

## SUPPLEMENTARY MATERIAL:

### Appendix 1: Hepatic decompensation codes:

- Encephalopathy: 572.2, 070.2, 070.4, 070.6, 070.71
- Portal hypertension: 572.3
- Hepatorenal syndrome: 572.4
- Spontaneous bacterial peritonitis: 032.83, 567.xx, 569.5
- Hepatocellular carcinoma: 155.0, 155.2, 197.7
- Ascites: 789.5
- Esophageal varices with or without bleeding: 456.0, 456.1, 456.2x

Table 1S: Mean price by activity

Primary care visits	
Physician	€ 38.04 per visit
Home visit (physician)	€ 45.65 per visit
Nurse	€ 22.83 per visit
Home visit (nurse)	€ 27.39 per visit
Specialist visit	€ 58.46 per visit
Mental health visit	€ 75.31 per visit
Emergency room visit	€ 106.38 per visit
Hospital admission	€ 2,150.64 per admission
Skilled nursing facility	
Long term	€ 50.22 per day
Convalescence	€ 86.91 per day

Mental health admission	
Acute	€ 183.31 per day
Sub-acute	€ 115.35 per day
Minor outpatient surgery	€ 156.84 per surgery
Outpatient Care Clinics	€ 169.35 per day
Hospital at home	€ 950.00 per admission
Outpatient rehabilitation	€ 213.39 per session
Non-urgent medical transportation	€ 61.34 per act
Home oxygen therapy	€ 49.12 per session
Dialysis	€ 151.20 per session

Table 2S: Demographic characteristics stratified by specific hepatic decompensation during 2012

	TOTAL	Specific hepatic decompensation during 2012						
		EV	HE	SBP	HRS	CHC	ASC	PHT
Cases	4,048	1800	815	293	68	1006	786	1878
Patients / year	3,635	1613	664	252	49	852	689	1697
Age* (mean±SD) (years)	63.7 ±12.7	62.6 ±12.6	63.4 ±12.3	62.2 ±12.5	61.8 ±12.8	68.3 ±10.7	62.1 ±12.3	61.8 ±12.8
Women (%)	33.4	31.3	36.0	30.7	33.8	27.7	34.6	32.9
<b>Morbidity</b>								
Number of chronic co-morbidities		6.5	7.1	6.8	7.5	7.3	6.0	6.5
Stratification groups (AMG)								
Very high-risk stratum		27.9	40.9	36.9	44.1	28.0	26.8	29.1
High risk stratum		45.5	42.8	43.3	45.6	56.2	40.5	44.3
Moderate risk stratum		23.2	14.1	16.4	10.3	15.5	23.8	22.6
Low risk stratum		3.4	2.2	3.4	0.0	0.3	8.9	4.0

**EV:** Esophageal Varices; **HE:** Encephalopathy; **SBP:** Spontaneous bacterial peritonitis; **HRS:** Hepatorenal syndrome; **CHC:** Hepatocellular carcinoma; **ASC:** Ascites. **PHT:** Portal Hypertension; **AMG:** Adjusted Morbidity Groups.

Table 3S: Multivariable logistic regression analyzing factors associated with mortality

	n	$\beta$ coefficient	OR	95% CI	
<b>Sex</b>					
Male	20,231		1	--	--
Female	14,509	-0.318	0.727	0.658	0.804
<b>Age group</b>					
18-44 years old	4,214		1	--	--
45-64 years old	15,671	0.338	1.402	1.058	1.857
65-74 years old	8,132	1.849	1.386	2.465	1.849
75-84 years old	5,497	2.761	2.069	3.684	2.761
>84 years old	1,226	5.992	4.368	8.220	5.992
<b>Hepatic decompensation</b>					
Compensated group	25,299		1	--	--
Previous decompensation group	5,393	0.314	1.369	1.202	1.558
Recent decompensation group	4,048	2.030	1.792	2.299	2.030
<b>Risk stratum (morbidity burden)</b>					
Low risk stratum	7,724		1	--	--
Moderate risk stratum	12,367	0.951	2.588	1.747	3.835
High risk stratum	10,622	11.348	7.805	16.500	11.348
Very high risk stratum	4,027	42.673	29.180	62.403	42.673
<b>Chronic kidney disease</b>	2,542	0.790	0.694	0.899	0.790
<b>Hepatitis C virus +</b>	5,096	1.213	1.081	1.360	1.213
<b>HIV+</b>	903	0.973	0.743	1.274	0.973
<b>Unplanned hospitalization during 2012</b>					
0	28,884		1	--	--
1	3,788	0.224	1.251	1.086	1.440
2	1,207	1.201	0.987	1.461	1.201
3	459	1.150	0.879	1.504	1.150
>3	402	1.560	1.166	2.088	1.560
<b>Emergency department visits during 2012</b>					
0	20,699		1	--	--
1-2	9,712	0.073	1.076	0.945	1.225
3-5	3,237	1.497	1.271	1.762	1.497
>5	1,092	1.576	1.253	1.982	1.576
<b>Skilled nursing facility during 2012</b>	1,234	2.127	1.832	2.470	2.127
<b>Constant</b>		0.003	0.003	--	--

