

Table S1. Liver disease classification scheme.

Category	Diseases included
PBC	Primary biliary cirrhosis
PSC	Primary sclerosing cholangitis (with Crohn's disease; ulcerative colitis; no bowel disease; other)
ALD	Alcoholic cirrhosis; Acute alcoholic hepatitis
AID	Cirrhosis (autoimmune; cryptogenic; drug/industrial exposure; chronic active hepatitis – etiology unknown; type non-A, non-B; uncertain or unknown etiology); Giant cell hepatitis
HCV	Cirrhosis (type C; type B and C); Alcoholic cirrhosis with hepatitis C
HBV	Cirrhosis (type B – HBsAg+; type B and D; type D)
HCC	Hepatocellular carcinoma (HCC); Noncirrhotic; HCC
Metabolic liver disease	Alpha-1-antitrypsin deficiency; Wilson disease (acute; chronic); Hemochromatosis-hemosiderosis; Cirrhosis (nonalcoholic steatohepatitis (NASH); Fatty liver disease); TPN/hyperalimentation-induced liver disease; Glycogen storage disease type I; Glycogen storage disease type II; Hyperlipidemia type II – homozygous hypercholesterolemia; Tyrosinemia; primary oxalosis/oxaluria–hyperoxaluria; Maple syrup urine disease; Amyloidosis; Sarcoidosis; Hemophilia; von Willebrand disease; Crigler-Najjar syndrome; Urea cycle disorder; Other metabolic disease
Other liver diseases	Cirrhosis (type A; non-specified viral hepatitis; other); Secondary biliary cirrhosis (Caroli disease; choledochal cyst; other); Familial cholestasis (Byler disease; other); Cholestatic liver disease – other; neonatal cholestatic liver disease; biliary atresia or hypoplasia (extrahepatic; biliary hypoplasia – non-syndromic paucity; biliary hypoplasia – Alagille syndrome; other); Idiopathic adulthood ductopenia; cystic fibrosis; congenital hepatic fibrosis; Budd-Chiari syndrome (acute; chronic); Portal vein thrombosis; Benign tumor (hepatic adenoma; polycystic liver disease; other); Graft-vs-host disease; Trauma; Nodular regenerative hyperplasia; Other, not already noted above; Not reported

AID, autoimmune and cryptogenic disease; ALD, alcohol-related liver disease; HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; HCV, hepatitis C virus; NASH, nonalcoholic steatohepatitis; PBC, primary biliary cholangitis; PSC, primary sclerosing cholangitis; TPN, total parenteral nutrition.

Table S2. Comparison of number and proportion of liver transplants performed in the UK and US stratified by primary liver disease (n = 47 824).

HCC (n=13,826)

Year of transplant	US	UK	<i>P</i>*
2008	1231 (27.3%)	117 (25.6%)	0.41
2009	1269 (27.9%)	125 (27.8%)	0.99
2010	1250 (27.8%)	128 (27.0%)	0.71
2011	1395 (30.3%)	139 (27.3%)	0.17
2012	1467 (32.1%)	127 (23.3%)	<0.001
2013	1429 (30.8%)	154 (25.5%)	0.01
2014	1506 (31.1%)	172 (26.1%)	0.01
2015	1592 (31.3%)	152 (25.2%)	0.02
2016	1411 (25.4%)	162 (24.9%)	0.80
Total	12 550	1276	

HCV (n = 11 266)

Year of transplant	US	UK	<i>P</i>*
2008	1365 (30.3%)	63 (13.8%)	<0.001
2009	1358 (29.8%)	47 (10.5%)	<0.001
2010	1278 (28.4%)	56 (11.8%)	<0.001
2011	1213 (26.3%)	55 (10.8%)	<0.001
2012	1187 (26.0%)	57 (10.5%)	<0.001
2013	1152 (24.9%)	70 (11.6%)	<0.001
2014	1209 (24.9%)	67 (10.2%)	<0.001
2015	1067 (21.0%)	31 (5.1%)	<0.001
2016	963 (17.3%)	28 (4.3%)	<0.001

Total	10792	474	
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PSC (n = 2329)

Year of transplant	US	UK	<i>P</i>*
2008	183 (4.1%)	42 (9.2%)	<0.001
2009	180 (4.0%)	50 (11.1%)	<0.001
2010	184 (4.1%)	40 (8.4%)	<0.001
2011	206 (4.5%)	60 (11.8%)	<0.001
2012	194 (4.3%)	58 (10.6%)	<0.001
2013	202 (4.4%)	63 (10.4%)	<0.001
2014	181 (3.7%)	67 (10.2%)	<0.001
2015	214 (4.2%)	71 (11.8%)	<0.001
2016	261 (4.7%)	73 (11.2%)	<0.001
Total	1805	524	

