) detentions following revocation of CTO’s.
* Primary source for data – the ‘Mental Health Act Statistics, Annual Figures’ datasets released on NHS digital. (2016-2017 here: <http://digital.nhs.uk/pubs/mha1617>)

From the MHA statistics dataset: ‘These tables provide aggregated statistical information on uses of the Mental Health Act ('The Act') in England for patients formally detained in hospitals and patients subject to Community Treatment Orders (CTOs). They provide time series data and breakdown by type of organisation (NHS and independent sector) and data relating to the legal status of people detained under The Act.’

## Formal admissions by ethnicity (%)



Source – Mental Health Bulletin <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-bulletin/mental-health-bulletin-fifth-report-from-mental-health-minimum-data-set-mhmds-annual-returns-2011>

# Economic recession and austerity (poverty, inequality, benefit sanctions, and landlord evictions)

## Poverty, inequality, and landlord evictions

Data:



Notes:

* Relative poverty for the UK not England
* Sources:
  + Poverty: OECD - Relative poverty (% of population with 50% or less of national median income). [https://stats.oecd.org/Index.aspx?DataSetCode=IDD#](https://stats.oecd.org/Index.aspx?DataSetCode=IDD) . The OECD Terms of reference used to calculate household income changed from 2011 onwards.
  + Evictions: Landlord possession claims that lead to orders. From Mortgage and Landlord Possession statistics <https://www.gov.uk/government/statistics/mortgage-and-landlord-possession-statistics-january-to-march-2018>

## Unemployment (% of labour force unemployed)



Notes:

* Sources:
  + Income inequality: Gini coefficient of income inequality. From ONS – ‘the effects of taxes and benefits on household income’ dataset. Data on previous page. <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/theeffectsoftaxesandbenefitsonhouseholdincome/previousReleases>
  + Unemployment: % population/labour force unemployed from the labour force survey.

## Benefits sanctions



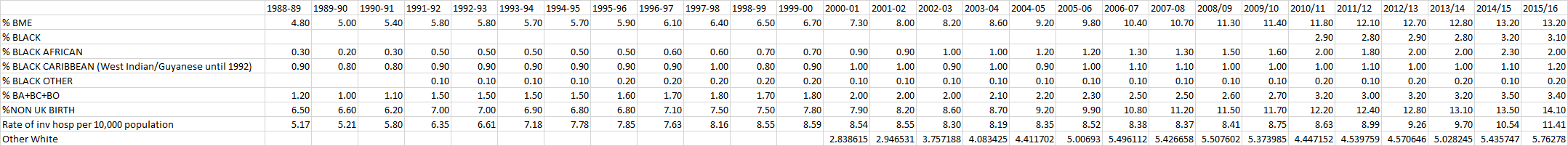
Notes:

* Source: <https://www.gov.uk/government/statistics/benefit-sanctions-statistics-to-april-2018>
* Claimants have been moved onto Universal Credit since 2013. Currently, sanction decision data are not available for Universal Credit full service. This is likely to explain why there is an apparent steep decline in sanctions in 2013.

# Population

## Total population and the proportion of population who is male, 18-35, non-UK born (immigrant), and BME (UK)

Labour Force survey - % males, % 18-35, % BME, % immigrant



Population of England



Notes:

* Source
* Ethnicity data - Labour force survey - <https://www.ons.gov.uk/surveys/informationforhouseholdsandindividuals/householdandindividualsurveys/labourforcesurvey>
* Population data – ONS statistics on total population - <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>
* Proportion of population who are male, 18-35, and BME – came from labour force survey - <https://discover.ukdataservice.ac.uk/series/?sn=2000026>

# Reduced informal social support



|  |  |  |  |
| --- | --- | --- | --- |
| Year | median | mean | Sd |
| 1991 | -.58 | 6.62e-09 | 2.89 |
| 2001 | -.64 | 6.55e-09 | 3.12 |
| 2011 | -.77 | -1.65e-09 | 3.36 |

