

Supplementary Table 1 ICD Codes

Type of procedure	ICD 9	ICD 10
TIPS/ portosystemic shunt	39.1	06183DY,06183J4, 06184J4, 06183JY
Upper endoscopy	45.16, 45.13, 42.33, 42.24, 44.43	0W3P8ZZ, 0DB68ZX, 0DQ38ZZ, 0DQ58ZZ, Z13.810 ,0DB38ZX,0DB58ZX, 0DD58ZX , 0db57zx, 0DJ08ZZ ,0W3P8ZZ, 0DB58ZZ , 0DB54ZZ, 0D558ZZ, 0D554ZZ
Liver transplantation	50.50, 50.51, 50.59,	0FY00Z0
Paracentesis	54.91	0D9W30Z, 0D9W40Z , 0W9G3ZZ, 0W9G3ZX
Liver Biopsy	50.11	0F903ZX, 0FB13ZX, 0FB03ZX

Diagnosis Codes	ICD 9	ICD 10
Acute liver failure	570	K72.00
Portal hypertension	572.3	K76.6
Ascites	789.5, 789.59	R18.8
Intestinal infarct /acute vascular insufficiency	557.0	K55.011, K55.019, K55.021, K55.029,, K55.051, K55.059, K55.069
Hepatic encephalopathy	572.2	K72.91, K72.01, K72.11, K72.90

Spontaneous bacterial peritonitis	567.23, 567.0, 567.2, 567.8, 567.9	K65.2, K67, K65.9
Variceal bleeding	456.0, 456.20	I85.01, I85.11
Esophageal varices without bleeding	456.1, 456.21	I85.10, I85.00
Acute blood loss anemia/ hemorrhagic	285.1	D62
Hepatorenal syndrome	572.4	K76. 7
Hepato pulmonary syndrome	573.5	K76. 81
Portal vein thrombosis	452	I81
IVC thrombosis	4532	I82.220, I82.221
Acute respiratory Failure	51881	J96.00, J 96.01, J96.02, J96.90, J96.91, J96.92
Acute kidney injury	584.5, 586, 584.9	N17.0, N19, N17.9, N17.8, N17.2, N17.1
HCC	155.0	C22.8, C22.0
Sepsis/ severe sepsis/ septic shock	785.52, 995.92, 389	R 65.21, R65.20, A41.9

Supplementary Table 2 Mortality stratified by demographics and hospital characteristics

	Alive	Died	Individual effect (Type III test, P value)
Age (years)	49.6975	58.6567	<.001
Female	55.88	50.07	0.003
Race			0.138
1: White	56.24	52.65	
2: Black	13.29	12.62	
3: Hispanic	9.52	10.18	
4: Asian/Pacific Islander	2.47	3.39	
6: Other	3.68	3.39	
9: Unknown	14.81	17.77	
Region			0.533
1: Northeast	21.52	21.75	
2: Midwest	21.94	20.79	
3: South	34	32.69	
4: West	22.54	24.76	
Bed size			0.014
1: Small	10.33	6.93	
2: Medium	18.81	19.97	
3: Large	70.86	73.1	
Location/teaching status			0.195
1: Rural	6.99	6.25	
2: Urban nonteaching	24.78	22.28	
3: Urban teaching	68.22	71.47	

All numbers represented in percentage.

Supplementary Table 3 Least Squares Means difference on length of stay; LOS breakdown

Group	Compared group	Least Squares Means Difference (group - compared group)	p value for difference
Payer			
2: Medicaid	3: Private insurance	-0.030	0.389
2: Medicaid	1: Medicare	0.053	0.144
3: Private insurance	1: Medicare	0.084	0.005
Bed size			
2: Medium	3: Large	-0.180	<.0001
2: Medium	1: Small	0.113	0.022
3: Large	1: Small	0.293	<.0001
Location/teaching status			
2: Urban nonteaching	3: Urban teaching	-0.227	<.0001
2: Urban nonteaching	1: Rural	0.206	0.000
3: Urban teaching	1: Rural	0.433	<.0001
Region of hospital			
2: Midwest	3: South	-0.037	0.278
2: Midwest	4: West	0.017	0.645
2: Midwest	1: Northeast	-0.153	<.0001
3: South	4: West	0.055	0.107
3: South	1: Northeast	-0.116	0.001
4: West	1: Northeast	-0.171	<.0001

Supplementary Table 4 Least Squares Means difference on Total Charges; total charges breakdown

Group	Compared group	Least Squares Means Difference (group - compared group)	p value for difference
Race			
2: Black	3: Hispanic	-0.052	0.157
2: Black	4: Asian/Pacific Islander	-0.173	0.005
2: Black	1: White	-0.037	0.162
3: Hispanic	4: Asian/Pacific Islander	-0.120	0.056
3: Hispanic	1: White	0.015	0.613
Bed size of hospital			
2: Medium	3: Large	-0.089	<.0001
2: Medium	1: Small	0.080	0.018
3: Large	1: Small	0.169	<.0001
Location/teachingstatus of hospital			
2: Urban nonteaching	3: Urban teaching	-0.124	<.0001
2: Urban nonteaching	1: Rural	0.428	<.0001
3: Urban teaching	1: Rural	0.552	<.0001
Region of hospital			
1: Northeast	2: Midwest	0.137	<.0001
1: Northeast	3: South	0.134	<.0001
1: Northeast	4: West	-0.196	<.0001
2: Midwest	3: South	-0.003	0.909
2: Midwest	4: West	-0.333	<.0001
3: South	4: West	-0.330	<.0001

Supplementary Table 5 Least Squares Means difference on the number of procedures; Procedure Breakdown

Group		Compared group	Least Squares Means Difference (group - compared group)	p value for difference
Race				
1: White		2: Black	0.061	0.593
1: White		3: Hispanic	-0.591	0.000
2: Black		3: Hispanic	-0.652	0.000
Region				
1: Northeast		2: Midwest	0.308	0.007
1: Northeast		3: South	0.408	<.0001
1: Northeast		4: West	-0.122	0.328
2: Midwest		3: South	0.101	0.304
2: Midwest		4: West	-0.430	0.001
3: South		4: West	-0.530	<.0001
Bed size				
1: Small		2: Medium	-0.557	<.0001
1: Small		3: Large	-0.901	<.0001
2: Medium		3: Large	-0.344	0.000
Location / teaching status				
1: Rural		2: Urban nonteaching	-0.577	<.0001
1: Rural		3: Urban teaching	-1.825	<.0001
2: Urban nonteaching		3: Urban teaching	-1.248	<.0001