# **SUPPLEMENTARY MATERIALS**

# Nationwide analysis of hospital admissions and outcomes of patients with SARS-CoV-2 infection in Austria in 2020 and 2021

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Figure S 1 Study Flow Chart

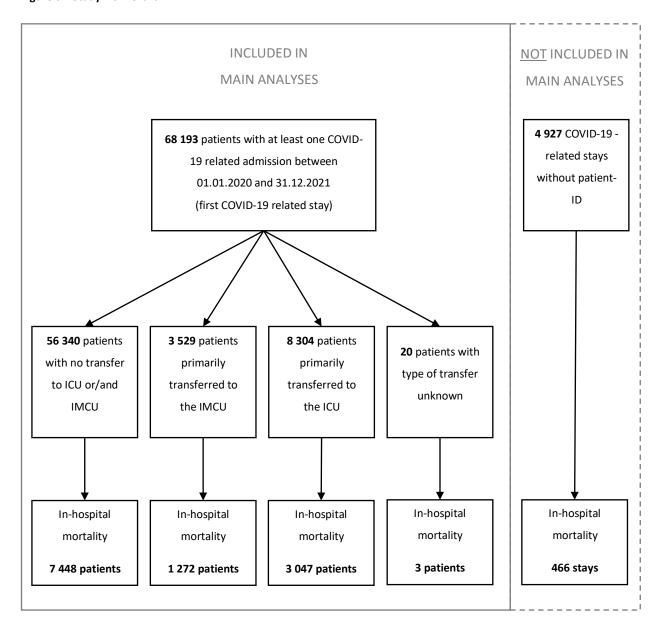


Table S 1 Demographics, regional variation, and outcomes of patients admitted to hospital (upper half) and patients admitted to intermediate care units (lower half) overall and per half-years.

