**Table S1.** Healthcare related terms and concepts used in this paper

|  |  |
| --- | --- |
| **Terms/concepts** | **Definition and meaning** |
| IAPT | **Improving Access to Psychological Therapies - a national health services initiative in England designed to increase the availability of psychological treatments in the community** |
| IMD  | English Index of Multiple Deprivation - an official measure of deprivation of small geographical areas in England. An individual’s area-level of deprivation score is determined from their postal address at the time of hospital presentation. |
| NICE | National Institute for Health and Care Excellence. A public body within the Department of Health and Social Care in England that publishes official guidelines on clinical and social care. |
| SED | Socioeconomic deprivation |
| **Indicators of care** |  |
| Admission  | Refers to admission to a general hospital medical bed, including short stay units. Patients who present to the emergency department with self-harm may be admitted to the general hospital where their injury or consequence of poisoning are treated and to allow for a psychosocial assessment to take place. |
| Psychosocial assessment | A comprehensive evaluation of the person’s mental state, needs and risks following presentation to clinical services with self-harm. National Guidance in England (NICE) recommend that all individuals who present to the general hospital with self-harm receive a psychosocial assessment by a trained mental health professional.  |
| In-patient psychiatric care | A patient is transferred to the care of the psychiatric care team following their psychosocial assessment  |
| Outpatient mental health care  | Care which is funded by the National Healthcare System (NHS) in England and is provided by a psychiatric team in one of several outpatient settings such as outpatient or day patient psychiatric services or Community Mental Health Team (CMHT).  |
| Drug and alcohol services | Services dedicated to the treatment of substance use disorders. In England, these are commonly provided by the third sector. |
| GP | General practitioner (family physician) |
| Other services | Includes all other services to which patients may be referred to after self-harm. These may be social services, various voluntary agencies (e.g. bereavement), homeless outreach (services dedicated to providing help and care to individuals experiencing homelessness), probation and custody (services for individuals in contact with the criminal justice system in England).  |

**Table S2. The association of socio-economic deprivation with indicators of clinical care for self-harm. Odds ratio and 95% CI. Complete case analysis excluding observations with missing information on covariates.**

