

Table S1: Magnitude of variation summary

Map	Geography	Title	Optimum value	Range	Fold difference*	Number of areas significantly higher than England (99.8% level)	Number of areas significantly lower than England (99.8% level)	Variation trend	Median trend
1a	CCG of residence	Variation in rate of years of life lost in people aged 1 to 64 years from chronic liver disease including cirrhosis per population by CCG (2013-15), Directly standardised rate per 10,000	Low	9.3 - 71.5	7.7	26 (from 209)	34 (from 209)	Maximum to minimum range and 95th to 5th percentile gap narrowed significantly	Significant decrease
1b	CCG of residence	Variation in rate of years of life lost in people aged 1 to 74 years from chronic liver disease including cirrhosis per population by CCG (2013-15), Directly standardised rate per 10,000	Low	7.5 - 65.7	8.8	28 (from 209)	42 (from 209)	Maximum to minimum range and 95th to 5th percentile gap narrowed significantly	Significant decrease
1c	CCG of residence	Variation in mortality rate in people aged under 75 years from chronic liver disease including cirrhosis per population by CCG (2013-15), Directly standardised rate per 100,000	Low	3.9 - 30.1	7.7	36 (from 209)	30 (from 209)	Maximum to minimum range narrowed significantly	Significant decrease
2	CCG of residence	Variation in rate of admissions to hospital at least once for cirrhosis in people aged 18 years and over per population by CCG (2014/15), Directly standardised rate per 100,000	Low	36.5 - 308.3	8.5	58 (from 209)	69 (from 209)	Significant widening of all three measures of variation	Significant increase
3	CCG of residence	Experimental Statistic: Variation in rate of hospital admissions for liver disease in children and young people aged 18 years and under per population by CCG (2010/11-2014/15), Crude rate per 100,000	Requires local interpretation	12.2 - 374.5	30.7	39 (from 209)	99 (from 209)	Significant widening of all three measures of variation	Significant increase
4a	CCG of residence	Variation in rate of alcohol-specific admissions in people of all ages per population by CCG (2015/16), Directly standardised rate per 100,000	Low	228.6 - 1,681.0	7.4	81 (from 209)	95 (from 209)	Significant widening of all three measures of variation	Significant increase
4b	CCG of residence	Variation in rate of alcohol-specific admissions in men of all ages per population by CCG (2015/16), Directly standardised rate per 100,000	Low	336.3 - 2,758.0	8.2	78 (from 209)	97 (from 209)	Significant widening of all three measures of variation	Significant increase
4c	CCG of residence	Variation in rate of alcohol-specific admissions in women of all ages per population by CCG (2015/16), Directly standardised rate per 100,000	Low	133.5 - 1,015.5	7.6	59 (from 209)	71 (from 209)	Significant widening of all three measures of variation	Significant increase
5	CCG of residence	Variation in rate of alcohol-specific admissions in people aged under 18 years per population by CCG (2015/16), Crude rate per 100,000	Low	8.0 - 106.8	13.4	14 (from 209)	10 (from 209)	Significant narrowing of all three measures of variation	Significant decrease