			2020		2021	
	Variable	Overall	Half-year 1	Half-year 2	Half-year 3	Half-year 4
	n of patients	68193	3191	27409	20066	17527
	Sex (n, %)					
	Female	32319 (47.4%)	1432 (44.9%)	13004 (47.4%)	9462 (47.2%)	8421 (48.0%)
	Male	35874 (52.6%)	1759 (55.1%)	14405 (52.6%)	10604 (52.8%)	9106 (52.0%)
	Age category [years] (n, %)					
	up to 19	1774 (2.6%)	40 (1.3%)	511 (1.9%)	516 (2.6%)	707 (4.0%)
	20 – 39	5361 (7.9%)	216 (6.8%)	1594 (5.8%)	1667 (8.3%)	1884 (10.7%)
	40 – 44	2041 (3.0%)	81 (2.5%)	593 (2.2%)	672 (3.3%)	695 (4.0%)
ta	45 – 49	2975 (4.4%)	151 (4.7%)	879 (3.2%)	1030 (5.1%)	915 (5.2%)
Patients Admitted to Hospital	50 – 54	4364 (6.4%)	210 (6.6%)	1471 (5.4%)	1466 (7.3%)	1217 (6.9%)
Ĭ	55 – 59	5355 (7.9%)	215 (6.7%)	1900 (6.9%)	1803 (9.0%)	1437 (8.2%)
ģ	60 – 64	5545 (8.1%)	262 (8.2%)	2040 (7.4%)	1812 (9.0%)	1431 (8.2%)
ij	65 – 69	5811 (8.5%)	276 (8.6%)	2325 (8.5%)	1781 (8.9%)	1429 (8.2%)
Αdn	70 – 74	7048 (10.3%)	334 (10.5%)	2975 (10.9%)	2077 (10.4%)	1662 (9.5%)
ıts /	75 – 79	8065 (11.8%)	433 (13.6%)	3643 (13.3%)	2223 (11.1%)	1766 (10.1%)
tie	80 – 84	9003 (13.2%)	430 (13.5%)	4225 (15.4%)	2286 (11.4%)	2062 (11.8%)
Ь	85 – 89	6309 (9.3%9	294 (9.2%)	3094 (11.3%)	1533 (7.6%)	1388 (7.9%)
	90 and above	4542 (6.7%)	249 (7.8%)	2159 (7.9%)	1200 (6.0%)	934 (5.3%)
		4342 (6.7%)	249 (7.6%)	2139 (7.9%)	1200 (6.0%)	954 (5.5%)
	Region (n, %)	27052 (44.00/)	1420 (44.00/)	0022 (26 20/)	10030 (50 00/)	CEC2 (27 40/)
	East	27952 (41.0%)	1429 (44.8%)	9923 (36.2%)	10038 (50.0%)	6562 (37.4%)
	North	18021 (26.4%)	595 (18.6%)	7905 (28.8%)	4092 (20.4%)	5429 (31.0%)
	South	14389 (21.1%)	596 (18.7%)	6279 (22.9%)	4009 (20.0%)	3505 (20.0%)
	West	7831 (11.5%)	571 (17.9%)	3302 (12.0%)	1927 (9.6%)	2031 (11.6%)
	In-hospital mortality (n, %)	11770 (17.3%)	639 (20.0%)	5145 (18.8%)	3177 (15.8%)	2809 (16.0%)
	n of patients	3529	159	1396	1255	719
	Sex (n, %)	4246 (27 20/)	FO (26 FO()	F24/27 F0/\	460 (27.20/)	266 (27 00()
	Female	1316 (37.3%)	58 (36.5%)	524 (37.5%)	468 (37.3%)	266 (37.0%)
	Male	2213 (62.7%)	101 (63.5%)	872 (62.5%)	787 (62.7%)	453 (63.0%)
	Age category [years] (n, %)	45 (4.20()	0 (0 00()	10 (0 70()	10 (1 40/)	17 (2 40/)
its	up to 19	45 (1.3%)	0 (0.0%)	10 (0.7%)	18 (1.4%)	17 (2.4%)
e Ci	20 – 39 40 – 44	162 (4.6%) 81 (2.3%)	7 (4.4%)	47 (3.4%)	59 (4.7%)	49 (6.8%) 23 (3.2%)
ä	45 – 49		2 (1.3%)	29 (2.1%)	27 (2.2%) 54 (4.3%)	
mediate Care Units	50 – 54	139 (3.9%) 240 (6.8%)	4 (2.5%) 7 (4.4%)	39 (2.8%) 76 (5.4%)	92 (7.3%)	42 (5.8%) 65 (9.0%)
	55 – 59	335 (9.5%)	7 (4.4%)	129 (10.0%)	133 (10.6%)	66 (9.2%)
E.	60 – 64	376 (10.7%)	17 (10.7%)	140 (10.4%)	141 (11.2%)	78 (10.8%)
Ĭ	65 – 69	414 (11.7%)	16 (10.1%)	145 (14.4%)	152 (12.1%)	101 (14.0%)
5	70 – 74	515 (14.6%)	32 (20.1%)	201 (16.0%)	186 (14.8%)	96 (13.4%)
Patients Admitted to Inter	75 – 79	513 (14.5%)	35 (22.0%)	223 (16.0%)	183 (14.6%)	70 (9.7%)
	80 – 84	456 (12.9%)	18 (11.3%)	224 (16.0%)	138 (11.0%)	76 (10.6%)
	85 – 89	182 (5.2%)	8 (5.0%)	101 (7.2%)	45 (3.6%)	28 (3.9%)
ient	90 and above	73 (2.1%)	6 (3.8%)	32 (2.3%)	27 (2.2%)	8 (1.1%)
Pat	Region (n, %)	, 5 (2.170)	0 (0.070)	52 (2.570)	(/-)	C (1.1/0)
	East	2427 (68.8%)	108 (67.9%)	908 (65.0%)	942 (75.1%)	469 (65.2%)
	North	415 (11.8%)	13 (8.2%)	197 (14.1%)	108 (8.6%)	97 (13.5%)
	South	396 (11.2%)	7 (4.4%)	174 (12.5%)	139 (11.1%)	76 (10.6%)
	West	291 (8.2%)	31 (19.5%)	117 (8.4%)	66 (5.3%)	77 (10.7%)
	In-hospital mortality (n, %)	1272 (36.0%)	55 (34.6%)	517 (37.0%)	441 (35.1%)	259 (36.0%)
		1 12,2 (30.070)	33 (34.0/0)	31, (37.0/0)	111 (33.170)	233 (30.070)

Table S 2 Multivariable logistic regression analysis in all patients with COVID-19 admitted to Austrian hospitals in 2020 and 2021 (n=68 193) with in-hospital mortality (n=11 770) as the dependent variable including an interaction term between sex and age category. CI = confidence interval, OR = odds ratio.