|  | Odds ratio (95% CI) |
| --- | --- |
|  | Unadjusted | P value | Adjusteda | P value | Adjustedb | P value |
| **Level of deprivation**  | ***In-hospital care (n=72,387 episodes)*** |  |  |
| **Psychosocial assessment**  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.59 (0.53-0.66) | <0.0001 | 0.60 (0.54-0.66) | <0.0001 | 0.83 (0.75-0.92) | 0.001 |
| *3rd*  | 0.61 (0.55-0.67) | <0.0001 | 0.59 (0.54-0.65) | <0.0001 | 0.88 (0.80-0.97) | 0.009 |
| *4th*  | 0.43 (0.39-0.47) | <0.0001 | 0.43 (0.40-0.47) | <0.0001 | 0.88 (0.80-0.97) | 0.01 |
| *5th - most deprived* | 0.29 (0.26-0.31) | <0.0001 | 0.30 (0.27-0.32) | <0.0001 | 0.88 (0.80-0.96) | 0.004 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | 0.14 |
| **Admission to hospital** |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.67 (0.61-0.73) | <0.0001 | 0.67 (0.61-0.74) | <0.0001 | 0.94 (0.86-1.04) | 0.23 |
| *3rd*  | 0.60 (0.55-0.65) | <0.0001 | 0.62 (0.57-0.68) | <0.0001 | 1.00 (0.92-1.10) | 0.84 |
| *4th*  | 0.41 (0.38-0.44) | <0.0001 | 0.44 (0.41-0.48) | <0.0001 | 0.95 (0.87-1.04) | 0.25 |
| *5th - most deprived* | 0.41 (0.38-0.44) | <0.0001 | 0.43 (0.40-0.46) | <0.0001 | 0.99 (0.91-1.08) | 0.84 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | 0.86 |
|  | **Referral for follow-up careb (n=50,995 episodes)** |  |  |
| **In-patient carec**  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 1.11 (0.95-1.30) | 0.20 | 1.03 (0.87-1.21) | 0.74 | 1.02 (0.86-1.20) | 0.85 |
| *3rd*  | 0.94 (0.81-1.08) | 0.37 | 0.87 (0.75-1.01) | 0.06 | 0.85 (0.73-0.99) | 0.04 |
| *4th*  | 0.96 (0.84-1.10) | 0.55 | 0.85 (0.74-0.99) | 0.03 | 0.80 (0.69-0.93) | 0.004 |
| *5th - most deprived* | 0.96 (0.85-1.09) | 0.54 | 0.84 (0.74-0.96) | 0.008 | 0.76 (0.65-0.88) | <0.0001 |
| P for linear trend  |  | 0.22 |  | 0.001 |  | <0.0001 |
| **Outpatient referralc,d** |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.81 (0.73-0.89) | <0.0001 | 0.76 (0.69-0.84) | <0.0001 | 0.88 (0.80-0.98) | 0.02 |
| *3rd*  | 0.89 (0.81-0.98) | 0.02 | 0.79 (0.72-0.86) | <0.0001 | 0.96 (0.88-1.05) | 0.39 |
| *4th*  | 0.68 (0.62-0.75) | <0.0001 | 0.56 (0.52-0.61) | <0.0001 | 0.80 (0.73-0.87) | <0.0001 |
| *5th - most deprived* | 0.61 (0.56-0.66) | <0.0001 | 0.50 (0.46-0.54) | <0.0001 | 0.76 (0.70-0.83) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **Alcohol and drug servicesc,d** |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 1.56 (1.23-1.96) | <0.0001 | 1.43 (1.13-1.80) | 0.003 | 1.12 (0.90-1.40) | 0.35 |
| *3rd*  | 2.01 (1.63-2.48) | <0.0001 | 1.74 (1.40-2.15) | <0.0001 | 1.24 (1.00-1.51) | 0.05 |
| *4th*  | 2.89 (2.37-3.51) | <0.0001 | 2.41 (1.98-2.95) | <0.0001 | 1.37 (1.13-1.67) | 0.003 |
| *5th - most deprived* | 3.91 (3.26-4.70) | <0.0001 | 3.16 (2.63-3.80) | <0.0001 | 1.58 (1.35-1.96) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **GPc,d** |  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 1.14 (1.03-1.27) | 0.01 | 1.25 (1.13-1.38) | <0.0001 | 0.98 (0.88-1.08) | 0.63 |
| *3rd*  | 1.13 (1.02-1.24) | 0.02 | 1.38 (1.26-1.45) | <0.0001 | 0.97 (0.89-1.06) | 0.49 |
| *4th*  | 1.50 (1.37-1.65) | <0.0001 | 2.02 (1.85-2.08) | <0.0001 | 1.12 (1.02-1.23) | 0.02 |
| *5th - most deprived* | 1.64 (1.51-1.77) | <0.0001 | 2.21 (2.04-2.40) | <0.0001 | 1.20 (1.10-1.31) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **Other servicesc,d** |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.98 (0.86-1.12) | 0.79 | 1.01 (0.89-1.16) | 0.88 | 1.03 (0.90-1.18) | 0.69 |
| *3rd*  | 1.24 (1.11-1.40) | <0.0001 | 1.32 (1.17-1.48) | <0.0001 | 1.31 (1.16-1.47) | <0.0001 |
| *4th*  | 1.18 (1.05-1.32) | 0.004 | 1.25 (1.12-1.40) | <0.0001 | 1.24 (1.10-1.40) | 0.001 |
| *5th - most deprived* | 1.28 (1.16-1.41) | <0.0001 | 1.35 (1.22-1.49) | <0.0001 | 1.35 (1.20-1.51) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **Aftercare any e** |  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.83 (0.75-0.93) | 0.001 | 0.77 (0.70-0.86) | <0.0001 | 0.91 (0.82-1.01) | 0.08 |
| *3rd*  | 0.92 (0.83-1.02) | 0.12 | 0.82 (0.75-0.90) | <0.0001 | 1.00 (0.91-1.10) | 0.99 |
| *4th*  | 0.72 (0.65-0.79) | <0.0001 | 0.60 (0.55-0.66) | <0.0001 | 0.86 (0.79-0.95) | 0.002 |
| *5th - most deprived* | 0.64 (0.59-0.70) | <0.0001 | 0.53 (0.49-0.57) | <0.0001 | 0.85 (0.78-0.93) | 0.001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |