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6	UTLA	Variation in percentage of people aged 18 to 75 with alcohol use who completed structured treatment successfully and did not re-present to treatment within 6 months by upper-tier local authority (2015)	High	16.8 - 64.9	3.9	29 (from 152)	32 (from 152)	No significant change in any variation measure	Significant increase
7	LTLA	Variation in rate of premises licensed to sell or supply alcohol per population aged 18 years and over by lower-tier local authority per population (2016), Crude rate per 1,000	Low	1.9 - 12.0	6.3	104 (from 326)	45 (from 326)	Trend data unavailable	Trend data unavailable
8	Region	Variation in rate of laboratory reports for confirmed hepatitis C per population by region (2015), Crude rate per 100,000	Requires local interpretation	8.6 - 47.2	5.5	2 (from 9)	6 (from 9)	Maximum to minimum range widened significantly	Significant increase
9	UTLA	Variation in estimated prevalence of injecting of opiate and/or crack cocaine in people aged 15 to 64 years per population by upper-tier local authority (2011/12), Crude rate per 1,000	Low	0.3 - 8.7	33.7	No data	No data	No significant change in any variation measure	No change
10	UTLA	Variation in percentage of hepatitis C test uptake among people who inject drugs receiving drug treatment by upper-tier local authority (2015/16)	High	55.6 - 96.6	1.7	44 (from 152)	36 (from 152)	95th to 5th percentile gap and 75th to 25th percentile gap narrowed significantly	Significant increase
11a	STP	Variation in rate of hospital admissions for hepatitis C-related end-stage liver disease or hepatocellular carcinoma per population by Sustainability Transformation Partnerships (STP) (2012/13 - 2014/15), Crude rate per 1,000,000	Low	4.4 - 21.0	4.8	6 (from 44)	16 (from 44)	Maximum to minimum range narrowed significantly, 95th to 5th and 75th to 25th percentile gaps widened significantly	Significant increase
11b	STP	Variation in rate of mortality from hepatitis C-related end-stage liver disease or hepatocellular carcinoma per population by Sustainability Transformation Partnerships (STP) (2011-2015), Crude rate per 100,000	Low	0.2 - 1.1	4.6	4 (from 44)	1 (from 44)	95th to 5th percentile gap widened significantly	Significant increase
12	Region	Variation in percentage of women who tested positive for hepatitis B in the NHS Infectious Diseases in Pregnancy Screening Programme by region (2015)	Requires local interpretation	0.2 - 0.8	4.4	1 (from 9)	6 (from 9)	Maximum to minimum range and 95th to 5th percentile gap narrowed significantly	No change

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13	UTLA	Variation in percentage of infants immunised for hepatitis B by their first birthday who were born to mothers with persistent hepatitis B infection by upper-tier local authority (2015/16)	High	0 - 100	-	No data	No data	Trend data unavailable	Trend data unavailable
14	Region	Variation in rate of laboratory reports for acute or probable acute hepatitis B per population by region (2015), Crude rate per 100,000	Requires local interpretation	0.3 - 1.5	4.5	1 (from 9)	0 (from 9)	75th to 25th percentile gap narrowed significantly	Significant decrease
15a	STP	Variation in rate of hospital admissions for hepatitis B-related end-stage liver disease or hepatocellular carcinoma per population by Sustainability Transformation Partnerships (STP) (2012/13 - 2014/15), Crude rate per 1,000,000	Low	1.2 - 8.9	7.4	5 (from 44)	4 (from 44)	No significant change in any variation measure	No change
15b	STP	Variation in mortality rate from hepatitis B-related end-stage liver disease or hepatocellular carcinoma per population by Sustainability Transformation Partnerships (STP) (2011-2015), Crude rate per 100,000	Low	0.1 - 0.4	7.4	4 (from 44)	0 (from 44)	Maximum to minimum range narrowed significantly	No change
16a	LTLA	Variation in percentage of children in school reception year classified as overweight or obese by lower-tier local authority (school year 2015/16)	Low	12.9 - 30.1	2.3	40 (from 326)	49 (from 326)	Maximum to minimum range and 95th to 5th percentile gap narrowed significantly	Significant decrease
16b	LTLA	Variation in percentage of children in school year 6 classified as overweight or obese by lower-tier local authority (school year 2015/16)	Low	20.1 - 43.4	2.2	52 (from 326)	90 (from 326)	Significant widening of all three measures of variation	Significant increase
17	LTLA	Variation in percentage of adults aged 16 and over classified as obese (body mass index ≥ 30 kg/m ²) by lower-tier local authority (2013-2015)	Low	11.0 - 34.0	3.1	53 (from 326)	60 (from 326)	Trend data unavailable	Trend data unavailable
18	NHS Area Team	Variation in percentage of people aged 6 months to 65 years with chronic liver disease who have received the influenza vaccine by NHS Area Team (2015/16)	High	34.1 - 50.0	1.5	10 (from 25)	7 (from 25)	Trend data unavailable	Trend data unavailable
19a	CCG of residence	Variation in rate of hospital admissions where the primary diagnosis is paracetamol overdose per population by CCG (2013/14 - 2014/15), Directly standardised rate per 100,000	Low	30.7 - 304.9	9.9	33 (from 209)	110 (from 209)	Maximum to minimum range and 75th to 25th percentile gap widened significantly	Significant increase
19b	Region	Variation in percentage of deaths from paracetamol poisoning per hospital admissions for paracetamol overdose by region (2012-2014)	Low	0.2 - 0.5	2.0	0 (from 9)	0 (from 9)	95th to 5th percentile gap narrowed significantly	Significant decrease