Variable Sex		OR	95% CI		p
	Female	1.00			
	Male	1.58	1.31	1.91	< 0.001
Age cate	gory [years]				
	up to 19	0.02	0.01	0.09	< 0.001
	20 – 39	0.08	0.05	0.13	<0.001
	40 – 44	0.21	0.13	0.36	< 0.001
	45 – 49	0.29	0.19	0.42	<0.001
	50 – 54	0.37	0.27	0.51	<0.001
	55 – 59	0.56	0.43	0.73	<0.001
	60 – 64	1.00			
	65 – 69	1.43	1.17	1.76	<0.001
	70 – 74	1.96	1.62	2.36	< 0.001
	75 – 79	2.54	2.12	3.04	< 0.001
	80 – 84	3.25	2.73	3.86	< 0.001
	85 – 89	4.91	4.13	5.84	< 0.001
	90 and above	7.71	6.48	9.18	< 0.001
Interaction	on: Sex × Age category				
	sex × up to 19	2.64	0.60	11.63	0.20
	sex × 20-39	1.38	0.79	2.41	0.26
	sex × 40-44	0.93	0.50	1.74	0.82
	sex × 45-49	0.65	0.39	1.08	0.10
	sex × 50-54	1.00	0.69	1.46	0.99
	sex × 55-59	0.97	0.71	1.33	0.87
	sex × 60-64	1.00			
	sex × 65-69	0.99	0.77	1.26	0.92
	sex × 70-74	1.07	0.85	1.34	0.57
	sex × 75-79	1.07	0.86	1.33	0.56
	sex × 80-84	1.15	0.93	1.43	0.18
	sex × 85-89	1.07	0.86	1.33	0.53
	sex × 90 and above	1.00	0.80	1.25	0.98
Half-year					
	Half-year 1	1.15	1.04	1.27	0.01
	Half-year 2	1.00			
	Half-year 3	0.96	0.91	1.01	0.16
	Half-year 4	1.11	1.05	1.17	< 0.001
Region					
	East	1.00			
	North	0.67	0.58	0.77	<0.001
	South	0.87	0.75	1.00	0.05
	West	0.62	0.52	0.73	<0.001
		•			

Table S 3 Multivariable logistic regression analysis in all patients with COVID-19 admitted to Austrian hospitals in 2020 and 2021 including those with missing patient identifiers (n=73 120) with in-hospital mortality (n=12 236) as the dependent variable. CI = confidence interval, OR = odds ratio

Variable	OR	95% CI	p
Sex			
Female	1.00		
Male	1.67	1.60 1.74	<0.001
Age category [years]			
up to 19	0.05	0.03 0.09	<0.001
20 – 39	0.10	0.08 0.13	<0.001
40 – 44	0.20	0.15 0.27	<0.001
45 – 49	0.23	0.19 0.29	<0.001
50 – 54	0.38	0.32 0.45	<0.001
55 – 59	0.56	0.48 0.64	<0.001
60 – 64	1.00		
65 – 69	1.44	1.29 1.61	<0.001
70 – 74	2.05	1.85 2.27	<0.001
75 – 79	2.65	2.40 2.92	<0.001
80 – 84	3.58	3.25 3.95	<0.001
85 – 89	5.18	4.68 5.72	<0.001
90 and above	7.80	7.03 8.65	<0.001
Half-year			
Half-year 1	1.11	1.01 1.22	0.04
Half-year 2	1.00		
Half-year 3	0.97	0.92 1.02	0.19
Half-year 4	1.12	1.06 1.18	<0.001
Region			
East	1.00		
North	0.66	0.58 0.77	<0.001
South	0.87	0.76 1.01	0.06
West	0.60	0.51 0.71	<0.001

Figure S 2 Unadjusted in-hospital mortality rates in all patients with COVID-19 admitted to Austrian hospitals in 2020 and 2021 (*n*=68 193) stratified for age categories and separated for half-year of hospital admission (January 1<sup>st</sup>, 2020 to June 22<sup>nd</sup>, 2020, June 23<sup>rd</sup>, 2020 to January 1<sup>st</sup>, 2021, January 2<sup>nd</sup>, 2021 to June 21<sup>st</sup>, 2021, and June 22<sup>nd</sup>, 2021 to January 1<sup>st</sup>, 2022) and patient sex.