aAdjusted for gender, age at a given episode, year of hospital presentation, previous self-harm, psychiatric care, method of self-harm, time of presentation to hospital, and time since last hospital attendance

bAdjusted as in (a) and also for hospital

cIncludes presentations where patients did not self-discharge and where they received psychosocial assessment

dThose advised to self-refer are treated as ‘not referred’

eReferred for any form of aftercare (inpatient, outpatient, alcohol and drug services, other services) versus no-care or referral back to GP only

\*random effect factor: ID

\*\*P for linear trend refers to the linear association between IMD quintiles and clinical care receipt

**Table S3. The association of socio-economic deprivation with indicators of clinical care for self-harm. Odds ratio and 95% CI. Study derived SED quintiles**

|  | Odds ratio (95% CI) |
| --- | --- |
|  | Unadjusted | P value | Adjusteda | P value | Adjustedb | P value |
| **Level of deprivation**  | ***In-hospital care (n=98,433 episodes)*** |  |  |
| **Psychosocial assessment**  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.64 (0.61-0.68) | <0.0001 | 0.64 (0.60-0.68) | <0.0001 | 0.88 (0.83-0.95) | <0.0001 |
| *3rd*  | 0.49 (0.46-0.52) | <0.0001 | 0.48 (0.44-0.51) | <0.0001 | 0.91 (0.85-0.98) | 0.01 |
| *4th*  | 0.37 (0.35-0.39) | <0.0001 | 0.35 (0.33-0.38) | <0.0001 | 0.93 (0.87-1.00) | 0.06 |
| *5th - most deprived* | 0.30 (0.29-0.32) | <0.0001 | 0.30 (0.28-0.32) | <0.0001 | 0.94 (0.87-1.01) | 0.1 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | 0.83 |
| **Admission to hospital** |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.62 (0.58-0.66) | <0.0001 | 0.63 (0.59-0.67) | <0.0001 | 0.90 (0.84-0.95) | 0.001 |
| *3rd*  | 0.46 (0.43-0.49) | <0.0001 | 0.48 (0.45-0.51) | <0.0001 | 0.90 (0.84-0.96) | 0.001 |
| *4th*  | 0.48 (0.45-0.51) | <0.0001 | 0.51 (0.48-0.55) | <0.0001 | 0.90 (0.84-0.96) | 0.002 |
| *5th - most deprived* | 0.50 (0.47-0.53) | <0.0001 | 0.52 (0.48-0.55) | <0.0001 | 0.92 (0.87-1.00) | 0.04 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | 0.26 |
|  | **Referral for follow-up careb (n=59,959 episodes)** |  |  |
| **Inpatient carec**  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.96 (0.86-1.07) | 0.48 | 0.92 (0.82-1.03) | 0.15 | 0.89 (0.80-1.00) | 0.06 |
| *3rd*  | 0.95 (0.84-1.06) | 0.33 | 0.89 (0.79-1.00) | 0.06 | 0.84 (0.74-0.95) | 0.007 |
| *4th*  | 0.87 (0.77-0.98) | 0.02 | 0.83 (0.74-0.94) | 0.003 | 0.77 (0.67-0.88) | <0.0001 |
| *5th - most deprived* | 0.94 (0.83-1.06) | 0.29 | 0.86 (0.75-0.97) | 0.02 | 0.79 (0.69-0.91) | 0.001 |
| P for linear trend  |  | 0.08 |  | 0.004 |  | <0.0001 |
| **Outpatient referralc,d** |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.92 (0.85-0.99) | 0.02 | 0.85 (0.79-0.91) | <0.0001 | 0.98 (0.84-1.05) | 0.48 |
| *3rd*  | 0.71 (0.66-0.76) | <0.0001 | 0.62 (0.57-0.66) | <0.0001 | 0.82 (0.76-0.89) | <0.0001 |
| *4th*  | 0.66 (0.62-0.71) | <0.0001 | 0.57 (0.53-0.62) | <0.0001 | 0.81 (0.76-0.87) | <0.0001 |