HBV (n = 797)

Year of transplant	US	UK	<i>P</i>*
2008	101 (2.2%)	6 (1.3%)	0.19
2009	85 (1.9%)	8 (1.8%)	0.90
2010	80 (1.8%)	5 (1.1%)	0.25
2011	85 (1.8%)	4 (0.8%)	0.08
2012	71 (1.6%)	5 (0.9%)	0.24
2013	76 (1.6%)	7 (1.2%)	0.37
2014	71 (1.5%)	8 (1.2%)	0.61
2015	77 (1.5%)	9 (1.5%)	0.97
2016	86 (1.6%)	13(2.0%)	0.38
Total	732	65	

PBC (n = 1621)

Year of transplant	US	UK	<i>P</i>*
2008	130 (2.9%)	37 (8.1%)	<0.001
2009	117 (2.6%)	45 (10.0%)	<0.001
2010	137 (3.1%)	48 (10.1%)	<0.001
2011	157 (3.4%)	55 (10.8%)	<0.001
2012	106 (2.3%)	57 (10.5%)	<0.001
2013	127 (2.7%)	48 (8.0%)	<0.001
2014	129 (2.7%)	51 (7.8%)	<0.001
2015	126 (2.5%)	52 (8.6%)	<0.001
2016	148 (2.7%)	51 (7.9%)	<0.001
Total	1177	444	

ALD (n = 7071)

Year of transplant	US	UK	<i>P</i>*
2008	513 (11.4%)	102 (22.3%)	<0.001
2009	538 (11.8%)	94 (20.9%)	<0.001
2010	557 (12.4%)	107 (22.6%)	<0.001
2011	559 (12.1%)	94 (18.5%)	<0.001
2012	536 (11.7%)	133 (24.4%)	<0.001
2013	592 (12.8%)	132 (21.9%)	<0.001
2014	662 (13.7%)	156 (23.7%)	<0.001
2015	838 (16.5%)	155 (25.7%)	<0.001
2016	1127 (20.3%)	176 (27.1%)	<0.001
Total	5922	1149	

AID (n = 3998)

Year of transplant	US	UK	<i>P</i> *
2008	470 (10.4%)	31 (6.8%)	0.01
2009	435 (9.6%)	34 (7.6%)	0.17
2010	427 (9.5%)	28 (5.9%)	0.10
2011	404 (8.8%)	32 (6.3%)	0.06
2012	399 (8.7%)	35 (6.4%)	0.07
2013	388 (8.4%)	44 (7.3%)	0.37
2014	331 (6.8%)	41 (6.2%)	0.57
2015	365 (7.2%)	26 (4.3%)	0.001
2016	466 (8.4%)	42(6.5%)	0.91
Total	3685	313	

Metabolic (n = 5669)

Year of transplant	US	UK	<i>P</i> *
2008	414 (9.2%)	28 (6.1%)	0.03
2009	478 (10.5%)	17 (3.8%)	<0.001
2010	469 (10.4%)	25 (5.3%)	<0.001
2011	492 (10.7%)	42 (8.3%)	0.90
2012	517 (11.3%)	39 (7.2%)	0.03
2013	581 (12.5%)	51 (8.4%)	0.03
2014	641 (13.2%)	57 (8.7%)	<0.001
2015	706 (13.9%)	67 (11.1%)	0.61
2016	979 (17.6%)	66 (10.2%)	<0.001
Total	5277	392	

Others (n = 1247)

Year of transplant	US	UK	<i>P</i> *
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2008	98 (9.2%)	32 (7.0%)	<0.001
2009	94 (10.5%)	29 (6.5%)	<0.001
2010	116 (10.4%)	37 (7.8%)	<0.001
2011	101 (10.7%)	28 (5.5%)	<0.001
2012	88 (11.3%)	34 (6.2%)	<0.001
2013	94 (12.5%)	35 (5.8%)	<0.001
2014	117 (13.2%)	39 (5.9%)	<0.001
2015	106 (13.9%)	40 (6.6%)	<0.001
2016	120 (17.6%)	39 (6.0%)	<0.001
Total	934	313	

**Chi-square test comparing proportion of transplants per liver disease between US and UK.*

Table S3. A time-dependent comparison of 5-year graft loss between the UK and US in those receiving a deceased donor liver transplant.