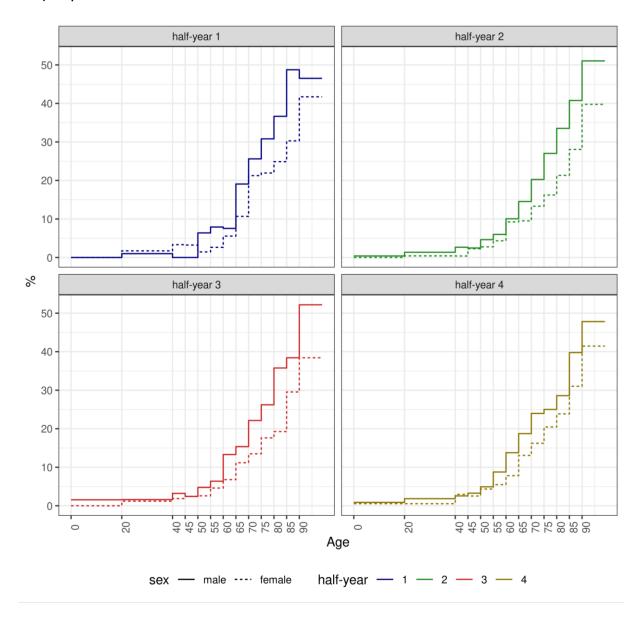


Figure S 3 Boxplot comparison of Simplified Acute Physiology Score 3 (SAPS 3) values between male and female individuals.

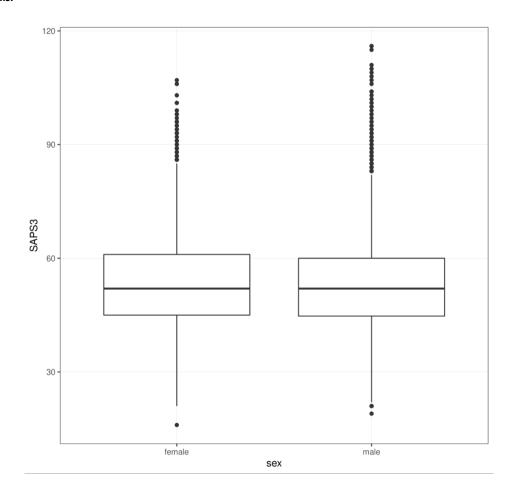


Figure S 4 Unadjusted in-hospital mortality rates in patients with COVID-19 primarily admitted to intensive care units in 2020 and 2021 (*n*=8 304) stratified for age categories and separated for half-year of hospital admission (January 1<sup>st</sup>, 2020 to June 22<sup>nd</sup>, 2020, June 23<sup>rd</sup>, 2020 to January 1<sup>st</sup>, 2021, January 2<sup>nd</sup>, 2021 to June 21<sup>st</sup>, 2021, and June 22<sup>nd</sup>, 2021 to January 1<sup>st</sup>, 2022) and patient sex.

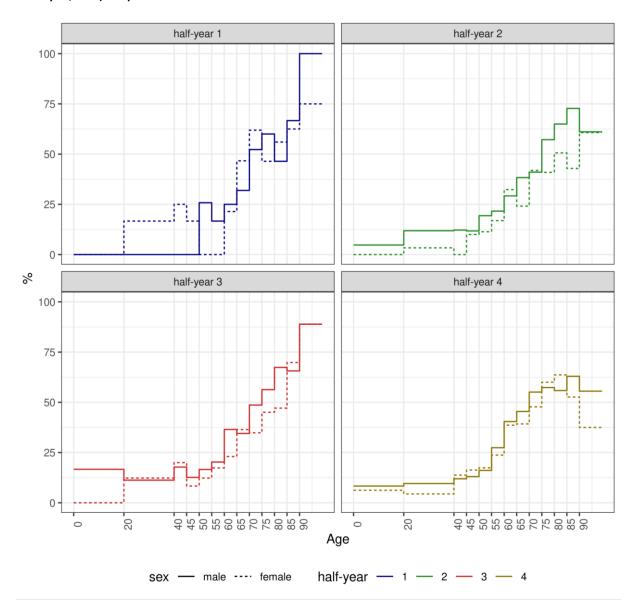


Table S 4 Multivariable logistic regression analysis in patients with COVID-19 admitted to Austrian intermediate care units in 2020 and 2021 (n=3 529) with in-hospital mortality (n=1 272) as the dependent variable. CI = confidence interval, OR = odds ratio.