| *5th - most deprived* | 0.58 (0.53-0.63) | <0.0001 | 0.50 (0.46-0.54) | <0.0001 | 0.76 (0.74-0.83) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **Alcohol and drug servicesc,d** |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 1.64 (1.38-1.93) | <0.0001 | 1.50 (1.26-1.77) | 0.002 | 1.14 (0.96-1.35) | 0.15 |
| *3rd*  | 2.55 (2.16-3.01) | <0.0001 | 2.18 (1.84-2.59) | <0.0001 | 1.30 (1.09-1.56) | 0.003 |
| *4th*  | 3.18 (2.70-3.76) | <0.0001 | 2.60 (2.20-3.09) | <0.0001 | 1.43 (1.19-1.71) | <0.0001 |
| *5th - most deprived* | 4.39 (3.72-5.18) | <0.0001 | 3.53 (2.98-4.19) | <0.0001 | 1.77 (1.47-2.13) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **GPc,d** |  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 1.16 (1.08-1.24) | <0.0001 | 1.27 (1.18-1.37) | <0.0001 | 1.00 (0.93-1.08) | 0.88 |
| *3rd*  | 1.59 (1.47-1.71) | <0.0001 | 1.91 (1.77-2.06) | <0.0001 | 1.17 (1.08-1.26) | <0.0001 |
| *4th*  | 1.63 (1.51-1.76) | <0.0001 | 1.94 (1.80-2.10) | <0.0001 | 1.19 (1.10-1.29) | <0.0001 |
| *5th - most deprived* | 2.00 (1.85-2.17) | <0.0001 | 2.28 (2.10-2.48) | <0.0001 | 1.31 (1.20-1.43) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **Other servicesc,d** |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 1.18 (1.08-1.29) | <0.0001 | 1.20 (1.10-1.31) | <0.0001 | 1.22 (1.11-1.34) | <0.0001 |
| *3rd*  | 1.21 (1.11-1.33) | <0.0001 | 1.25 (1.14-1.37) | <0.0001 | 1.25 (1.13-1.38) | <0.0001 |
| *4th*  | 1.26 (1.15-1.38) | <0.0001 | 1.28 (1.16-1.41) | <0.0001 | 1.29 (1.16-1.43) | <0.0001 |
| *5th - most deprived* | 1.41 (1.28-1.55) | <0.0001 | 1.39 (1.26-1.53) | <0.0001 | 1.38 (1.23-1.55) | <0.0001 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |
| **Any aftercaree** |  |  |  |  |  |  |
| *1st - least deprived* | 1.0 |  | 1.0 |  | 1.0 |  |
| *2nd*  | 0.94 (0.87-1.02) | 0.16 | 0.87(0.81-0.93) | <0.0001 | 1.01 (0.94-1.08) | 0.84 |
| *3rd*  | 0.74 (0.68-0.80) | <0.0001 | 0.65 (0.60-0.70) | <0.0001 | 0.88 (0.82-0.95) | 0.002 |
| *4th*  | 0.66 (0.60-0.71) | <0.0001 | 0.58 (0.54-0.62) | <0.0001 | 0.87 (0.80-0.94) | 0.001 |
| *5th - most deprived* | 0.64 (0.58-0.69) | <0.0001 | 0.54 (0.50-0.58) | <0.0001 | 0.89 (0.81-0.97) | 0.008 |
| P for linear trend  |  | <0.0001 |  | <0.0001 |  | <0.0001 |

aAdjusted for gender, age at a given episode, year of hospital presentation, previous self-harm, psychiatric care, method of self-harm, time of presentation to hospital, and time since last hospital attendance

bAdjusted as in (a) and also for hospital

cIncludes presentations where patients did not self-discharge and where they received psychosocial assessment

dThose advised to self-refer are treated as ‘not referred’

eReferred for any form of aftercare (inpatient, outpatient, alcohol and drug services, other services) versus no-care or referral back to GP only

\*random effect factor: ID

\*\*P for linear trend refers to the linear association between IMD quintiles and clinical care receipt