		UK compared to the US Hazard ratio (95% CI)			P for time-dependency
Primary liver disease		0 – 90 days	90 days – 1 year	1 year to 5 years	
Overall	Unadjusted	1.17 (1.04-1.30)	0.72 (0.62-0.85)	0.72 (0.64-0.81)	<0.001
	Adjusted ^a	1.11 (0.99-1.25)	0.70 (0.60-0.81)	0.68 (0.61-0.78)	<0.001
HCC	Unadjusted	1.30 (1.04-1.63)	1.01 (0.79-1.27)	0.81 (0.67-0.98)	0.006
	Adjusted ^a	1.13 (0.90-1.44)	0.87 (0.68-1.13)	0.71 (0.57-0.87)	0.006
Hepatitis C	Unadjusted	0.73 (0.48-1.13)	0.48 (0.28-0.80)	1.03 (0.80-1.35)	0.02
	Adjusted ^a	0.65 (0.41-1.02)	0.42 (0.25-0.72)	0.91 (0.70-1.21)	0.03
PSC	Unadjusted	1.53 (1.06-2.18)	0.98 (0.56-1.72)	1.15 (0.82-1.62)	0.35
	Adjusted ^a	1.25 (0.83-1.88)	0.81 (0.45-1.46)	0.94 (0.63-1.39)	0.35
Hepatitis B	Unadjusted				
	Adjusted ^a	1.58 (0.59-4.31)	Not enough events (UK)	0.39 (0.50-3.00)	N/A
PBC	Unadjusted	0.94 (0.60-1.47)	0.62 (0.32-1.21)	0.55 (0.33-0.93)	0.28
	Adjusted ^a	0.84 (0.49-1.43)	0.55 (0.27-1.15)	0.49 (0.27-0.90)	0.29
ALD	Unadjusted	1.10 (0.86-1.39)	0.61 (0.45-0.82)	0.62 (0.42-0.94)	0.04
	Adjusted ^a	1.09 (0.84-1.42)	0.62 (0.41-0.96)	0.60 (0.44-0.83)	0.004
AID	Unadjusted	0.82 (0.53-1.28)	1.08 (0.62-1.86)	0.69 (0.40-1.18)	0.52
	Adjusted ^a	0.74 (0.46-1.18)	0.97 (0.65-1.70)	0.62 (0.35-1.08)	0.52
Metabolic	Unadjusted	1.39 (0.99-1.97)	0.89 (0.53-1.50)	0.61 (0.36-1.04)	0.03
	Adjusted ^a	1.17 (0.82-1.70)	0.75 (0.44-1.28)	0.50 (0.29-0.87)	0.04
Others	Unadjusted	1.06 (0.69-1.62)	1.22 (0.58-2.55)	0.66 (0.37-1.17)	0.33
	Adjusted ^a	1.15 (0.71-1.87)	1.34 (0.62-2.93)	0.72 (0.38-1.36)	0.34

AID, autoimmune disease; ALD, alcohol-related liver disease; BMI, body mass index; CI, confidence interval; CIT, cold ischemia time; DBD, donation after brainstem death; DCD, donation after circulatory death; HCC, hepatocellular carcinoma; HCV, hepatitis C virus; MELD, model for end-stage liver disease; PBC, primary biliary cholangitis; PSC, primary sclerosing cholangitis; UK, United Kingdom; US, United States.

^aAdjusted for recipient characteristics: sex, age, ethnicity, BMI (kg/m²), disease etiology, functional status, ascites, encephalopathy, HCV status, MELD, pretransplant renal replacement therapy, previous abdominal surgery, and donor characteristics: sex, age, BMI (kg/m²), CIT, donor type (DCD/DBD), cause of death, ABO match, graft type.