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20	STP	Variation in mortality rate in people aged under 75 years due to hepatocellular carcinoma per population by Sustainability Transformation Partnerships (STP) (2011-2015), Directly standardised rate per 100,000	Low	1.2 - 3.0	2.6	6 (from 44)	1 (from 44)	No significant change in any variation measure	Significant increase
21	Region	Variation in percentage of people aged 15 years and over with hepatocellular carcinoma that have had treatment with curative intent (liver transplantation, major liver resection or ablation) by region (2010-2014)	High	11.4 - 17.3	1.5	0 (from 9)	0 (from 9)	Trend data unavailable	Trend data unavailable
22	CCG of residence	Variation in rate of liver transplants from all donors per population by CCG (2010/11 - 2014/15), Crude rate per 1,000,000	Requires local interpretation	4.5 - 25.4	5.7	2 (from 209)	0 (from 209)	Trend data unavailable	Trend data unavailable
23a	SHA	Variation in rate of organ donation from deceased donors per population by Strategic Health Authority (2014/15), Crude rate per 1,000,000	Requires local interpretation	15.4 - 24.9	1.6	0 (from 10)	0 (from 10)	No significant change in any variation measure	Significant increase
23b	SHA	Variation in rate of liver donation from deceased donors per population by Strategic Health Authority (2014/15), Crude rate per 1,000,000	Requires local interpretation	11.8 - 17.3	1.5	0 (from 10)	0 (from 10)	No significant change in any variation measure	Significant increase
24	SHA	Variation in rate of liver transplants from deceased donors per population by Strategic Health Authority (2014/15), Crude rate per 1,000,000	Requires local interpretation	9.3 - 14.7	1.6	0 (from 10)	0 (from 10)	No significant change in any variation measure	Significant increase
25	CCG of residence	Variation in percentage of admissions for oesophageal varices procedure that were emergency admissions by CCG (2014/15)	Low	0.0 - 85.7	-	8 (from 209)	5 (from 209)	No significant change in any variation measure	Significant decrease
26	CCG of residence	Variation in percentage of admissions for paracentesis procedure that were emergency admissions by CCG (2014/15)	Low	13.9 - 100.0	7.2	51 (from 209)	33 (from 209)	No significant change in any variation measure	Significant decrease
27a	SCN	Variation in mean number of bed-days per liver disease patient admitted to hospital in the last year of life by Strategic Clinical Network (SCN) (2015)	Requires local interpretation	12.1 - 20.2	1.7	2 (from 12)	8 (from 12)	Trend data unavailable	Trend data unavailable
27b	SCN	Variation in percentage of liver disease patients who died without being admitted to hospital in the last year of life by Strategic Clinical Network (SCN) (2015)	Requires local interpretation	10.1 - 16.1	1.6	0 (from 12)	0 (from 12)	Trend data unavailable	Trend data unavailable
27c	SCN	Variation in percentage of liver cancer deaths that occurred in hospital among all care facilities by Strategic Clinical Network (SCN) (2015)	Low	29.3 - 45.5	1.6	0 (from 12)	1 (from 12)	Trend data unavailable	Trend data unavailable
27d	SCN	Variation in percentage of liver non-cancer deaths that occurred in hospital among all care facilities by Strategic Clinical Network (SCN) (2015)	Low	73.3 - 82.1	1.1	0 (from 12)	0 (from 12)	Trend data unavailable	Trend data unavailable

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