

Supplementary material

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Supplementary table 1. Estimated adjusted incidence rate ratio (80+ /25-59-year-old) for case notification, week 48/2020 to week 20/2021#

Vaccine uptake	At least one dose		Full vaccination	
	IRR*	(95% CI#)	IRR*	(95% CI#)
<20%	1 (ref.)		1 (ref.)	
20-39%	0.65	(0.41-1.01)	0.56	(0.34-0.93)
40-59%	0.48	(0.29-0.80)	0.44	(0.27-0.74)
60-79%	0.45	(0.26-0.75)	0.40	(0.20-0.78)
≥80%	0.34	(0.19-0.58)	0.35	(0.13-0.99)

* Incidence Rate Ratios from Poisson regression; 95% CI: 95% Confidence interval #15 countries included: Austria, Cyprus, Czechia, Estonia, Finland, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Portugal, Slovenia, Spain, Sweden

Supplementary table 2. Estimated adjusted incidence rate ratio (80+ /25-59-year-old) for hospitalisation notifications, week 48/2020 to week 20/2021#

Vaccine uptake	At least one dose		Full vaccination	
	IRR*	(95% CI#)	IRR*	(95% CI#)
<20%	1 (ref.)		1 (ref.)	
20-39%	0.59	(0.50-0.70)	0.54	(0.45-0.65)
40-59%	0.53	(0.44-0.64)	0.47	(0.40-0.55)
60-79%	0.48	(0.42-0.55)	0.35	(0.28-0.43)
≥80%	0.30	(0.25-0.36)	0.22	(0.13-0.37)

* Incidence Rate Ratios from Poisson regression; 95% CI: 95% Confidence interval; #9 countries included: Austria, Cyprus, Czechia, Finland, Ireland, Italy, Malta, Portugal, Sweden

Supplementary table 3. Estimated adjusted incidence rate ratio (80+ /25-59-year-old) for hospitalisation notifications, week 48/2020 to week 20/2021#

Vaccine uptake	At least one dose		Full vaccination	
	IRR*	(95% CI#)	IRR*	(95% CI#)
<20%	1 (ref.)		1 (ref.)	
20-39%	0.59	(0.49-0.72)	0.58	(0.47-0.71)
40-59%	0.54	(0.44-0.66)	0.52	(0.44-0.61)

60-79%	0.48	(0.42-0.56)	0.37	(0.30-0.47)
≥80%	0.34	(0.28-0.42)	0.22	(0.12-0.42)

* Incidence Rate Ratios from Poisson regression; 95% CI: 95% Confidence interval; #7 countries included: Austria, Cyprus, Czechia, Finland, Ireland, Italy, Malta and 2 countries excluded: Portugal and Sweden

Supplementary table 4. Estimated adjusted incidence rate ratio (80+ /25-59-year-old) for hospitalisation notifications, week 48/2020 to week 20/2021#

	At least one dose		Full vaccination	
	IRR*	(95% CI#)	IRR*	(95% CI#)
Vaccine uptake				
<20%	1 (ref.)		1 (ref.)	
20-39%	0.61	(0.50-0.75)	0.59	(0.48-0.73)
40-59%	0.56	(0.45-0.70)	0.54	(0.45-0.64)
60-79%	0.52	(0.44-0.61)	0.37	(0.28-0.49)
≥80%	0.35	(0.28-0.43)	0.22	(0.12-0.42)

* Incidence Rate Ratios from Poisson regression; 95% CI: 95% Confidence interval; #6 countries included: Cyprus, Czechia, Finland, Ireland, Italy, Malta, and 3 countries excluded: Austria, Portugal and Sweden

Supplementary table 5. Estimated adjusted incidence rate ratio (80+ /25-59-year-old) for death notifications, week 48/2020 to week 20/2021#

	At least one dose		Full vaccination	
	IRR*	(95% CI#)	IRR*	(95% CI#)
Vaccine uptake				
<20%	1 (ref.)		1 (ref.)	
20-39%	0.81	(0.78-0.84)	0.53	(0.51-0.55)
40-59%	0.48	(0.46-0.51)	0.36	(0.34-0.38)
60-79%	0.38	(0.36-0.40)	0.26	(0.24-0.28)
≥80%	0.27	(0.25-0.28)	0.16	(0.13-0.20)

* Incidence Rate Ratios from Poisson regression; 95% CI: 95% Confidence interval; # 15 countries included: Austria, Cyprus, Czechia, Estonia, Finland, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Portugal, Slovenia, Spain, Sweden