Variable	OR	95% CI	р
Sex			
Female	1.00		
Male	1.53	1.31 1.79	<0.001
Age category [years]			
20 – 39	0.21	0.12 0.39	<0.001
40 – 44	0.29	0.14 0.58	<0.001
45 – 49	0.22	0.12 0.40	<0.001
50 – 54	0.36	0.24 0.56	<0.001
55 – 59	0.46	0.32 0.66	<0.001
60 – 64	1.00		
65 – 69	1.23	0.91 1.66	0.19
70 – 74	1.85	1.39 2.45	<0.001
75 – 79	2.53	1.90 3.37	<0.001
80 – 84	3.58	2.66 4.81	<0.001
85 and above	3.41	2.43 4.80	<0.001
Half-year			
Half-year 1	0.88	0.60 1.27	0.48
Half-year 2	1.00		
Half-year 3	1.09	0.91 1.29	0.36
Half-year 4	1.33	1.08 1.63	0.01
Region			
East	1.00		
North	0.82	0.58 1.18	0.29
South	0.80	0.56 1.15	0.23
West	0.88	0.59 1.30	0.51

Figure S 5 Unadjusted in-hospital mortality rates in patients with COVID-19 primarily admitted to intermediate care units in 2020 and 2021 (*n*=3 529) stratified for age categories and separated for half-year of hospital admission (January 1<sup>st</sup>, 2020 to June 22<sup>nd</sup>, 2020, June 23<sup>rd</sup>, 2020 to January 1<sup>st</sup>, 2021, January 2<sup>nd</sup>, 2021 to June 21<sup>st</sup>, 2021, and June 22<sup>nd</sup>, 2021 to January 1<sup>st</sup>, 2022) and patient sex.

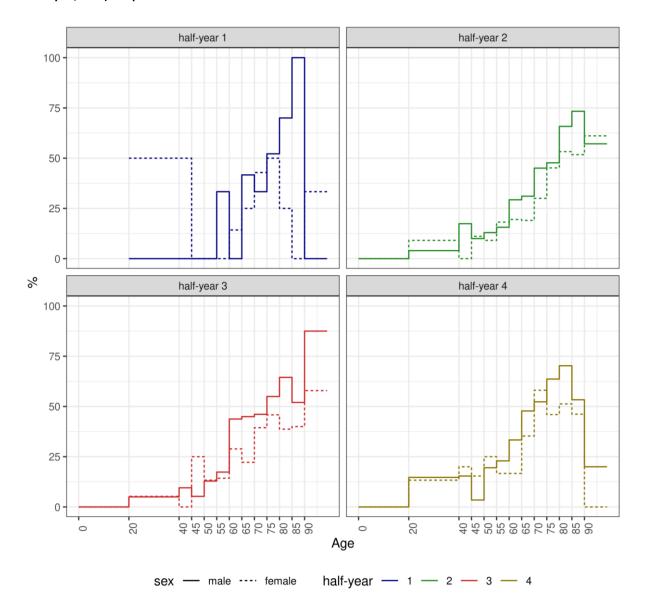


Table S 5 Multivariable logistic regression analysis in all patients with COVID-19 admitted to Austrian hospitals in 2020 and 2021 (n=68 193) with primary admission to an intermediate care unit (n=3 529) as the dependent variable. CI = confidence interval, OR = odds ratio.

Variable	OR	95% CI	p
Sex			
Female	1.00		
Male	1.46	1.36 1.57	< 0.001
Age category [years]			
19 and below	0.38	0.28 0.53	< 0.001
20 – 39	0.44	0.36 0.53	< 0.001
40 – 44	0.54	0.42 0.70	<0.001
45 – 49	0.63	0.51 0.77	< 0.001
50 – 54	0.78	0.66 0.93	0.004
55 – 59	0.89	0.76 1.04	0.14
60 – 64	1.00		
65 – 69	1.07	0.92 1.24	0.40
70 – 74	1.13	0.98 1.31	0.09
75 – 79	0.97	0.84 1.11	0.64
80 – 84	0.79	0.68 0.91	0.001
85 – 89	0.44	0.36 0.53	<0.001
90 and above	0.24	0.18 0.31	< 0.001
Half-year			
Half-year 1	0.91	0.76 1.08	0.27
Half-year 2	1.00		
Half-year 3	1.04	0.96 1.13	0.35
Half-year 4	0.77	0.70 0.85	< 0.001
Region			
East	1.00		
North	0.15	0.06 0.39	<0.001
South	0.22	0.09 0.58	0.002
West	0.32	0.11 0.90	0.03

