

Supplementary Table 1 Transition in characteristics of the study population (2011-2020)

| Characteristics | Total population N = 25150 | 2011-2015 N = 10538 | 2016-2020 N = 14612 | P value |
|------------------------------------|---------------------------------------|--------------------------------|--------------------------------|----------------|
| Age (yr, mean \pm SD) | 52.0 (11.8) | 51.6 (11.8) | 52.3 (11.7) | < 0.001 |
| Gender (male, %) | 20579 (81.8) | 8625 (81.8) | 11954 (81.8) | 0.953 |
| Laboratory test (mean \pm SD) | | | | |
| Hemoglobin (g/L) | 115.4 (26.6) | 115.8 (26.1) | 115.0 (27.0) | 0.025 |
| Platelet count ($\times 10^9$ /L) | 123.7 (83.1) | 117.2 (79.3) | 128.3 (85.5) | < 0.001 |
| ALB (g/L) | 34.2 (6.2) | 33.5 (6.1) | 34.8 (6.3) | < 0.001 |
| Bilirubin (umol/L) | 85.4 (137.1) | 84.6 (136.1) | 86.0 (137.8) | 0.433 |
| Prothrombin INR | 1.44 (0.65) | 1.41 (0.61) | 1.46 (0.68) | < 0.001 |
| Insurance (n, %) | 13571 (54.0) | 3040 (28.8) | 10531 (72.1) | < 0.001 |
| MELD score (Median, IQR) | 11.0 (8.0,18.0) | 12.0 (8.0,17.0) | 11.0 (8.0,18.0) | 0.025 |
| Referring site (n, %) | | | | < 0.001 |
| Emergency room | 1717 (6.8) | 537 (5.1) | 1180 (8.1) | |
| Outpatient service | 20002 (79.5) | 7099 (67.4) | 12903 (88.3) | |
| Other institutions | 541 (2.2) | 46 (0.4) | 495 (3.4) | |
| Decompensation ¹ (n,%) | 16258 (64.6) | 6671 (63.3) | 9587 (65.6) | < 0.001 |

Complications

(n, %)

| | | | | |
|-------------------|--------------|-------------|-------------|---------|
| UGIB | 3731 (14.8) | 1464 (13.9) | 2267 (15.5) | < 0.001 |
| Variceal bleeding | 3252 (12.9) | 1218 (11.6) | 2035 (13.9) | < 0.001 |
| Ascites | 12212 (48.6) | 4853 (46.1) | 7359 (50.4) | < 0.001 |
| HE | 1366 (5.4) | 524 (5.0) | 842 (5.8) | 0.007 |
| SBP | 3168 (12.6) | 1426 (13.5) | 1742 (11.9) | < 0.001 |
| HCC | 9767 (38.8) | 3775 (35.8) | 5992 (41.0) | < 0.001 |
| PVT | 2046 (8.1) | 917 (8.7) | 1129 (7.7) | 0.006 |
| HRS | 422 (1.7) | 180 (1.7) | 242 (1.7) | 0.790 |
| ACLF | 2414 (9.6) | 598 (5.7) | 1816 (12.4) | < 0.001 |

¹Presence of any one of ascites, variceal bleeding, HE, or jaundice (total bilirubin > 51.3 umol/L). INR: international normalized ratio; MELD: Model for End-Stage Liver Disease; IQR: interquartile range; UGIB: upper gastrointestinal bleeding; HE: hepatic encephalopathy; SBP: spontaneous bacterial peritonitis; HCC: hepatocellular carcinoma; PVT: portal vein thrombosis; HRS: hepatic renal syndrome; ACLF: acute-on-chronic liver failure.

Supplementary Table 2 Transition of in-hospital prognosis from 2011 to 2020

| Variable (n, %) | Total population | 2011-2015 | 2016-2020 | P value² | P for trend³ |
|-------------------------------|-------------------------|------------------|------------------|----------------------------|--------------------------------|
| In-hospital deaths | 264 (1.0) | 103 (1.0) | 161 (1.1) | 0.372 | 0.951 |
| Liver transplant ¹ | 242 (2.8) | 39 (1.1) | 203 (4.1) | < 0.001 | 0.756 |
| ICU admission | 1010 (4.0) | 280 (2.7) | 730 (5.0) | < 0.001 | 0.846 |

¹In patients with MELD score ≥ 15 .

²Determined using Chi-square test by comparing proportions in 2011-2015 with that in 2016-2020.

³Determined using Cochran-Armitage test by comparing proportions of separated years from 2011 to 2020.

Supplementary Table 3 Clinical features of study population stratified by major etiologies from 2001 to 2020, *n* (%)

| Etiology | Age (yr) median, IQR | Male gender | MELD score median, IQR | UGIB | HCC | ACLF ¹ |
|----------------------|-------------------------|----------------|---------------------------|-------|-------|-------------------|
| HBV | 52.0 (43.0, 60.0) | 84.3 | 11.0 (8.0, 18.0) | 13.3 | 43.4 | 9.9 |
| HCV | 55.0 (47.0, 63.0)* | 62.6* | 10.0 (8.0, 14.0)* | 17.5* | 27.6* | 2.2* |
| Alcohol | 53.0 (45.0, 60.0)* | 97.5* | 14.0 (9.0, 20.0)* | 25.4* | 12.4* | 9.4 |
| Autoimmune hepatitis | 58.0 (49.0, 65.0)* | 18.4* | 15.0 (10.0, 20.0)* | 9.0* | 1.6* | 11.7 |

**P* < 0.05 when compared with HBV group.

¹Only data from 2011-2020 were included.

MELD: Model for End-Stage Liver Disease; UGIB: upper gastrointestinal bleeding; HCC: hepatocellular carcinoma; ACLF: acute-on-chronic liver failure; HBV: hepatitis B virus; HCV: hepatitis C virus.