Table 4S: Multivariable logistic regression analyzing factors associated with hospitalization for any cause

	n	$\beta$ coefficient	OR	95% CI	
<b>Sex</b>					
Male	20,231		1	--	--
Female	14,509	-0.009	0.991	0.918	1.069
<b>Age group</b>					
18-44 years old	4,214		1	--	--
45-64 years old	15,671	-0.369	0.691	0.590	0.810
65-74 years old	8,132	-0.540	0.583	0.493	0.689
75-84 years old	5,497	-0.476	0.621	0.523	0.738
>84 years old	1,226	-0.315	0.730	0.587	0.907
<b>Hepatic decompensation</b>					
Compensated group	25,299		1	--	--
Previous decompensation group	5,393	0.405	1.499	1.362	1.650
Recent decompensation group	4,048	0.714	2.041	1.840	2.265
<b>Risk stratum (morbidity burden)</b>					
Low risk stratum	7,724		1	--	--
Moderate risk stratum	12,367	1.609	4.997	3.653	6.837
High risk stratum	10,622	3.759	42.917	31.679	58.141
Very high risk stratum	4,027	5.879	357.497	261.233	489.235
<b>Chronic kidney disease</b>	2,542	-0.549	0.578	0.515	0.647
<b>Hepatitis C virus +</b>	5,096	-0.021	0.980	0.891	1.077
<b>HIV+</b>	903	-0.100	0.904	0.741	1.104
<b>Unplanned hospitalization during 2012</b>					
0	28,884		1	--	--
1	3,788	0.296	1.344	1.203	1.503
2	1,207	0.402	1.494	1.264	1.767
3	459	0.399	1.490	1.159	1.915
>3	402	0.569	1.766	1.322	2.358
<b>Emergency department visits during 2012</b>					
0	20,699		1	--	--
1-2	9,712	0.185	1.204	1.098	1.320
3-5	3,237	0.403	1.496	1.319	1.698
>5	1,092	0.572	1.773	1.462	2.149
<b>Skilled nursing facility during 2012</b>	1,234	-0.437	0.646	0.555	0.751
<b>Constant</b>		-4.988	0.007	--	--

Table 5S: Health services utilization by specific hepatic decompensation during 2012

	Specific hepatic decompensation during 2012						
	EV	HE	SBP	HRS	CHC	ASC	PHT
Cases	1800	815	293	68	1.006	786	1878
Admission rate (x100 patients)	128.1	175.1	175.1	170.6	115.0	125.1	128.5
Average length of hospitalization (days)	10.8	15.1	17.7	13.6	7.3	10.6	10.9
Unplanned admission rate (x100 patients)	87.8	131.0	112.6	97.1	58.7	88.5	87.0
Patients with unplanned admission (%)	42.2	55.1	51.2	52.9	35.6	45.0	43.3
Patients >1 unplanned admission (%)	20.7	30.8	28.3	23.5	13.5	21.0	20.9
Emergency visit rates (x100 patients)	208.8	277.3	245.1	222.1	141.7	199.6	211.2
Patients with emergency visit (%)	63.7	70.1	69.3	63.2	57.0	61.5	65.0
Patients with >1 emergency visits (%)	40.9	48.5	50.2	36.8	33.9	40.7	41.8
Gastroenterology/hepatology specialist outpatient visits (mean)	2.6	2.6	2.7	3.3	3.4	2.5	2.5
Other hospital outpatient visits (average)	4.6	4.2	6.0	3.8	4.5	4.6	5.2
Primary Care visits (average)	16.3	17.9	18.4	16.3	15.6	17.7	16.1
Users of a skilled nursing facility (%)	14.8	24.5	17.7	30.9	21.2	16.4	14.7
Mental Health outpatient visits rate (x100 patients)	15.8	18.9	10.9	23.5	4.6	18.2	15.4
Psychiatric hospital admission rate (x100 patients)	2.1	1.1	.7	2.9	.3	1.8	2.6

**EV:** Esophageal varices; **HE:** Encephalopathy; **SBP:** Spontaneous bacterial peritonitis; **HRS:** Hepatorenal syndrome; **CHC:** Hepatocellular carcinoma; **ASC:** Ascites. **PHT:** Portal hypertension;