### Table S1. Baseline characteristics

|                          | Controls | Liver disease |
|--------------------------|----------|---------------|
| **Male (%)**             | 861 (55.9) | 168 (46.9)    |
| **Age at cohort entry (mean [SD])** | 16.90 (6.23) | 17.89 (5.30) |
| **Index of Multiple Deprivation** |          |               |
| Least deprived (IMD 1)   | 323 (21.0) | 70 (19.6)     |
| IMD2                     | 283 (18.4) | 69 (19.3)     |
| IMD3                     | 271 (17.6) | 73 (20.4)     |
| IMD4                     | 340 (22.1) | 85 (23.7)     |
| Most deprived (IMD5)     | 321 (20.9) | 61 (17.0)     |
| **Presence of other conditions** |          |               |
| Asthma (%)               | 255 (16.5) | 103 (28.8)    |
| Epilepsy (%)             | 8 (0.5)    | 2 (0.6)       |
| Diabetes (%)             | 30 (1.9)   | 74 (20.7)     |
| **Mental disorders**     |          |               |
| Anxiety disorders (%)    | 211 (13.7) | 85 (23.7)     |
| Depression (%)           | 156 (10.1) | 83 (23.2)     |
| Self-harm (%)            | 75 (4.9)   | 23 (6.4)      |
| Substance abuse (%)      | 273 (17.7) | 175 (48.9)    |
Table S2. Cumulative burden of events for anxiety disorders, depression, substance abuse and non-fatal self-harm in young people with chronic liver disease versus controls. Cumulative burden is shown as mean number of events per 100 individuals.
Table S3. Logistic regression analysis for the risk of anxiety disorder, depression, substance abuse and non-fatal self-harm. Case (young people with chronic liver disease) and control groups were obtained via propensity score matching. Controls were matched by year of birth, Index of Multiple Deprivation and sex.

| Outcome                  | Odds ratio | Lower CI | Upper CI | P value | Analysis                                                                 |
|--------------------------|------------|----------|----------|---------|---------------------------------------------------------------------------|
| Depression               | 2.59       | 1.91     | 3.50     | < 0.001 | Controls vs. cases                                                        |
| Anxiety disorders        | 1.94       | 1.45     | 2.58     | < 0.001 | Controls vs. cases                                                        |
| Self-harm                | 1.42       | 0.85     | 2.28     | 0.165   | Controls vs. cases                                                        |
| Substance abuse          | 4.44       | 3.46     | 5.71     | < 0.001 | Controls vs. cases                                                        |
| Depression               | 2.79       | 2.03     | 3.81     | < 0.001 | Controls (without asthma, diabetes and epilepsy) vs. cases                |
| Anxiety disorders        | 2.26       | 1.67     | 3.05     | < 0.001 | Controls (without asthma, diabetes and epilepsy) vs. cases                |
| Self-harm                | 1.41       | 0.84     | 2.30     | 0.184   | Controls (without asthma, diabetes and epilepsy) vs. cases                |
| Substance abuse          | 4.68       | 3.62     | 6.07     | < 0.001 | Controls (without asthma, diabetes and epilepsy) vs. cases                |