Table S 6 Multivariable logistic regression analysis in all patients with COVID-19 admitted to Austrian hospitals in 2020 and 2021 (n=68 193) with primary admission to an intensive care unit (n=8 304) as the dependent variable including an interaction term between sex and age category. CI = confidence interval, OR = odds ratio.

Female         1.00           Male         1.52         1.31         1.77         <0.001           Age category [years]         up to 19         0.35         0.26         0.48         <0.001           20 - 39         0.34         0.28         0.42         <0.001           40 - 44         0.55         0.42         0.72         <0.001           45 - 49         0.55         0.44         0.70         <0.001           50 - 54         0.73         0.59         0.89         <0.001           55 - 59         0.88         0.73         1.05         0.16           60 - 64         1.00         65 - 69         1.15         0.98         1.36         0.09           70 - 74         1.04         0.88         1.22         0.64         75 - 79         0.79         0.67         0.93         <0.001           85 - 89         0.26         0.21         0.31         <0.001         <0.001         80 - 84         0.51         0.44         0.61         <0.001           Interaction: Sex × Age category         sex × up to 19         0.84         0.56         1.27         0.41         <0.001           sex × 20-39         1.34         1.04         1.	Variable	OR	95%	CI	p
Male       1.52       1.31       1.77       <0.001	Sex				
Age category [years]  up to 19  0.35  0.26  0.48  <0.001  20 - 39  0.34  0.28  0.42  0.001  40 - 44  0.55  0.42  0.72  0.001  45 - 49  0.55  0.44  0.70  0.001  50 - 54  0.73  0.59  0.88  0.73  1.05  0.16  60 - 64  1.00  65 - 69  1.15  0.98  1.36  0.09  70 - 74  1.04  0.88  1.22  0.64  75 - 79  0.79  0.67  0.93  0.001  85 - 89  0.26  0.21  0.31  0.001  85 - 89  0.26  0.21  0.31  0.001  Interaction: Sex × Age category  sex × up to 19  0.84  0.50  0.84  0.56  1.27  0.41  sex × 20-39  1.34  1.04  1.73  0.02  sex × 40-44  1.10  0.80  1.53  0.56  sex × 45-49  1.26  0.95  1.67  0.11  sex × 50-54  1.09  0.86  1.39  0.46  sex × 65-69  0.98  0.80  1.20  0.85  sex × 70-74  0.98  0.98  0.80  1.19  0.85  sex × 80-84  1.14  0.93  1.40  0.22  sex × 85-89  0.94  0.71  1.25  0.68  sex × 85-89  0.94  0.71  1.25  0.68  sex × 90 and above  0.91  0.58  1.43  0.69	Female	1.00			
up to 19       0.35       0.26       0.48       <0.001	Male	1.52	1.31 1	L.77	<0.001
0.34	Age category [years]				
40 - 44       0.55       0.42       0.72       <0.001	up to 19	0.35	0.26	0.48	<0.001
45 - 49       0.55       0.44       0.70       <0.001	20 – 39	0.34	0.28	).42	<0.001
50 - 54       0.73       0.59       0.89       <0.001	40 – 44	0.55	0.42	).72	<0.001
55 - 59       0.88       0.73       1.05       0.16         60 - 64       1.00       0.98       1.36       0.09         70 - 74       1.04       0.88       1.22       0.64         75 - 79       0.79       0.67       0.93       <0.001	45 – 49	0.55	0.44	0.70	<0.001
60 - 64	50 – 54	0.73	0.59	).89	<0.001
65 - 69       1.15       0.98       1.36       0.09         70 - 74       1.04       0.88       1.22       0.64         75 - 79       0.79       0.67       0.93       <0.001	55 – 59	0.88	0.73	L.05	0.16
70 - 74       1.04       0.88       1.22       0.64         75 - 79       0.79       0.67       0.93       <0.001	60 – 64	1.00			
75 – 79	65 – 69	1.15	0.98 1	L.36	0.09
80 - 84       0.51       0.44       0.61       <0.001	70 – 74	1.04	0.88 1	L.22	0.64
85 - 89       0.26       0.21       0.31       <0.001	75 – 79	0.79	0.67	).93	<0.001
90 and above 0.11 0.08 0.14 <0.001  Interaction: Sex × Age category  sex × up to 19 0.84 0.56 1.27 0.41  sex × 20-39 1.34 1.04 1.73 0.02  sex × 40-44 1.10 0.80 1.53 0.56  sex × 45-49 1.26 0.95 1.67 0.11  sex × 50-54 1.09 0.86 1.39 0.46  sex × 55-59 1.05 0.85 1.31 0.64  sex × 60-64  sex × 65-69 0.98 0.80 1.20 0.85  sex × 70-74 0.98 0.80 1.19 0.85  sex × 75-79 0.92 0.76 1.13 0.43  sex × 80-84 1.14 0.93 1.40 0.22  sex × 85-89 0.94 0.71 1.25 0.68  sex × 90 and above 0.91 0.58 1.43 0.69	80 – 84	0.51	0.44	0.61	<0.001