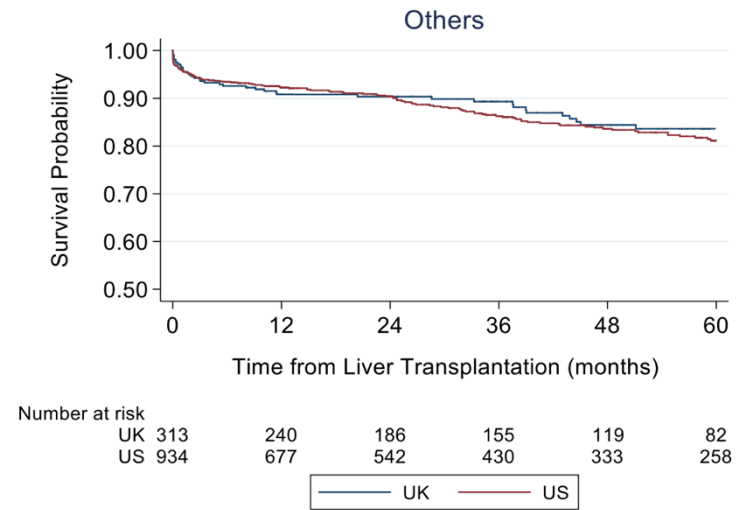
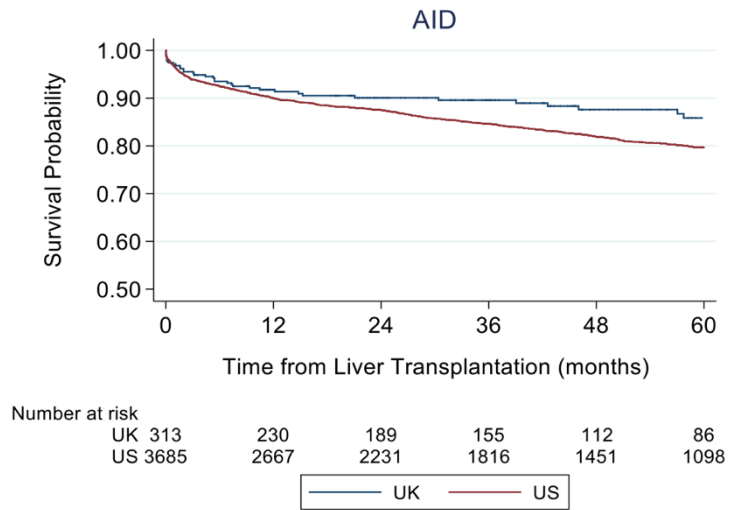
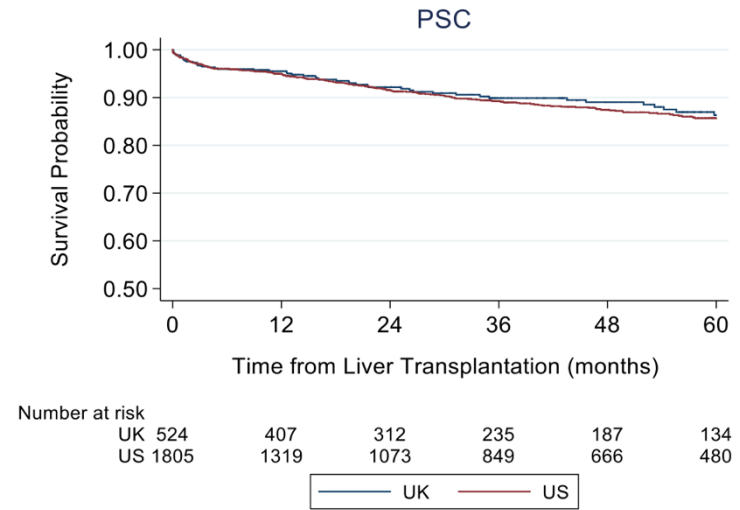
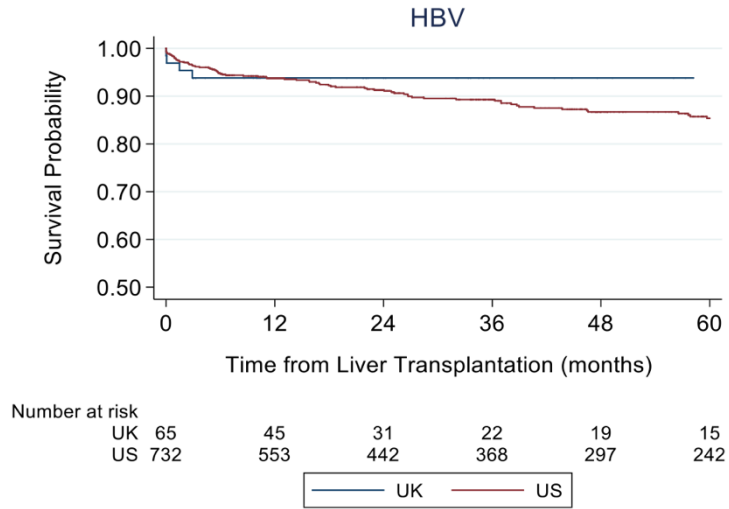


Figure S1. Kaplan-Meier survival graphs by liver disease category for liver transplant recipients in the US and the UK between 2008 and 2016. AID, autoimmune disease; HBV, hepatitis B virus; PSC, primary sclerosing cholangitis; UK, United Kingdom; US, United States.

