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<b>Title</b>	Predicting 1year mortality in older hospitalized patients: external validation of the HOMR Model
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Sex	Points	ED visits	Points	Home O <sub>2</sub>	Points	Admitting service	Points
Female	0	Female	0	No	0	<b>Medicine</b>	
Male	1	Male	1	Yes	1	General medicine	10
<b>Admission directly to ICU</b>		<b>Points</b>		<b>Admissions by ambulance</b>		<b>Points</b>	
No	0	0	0	Sex	Points	Cardiology	8
Yes	1	1	3	No	0	Gastroenterology/ nephrology/ neurology	9
<b>Diagnostic Risk Score</b>				Yes	1	Palliative care	28
See Appendix				2	4	Heamatology/ oncology	14
				≥3	5	Gynecology	7
<b>Charlson Comorbidity Index score</b>							
Diagnosis		Points	Diagnosis		Points	<b>Surgery</b>	
Myocardial infarction		1	Diabetes with chronic complications		2	General surgery	8
Heart failure		2	Hemi- or paraplegia		1	Cardiovascular surgery	9
Peripheral vascular disease		1	Renal disease		3	Neurosurgery	10
Cerebrovascular disease		1	Nonmetastatic cancer		2	Orthopedic/ plastic surgery	7
Dementia		3	Moderate to severe liver disease		4	Thoracic/ transplant surgery	7
Chronic respiratory disease		2	Metastatic cancer		6	Trauma	8
Mild liver disease		2	HIV infection		4	Urology	6
Diabetes without complications		1	<b>Total comorbidity score</b>				
<b>Charlson Comorbidity Index score: Age x comorbidity</b>							
Age, yr	0	1	2	3	4	5	≥6
20-24.9	0	3	5	7	8	9	10
25-29.9	2	5	7	9	10	11	11
30-34.9	4	7	9	11	12	12	13
35-39.9	7	9	11	12	13	14	15
40-44.9	8	11	13	14	15	15	16
45-49.9	10	13	14	15	16	17	17
50-54.9	12	14	16	17	17	18	18
55-59.9	14	16	17	18	19	19	17
60-64.9	15	17	18	19	20	20	18
65-69.9	17	19	20	21	21	22	20
70-74.9	18	20	21	22	22	23	21
75-79.9	20	21	22	23	23	24	22
80-84.9	21	23	23	24	24	25	25
85-89.9	23	24	25	25	25	26	26
90-94.9	24	25	26	26	26	27	27
≥95	25	26	27	27	27	28	28
<b>Living status/ admission urgency x admissions by ambulance</b>							
No. of admissions by ambulance							
	0	1	2	≥3			
<b>Living status</b>							
Home, independent	0	0	0	0			
Rehabilitation facility	3	3	2	2			
Home with home care	4	3	3	3			
Nursing home	4	4	4	3			
Chronic care hospital	8	6	5	5			
<b>Admission urgency</b>							
Elective	0	0	0	0			
ED, no ambulance	3	1	0	0			
ED, ambulance	5	2	1	0			
<b>Covariate</b>							<b>Total points</b>
Sex							
ED visits							
Home O <sub>2</sub>							
Diagnostic Risk Score							
Admission to ICU							
Admissions by ambulance							
Urgent readmission							
Admitting service							
Age x comorbidity							
Living status x admissions by ambulance							
Admission urgency x admissions by ambulance							
<b>Total HOMR score</b>							<u>        </u>

**Supplementary appendix S1:** The original HOMR model. Covariates used to calculate a patient's Hospital-patient One-year Mortality Risk (HOMR) score. ED = emergency department. ICU = intensive care department.