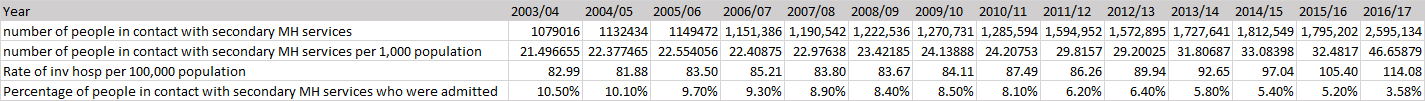
Notes

* Informal social support is measured using the Congdon Social Fragmentation Index (SFI) calculated using UK census data.
* Source: <https://www.ons.gov.uk/census>
* The SFI is calculated as the sum of the standardized (z-score) rates of the number of unmarried persons, single-person households, number of privately rented households, and mobility in the previous year per capita.

# Number of people with MH conditions

## Number of people in contact with secondary MH services

Data:



* Data are for the number of people in contact with NHS funded secondary MH services. Data are available for some years for all providers, but fewer years than just NHS providers so NHS provider data were used. Non-NHS providers account for a relatively very small number of contacts (2,000 in 2010/2011 to 40,000 in 2016/2017).
* A person is considered to be in contact with services in 2016-17 if they have had an open referral with secondary mental health, learning disabilities and autism services during. This may include referrals which did not result in an attendance with a service or treatment being received.

Sources: Mental Health Bulletin - <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-bulletin/mental-health-bulletin-2016-17-annual-report>

## Number of people with Severe Mental Illness has risen



Source:

* Number of people reporting symptoms of common mental disorder or assessed as having a psychotic disorder - Adult morbidity survey - <https://digital.nhs.uk/data-and-information/publications/statistical/adult-psychiatric-morbidity-survey/adult-psychiatric-morbidity-survey-survey-of-mental-health-and-wellbeing-england-2014>
* Number of completed consultant episodes involving severe mental illness (ICD-10 – F20-29) diagnoses - Hospital Admitted Patient Care Activity - <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity/2017-18>

## International comparison of percentage of population with chronic depression

Data available for 2014 only and for European countries only. Graph (cross-sectional) – Ihdepress = rates of involuntary hospitalization. Depress= -

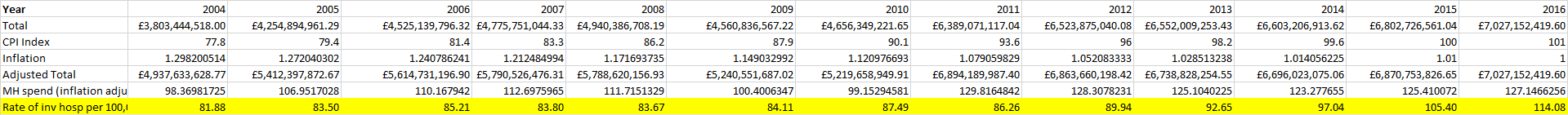




Notes:

* There was no evidence of an association between rates of involuntary hospitalization and percentage of population with chronic depression (β coefficient = -1.59, 95% CI -16.41, 13.23, p=0.82).
* Source - <https://ec.europa.eu/eurostat/statistics-explained/index.php/Mental_health_and_related_issues_statistics#Extent_of_depressive_disorders>

# Mental Health Spending



Notes:

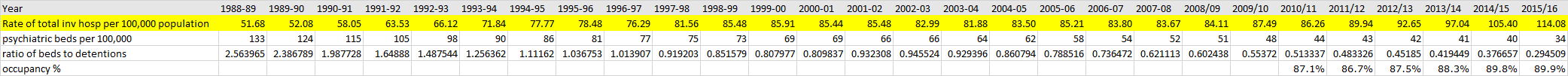
* Sources – NHS reference costs - <https://www.gov.uk/government/publications/nhs-reference-costs-2015-to-2016>
* NHS spending was estimated based on reference costs for psychiatric services using the same range of services each year. However, these estimated costs are likely lower than actual spending. Secondly, while we attempted to be consistent in the codes used in annual estimates, the schedules, codes, and descriptions change each year. The peak in 2010/2011 is likely an artefact of this.