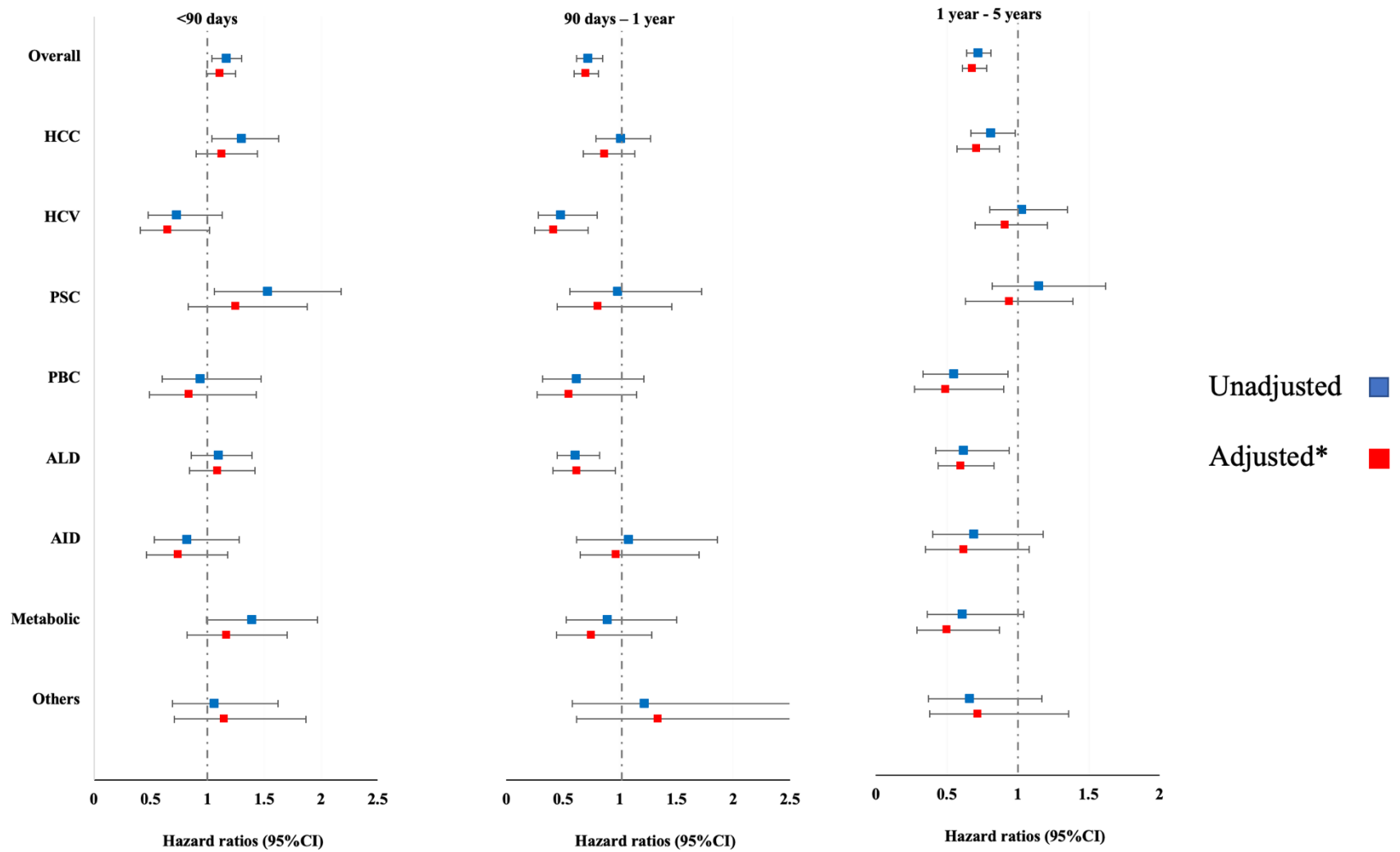


Figure S2. Unadjusted and adjusted hazard ratios (and 95% CI) for graft loss in the first 90-days, 90-days to 1 year and beyond the first year in the US (n = 42 874) compared with the UK (n = 4950) by liver disease category. *Adjusted for recipient characteristics: sex, age, ethnicity, body mass index (kg/m²), disease etiology, functional status, ascites, encephalopathy, HCV status, model for end-stage liver disease, pretransplant

renal replacement therapy, previous abdominal surgery, and donor characteristics: sex, age, body mass index (kg/m^2), cold ischemia time, donor type (donation after brainstem death/donation after circulatory death), cause of death, ABO match, graft type. AID, autoimmune disease; ALD, alcohol-related liver disease; CI, confidence interval; HCC, hepatocellular carcinoma; HCV, hepatitis C virus; PBC, primary biliary cholangitis; PSC, primary sclerosing cholangitis; UK, United Kingdom; US, United States.