	<i>Dependent variable:</i>
	1 year post-hospitalization mortality
<b>DRS</b>	0.11 (0.07, 0.15)
<b>sqrt(Age)</b>	1.45 (0.60, 2.30)
<b>Male (vs Female)</b>	0.44 (0.12, 0.77)
<b>Rehab</b>	0.82 (-1.75, 3.38)
<b>Homecare</b>	1.16 (-0.24, 2.56)
<b>Nursing Home</b>	1.56 (0.13, 2.99)
<b>log(CCI)</b>	2.78 (-2.76, 8.33)
<b>sqrt(Ed visits in the previous year + 1)</b>	0.16 (-1.23, 1.55)
<b>1/(Admissions by ambulance in previous year +1)</b>	-2.03 (-4.75, 0.70)
<b>Other (vs General Medicine)</b>	-0.68 (-1.58, 0.22)
<b>ED w/o Ambulance</b>	-0.83 (-3.16, 1.49)
<b>ED w/Ambulance</b>	-1.21 (-3.41, 0.98)
<b>Urgent readmission</b>	0.60 (0.07, 1.12)
<b>Sqrt(Age) log(CCI)</b>	-0.23 (-0.84, 0.38)
<b>Rehab 1/(Admissions by ambulance in previous year +1)</b>	-0.15 (-3.66, 3.36)
<b>Homecare 1/(Admissions by ambulance in previous year +1)</b>	0.31 (-1.23, 1.85)
<b>Nursing Home 1/(Admissions by ambulance in previous year +1)</b>	-0.20 (-1.91, 1.52)
<b>ED w/o Ambulance 1/(Admissions by ambulance in previous year +1)</b>	1.04 (-1.73, 3.81)
<b>ED w/Ambulance 1/(Admissions by ambulance in previous year +1)</b>	1.91 (-0.71, 4.53)
<b>Intercept</b>	-14.79 (-22.86, -6.72)
<b>Observations</b>	1,409
<b>Log Likelihood</b>	-523.28
<b>Akaike Inf. Crit.</b>	1,086.55
<p><b>Note:</b> Admitting service recoded to General Medicine vs Other, due to small call sizes. ICU admission from the model was omitted as there were only 3 cases of this happening. Home O2 was omitted from the model since no patients in our sample were using it.</p>	

**Supplementary Appendix S2:** Re-estimated HOMR model with regression coefficients. CCI = Charlson Comorbidity Index; ED = emergency department; ICU = Intensive care unit.

Model	Description	C-Statistic:		
		Derivation	Validation	Independent validation
<b>HELP, 2000</b> <sup>28</sup>	Patients ≥80 years, emergency admissions	C= 0.73 (N=1266)	C=0.74 (N=150)	-
<b>Walter et al, 2001</b> <sup>29</sup>	Patients ≥70 years, discharged from general medicine service	C=0.75 (N=1495)	C=0.79 (N=1427)	C=0.72 <sup>25</sup> (N=100; patients ≥75; 1 year mortality prediction )
<b>BISEP, 2003</b> <sup>30</sup>	Patients ≥70 years, admitted under general medicine service	C=0.83 (N=525)	C=0.77 (N=1246)	C=0.72 <sup>25</sup> (N=100; patients ≥75; 1 year mortality prediction )
<b>CARING, 2006</b> <sup>31</sup>	Adult patients admitted under general medicine service	C=0.82 (N=435)	C=0.79 (N=1064)	C=0.63 <sup>25</sup> (N=100; patients ≥75; 1 year mortality prediction )
<b>Levine et al, 2007</b> <sup>32</sup>	Patients ≥65 years discharged from general medicine service	C=0.67 (N=2739)	C=0.65 (N=3643)	C=0.64 <sup>25</sup> (N=100; patients ≥75; 1 year mortality prediction )
<b>MPI, 2008</b> <sup>33</sup>	Patients ≥65 years admitted to geriatric unit	C=0.75	C=0.75 <sup>34</sup>	-
<b>SAFES, 2008</b> <sup>35</sup>	Patients ≥75 admitted through the emergency department	C=0.72 (N=870)	C=0.71 (N=436)	-
<b>Silver Code, 2010</b> <sup>36</sup>	Patients ≥75 admitted through the emergency department	C=0.66 (N=5457)	C=0.64 (N=5456)	0.51 <sup>25</sup> (N=100; patients ≥75; 1 year mortality prediction )
<b>HOMR, 2014</b> <sup>5</sup>	Adult patients of all ages admitted under non-psychiatric hospital services	C=0.92 (N=319 531)	C=0.89 - 0.92 <sup>6</sup> (N= 2 862 996)	C=0.78 (N=1409; patients ≥65 years discharged from geriatric service; model re-calibrated for validation sample)

**Supplementary Appendix S3:** Summary of prognostic models used to predict mortality in hospitalized older patients.

Legend: BISEP = Burden of Illness Score for Elderly Persons; CARING = cancer, ≥2 admissions, residence in a nursing home, intensive care unit admission with multiorgan failure, ≥2 noncancer hospice guidelines; HELP = Hospitalized Elderly Longitudinal Project; HOMR = Hospital patient One year Mortality Risk; MPI = Multidimensional Prognostic Index; SAFES = Sujet Agé Fragile—Evaluation et Suivi (Frail Elderly Subject – Assessment Follow-up).