Interaction: Sex × Age category  sex × up to 19  0.84  0.56  1.27  0.41  sex × 20-39  1.34  1.04  1.73  0.02  sex × 40-44  1.10  0.80  1.53  0.56  sex × 45-49  1.26  0.95  1.67  0.11  sex × 50-54  1.09  0.86  1.39  0.46  sex × 55-59  1.05  0.85  1.31  0.64  sex × 60-64  sex × 65-69  0.98  0.80  1.20  0.85  sex × 70-74  0.98  0.80  1.19  0.85  sex × 75-79  0.92  0.76  1.13  0.43  sex × 80-84  1.14  0.93  1.40  0.22  sex × 85-89  0.94  0.71  1.25  0.68  sex × 90 and above  0.91  0.58  1.27  0.41  1.73  0.02  0.41  0.51  0.52  0.56  1.27  0.41  0.61  0.62	85 – 89	0.26	0.21 (	0.31	<0.001
sex × up to 19       0.84       0.56       1.27       0.41         sex × 20-39       1.34       1.04       1.73       0.02         sex × 40-44       1.10       0.80       1.53       0.56         sex × 45-49       1.26       0.95       1.67       0.11         sex × 50-54       1.09       0.86       1.39       0.46         sex × 55-59       1.05       0.85       1.31       0.64         sex × 60-64       sex × 65-69       0.98       0.80       1.20       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	90 and above	0.11	0.08	0.14	<0.001
sex × 20-39       1.34       1.04       1.73       0.02         sex × 40-44       1.10       0.80       1.53       0.56         sex × 45-49       1.26       0.95       1.67       0.11         sex × 50-54       1.09       0.86       1.39       0.46         sex × 55-59       1.05       0.85       1.31       0.64         sex × 60-64       sex × 65-69       0.98       0.80       1.20       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	Interaction: Sex × Age category				
sex × 40-44       1.10       0.80       1.53       0.56         sex × 45-49       1.26       0.95       1.67       0.11         sex × 50-54       1.09       0.86       1.39       0.46         sex × 55-59       1.05       0.85       1.31       0.64         sex × 60-64       0.98       0.80       1.20       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × up to 19	0.84	0.56 1	L.27	0.41
sex × 45-49       1.26       0.95       1.67       0.11         sex × 50-54       1.09       0.86       1.39       0.46         sex × 55-59       1.05       0.85       1.31       0.64         sex × 60-64       0.98       0.80       1.20       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 20-39	1.34	1.04 1	L.73	0.02
sex × 50-54       1.09       0.86       1.39       0.46         sex × 55-59       1.05       0.85       1.31       0.64         sex × 60-64       0.98       0.80       1.20       0.85         sex × 65-69       0.98       0.80       1.19       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 40-44	1.10	0.80 1	L.53	0.56
sex × 55-59       1.05       0.85       1.31       0.64         sex × 60-64       0.98       0.80       1.20       0.85         sex × 65-69       0.98       0.80       1.19       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 45-49	1.26	0.95	L.67	0.11
sex × 60-64         sex × 65-69       0.98       0.80       1.20       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 50-54	1.09	0.86 1	L.39	0.46
sex × 65-69       0.98       0.80       1.20       0.85         sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 55-59	1.05	0.85	l.31	0.64
sex × 70-74       0.98       0.80       1.19       0.85         sex × 75-79       0.92       0.76       1.13       0.43         sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 60-64				
sex × 75-79     0.92     0.76     1.13     0.43       sex × 80-84     1.14     0.93     1.40     0.22       sex × 85-89     0.94     0.71     1.25     0.68       sex × 90 and above     0.91     0.58     1.43     0.69	sex × 65-69	0.98	0.80	L.20	0.85
sex × 80-84       1.14       0.93       1.40       0.22         sex × 85-89       0.94       0.71       1.25       0.68         sex × 90 and above       0.91       0.58       1.43       0.69	sex × 70-74	0.98	0.80	L.19	0.85
sex × 85-89     0.94     0.71     1.25     0.68       sex × 90 and above     0.91     0.58     1.43     0.69	sex × 75-79	0.92	0.76	L.13	0.43
sex × 90 and above 0.91 0.58 1.43 0.69	sex × 80-84	1.14	0.93 1	L.40	0.22
	sex × 85-89	0.94	0.71 1	L.25	0.68
Half-year	sex × 90 and above	0.91	0.58 1	L.43	0.69
	Half-year				
Half-year 1 1.38 1.24 1.54 <0.001	Half-year 1	1.38	1.24	L.54	<0.001
Half-year 2 1.00	Half-year 2	1.00			
Half-year 3 1.25 1.18 1.33 <0.001	Half-year 3	1.25	1.18 1	L.33	<0.001
Half-year 4 1.25 1.17 1.32 <0.001	Half-year 4	1.25	1.17 1	L.32	<0.001
Region	Region				
East 1.00	East	1.00			
North 1.33 0.97 1.82 0.08	North	1.33	0.97 1	L.82	0.08
South 1.78 1.30 2.44 <0.001	South	1.78	1.30 2	2.44	<0.001
West 1.48 1.05 2.10 0.03	West	1.48	1.05 2	2.10	0.03