## MH spend per person in contact with secondary MH services (GBP) (inflation adjusted)



# Mental health service provision

## Availability and occupancy of MH beds

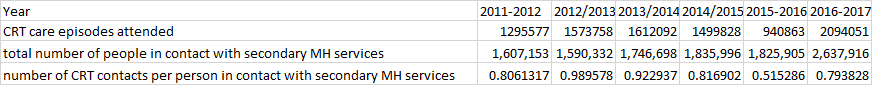


Source:

* <https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight/>

## Quality of responsiveness of crisis teams

### Number of care episodes with CRT or HTT

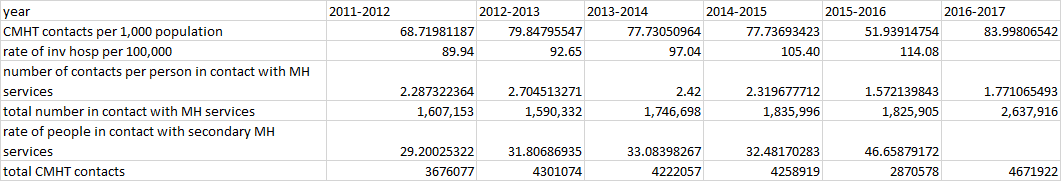


Source – Mental Health Bulletin - <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-bulletin>

Notes:

* From the MH bulletin - ‘MHLDDS was superceded by the Mental Health Services Dataset (MHSDS) on 1 January 2016. Based on the results of a consultation on these statistics, 2015/16 figures here are only based on records submitted to MHLDDS from which final data was submitted for the period up to 30 November 2015. Due to higher levels of uncertainty when estimating missing information for each team or attendance type these figures have not been estimated. The figures shown here cover the period 1 April to 30 November 2015.’
* Data likely underreported in some years. There was a change in the way the data were reported in 2016-2017. Previously only data for CRT/HTT were reported. In 2016/2017 data for CRT/HTT, CRT, HTT were reported (3 types). This likely reflects a change in data reporting rather than a change in NHS services/number of care episodes. The decline in figures in 2015/2016 may be due to underreporting or change in number of care episodes.

## CMHT contacts



Notes:

* MHLDDS was superceded by the Mental Health Services Dataset (MHSDS) on 1 January 2016. Based on the results of a consultation on these statistics, 2015/16 figures here are only based on records submitted to MHLDDS from which final data was submitted for the period up to 30 November 2015. Due to higher levels of uncertainty when estimating missing information for each team or attendance type these figures have not been estimated. The figures shown here cover the period 1 April to 30 November 2015.
* 2016-2017 data created by adding organic and functional contacts at CMHT

Source: Mental Health Bulletin

## Continuity of care

## Clinical culture changes (prescribing practice and use of restraint)



Source: https://digital.nhs.uk/data-and-information/publications/statistical/prescription-cost-analysis/prescription-cost-analysis-england-2017

Notes:

* Years 2001 and 2002 missing – it may be that 2000 isn’t reliable, but only because 2000 data are v different than proceeding years
* Data are for prescription items dispensed - A prescription item refers to a single item prescribed by a doctor (or dentist/nurse) on a prescription form. If a prescription form includes three medicines it is counted as three prescription items. They do not distinguish the amount of medication prescribed per item, which may have changed over time.

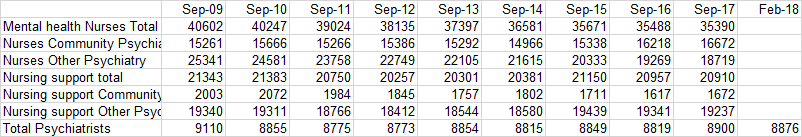
# Urbanicity



Source:

* Worldbank: <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>

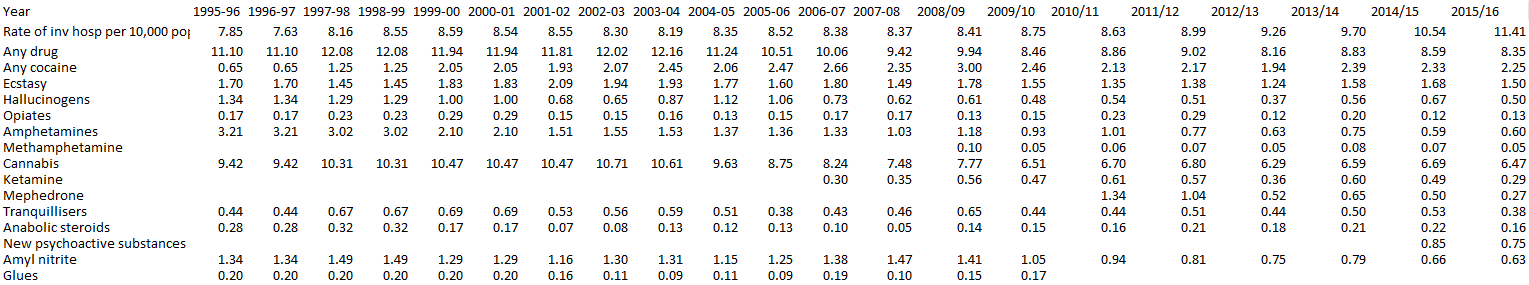
# Mental Health Staff



Source: NHS Workforce Statistics <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics>

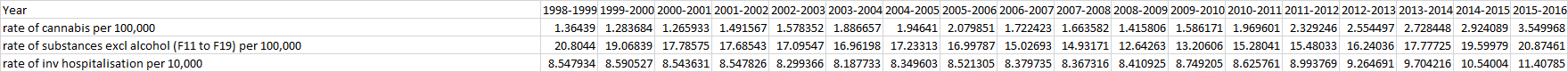
# Drug and Alcohol use

## Drug use (number of people reporting using substances in the last year, number of people admitted to hospital with drug related diagnoses).



## Rate of people being admitted to hospital with diagnoses of substance misuse disorders:

Data from Hospital Admitted Patient Care Activity



Adult Psychiatric Morbidity Survey



Notes:

* Summary of the Hospital Admitted Patient Care Activity data from the official report linked to in the source link: This is a report on admitted patient care activity in English NHS hospitals and English NHS-commissioned activity in the independent sector. The data are taken from the Hospital Episodes Statistics (HES) data warehouse, which contains records of all admissions, appointments and attendances for patients at NHS hospitals in England. Data presents the number of 'Finished Consultant Episodes' related to each diagnosis, where each episode relates to a period of care for a patient under a single consultant at a single hospital. Therefore this report counts the number of episodes of care for admitted patients rather than the number of patients.
* Sources:
  + Drugs use – Crime Survey of England and Wales - <https://www.gov.uk/government/statistics/drug-misuse-findings-from-the-2016-to-2017-csew>
  + Rate of completed consultation episodes in hospital involving substance use disorder diagnoses (ICD-10 - F11 to F19) - Hospital Admitted Patient Care Activity - <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity/2017-18>
  + % of respondents with illicit drug dependence – Adult Psychiatric Morbidity Survey - <https://digital.nhs.uk/data-and-information/publications/statistical/adult-psychiatric-morbidity-survey/adult-psychiatric-morbidity-survey-survey-of-mental-health-and-wellbeing-england-2014>

Alcohol use

Sources:

* ONS data on alcohol use: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/drugusealcoholandsmoking/datasets/adultdrinkinghabitsinengland>
* Adult psychiatric survey of problematic alcohol use: <https://digital.nhs.uk/data-and-information/publications/statistical/adult-psychiatric-morbidity-survey/adult-psychiatric-morbidity-survey-survey-of-mental-health-and-wellbeing-england-2014>
* Rate of completed consultation episodes in hospital involving alcohol use disorder (ICD-10 - F10) diagnoses - Hospital Admitted Patient Care Activity - <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity/2017-18>

# Societal attitudes towards people with mental illness



Source:

* Time to change (2014) Attitudes to Mental Illness 2014 Research Report <https://www.time-to-change.org.uk/sites/default/files/Attitudes_to_mental_illness_2014_report_final_0.pdf>