Table S 7 Multivariable logistic regression analysis in all patients with COVID-19 admitted to Austrian hospitals in 2020 and 2021 (n=68 193) with primary admission to an intermediate care unit (n=3 529) as the dependent variable including an interaction term between sex and age category. CI = confidence interval, OR = odds ratio.

Variable	OR	95% CI	p
Sex			
Female	1.00		
Male	1.47	1.17 1.85	<0.001
Age category [years]			
up to 19	0.41	0.25 0.66	<0.001
20 – 39	0.32	0.23 0.44	<0.001
40 – 44	0.46	0.29 0.72	<0.001
45 – 49	0.57	0.40 0.83	<0.001
50 – 54	0.83	0.62 1.12	0.23
55 – 59	0.75	0.56 0.99	0.05
60 – 64	1.00		
65 – 69	1.10	0.85 1.42	0.46
70 – 74	1.14	0.89 1.45	0.30
75 – 79	1.05	0.83 1.33	0.66
80 – 84	0.87	0.69 1.10	0.26
85 – 89	0.45	0.34 0.60	<0.001
90 and above	0.24	0.17 0.35	<0.001
Interaction: Sex × Age category			
sex × up to 19	0.91	0.48 1.72	0.78
sex × 20-39	1.74	1.17 2.59	0.01
sex × 40-44	1.29	0.75 2.24	0.36
sex × 45-49	1.15	0.74 1.78	0.54
sex × 50-54	0.90	0.63 1.30	0.59
sex × 55-59	1.28	0.91 1.80	0.16
sex × 60-64	1.00		
sex × 65-69	0.95	0.70 1.30	0.75
sex × 70-74	0.99	0.74 1.34	0.97
sex × 75-79	0.87	0.65 1.16	0.33
sex × 80-84	0.82	0.61 1.11	0.20
sex × 85-89	0.95	0.65 1.38	0.79
sex × 90 and above	0.94	0.56 1.58	0.81
Half-year			
Half-year 1	0.91	0.76 1.08	0.26
Half-year 2	1.00		
Half-year 3	1.04	0.96 1.13	0.37
Half-year 4	0.77	0.70 0.85	<0.001
Region			
East	1.00		
North	0.15	0.06 0.39	<0.001
South	0.22	0.09 0.58	<0.001
West	0.32	0.11 0.89	0.03