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Appendix 1

Trends in influenza vaccination uptake in Switzerland: Swiss Health Survey 2007 and 2012 Zürcher K, Zwahlen M, Berlin C, Egger M, Fenner L

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Table S1: Factors associated with the temporal change (from 2007 to 2012) in self-reported influenza vaccination status in the last 12 months in Switzerland, 2007 and 2012, overall and among people aged ≥65 years.

Characteristic		All	≥65 years old			
Characteristic		Adjusted OR (95% CI)	p-value*	Adjusted OR (95% CI)	p-value*	
Age groups, years	15–19	0.53 (0.27–1.04)	0.010	_	0.039	
	20–29	1.02 (0.65–1.61)		-		
	30–39	0.68 (0.49-0.93)		-		
	40–49	0.76 (0.59–0.98)		_		
	50–64	0.84 (0.71–0.99)		-		
	65–75	0.56 (0.48–0.65)		0.57 (0.49–0.67)		
	>75	0.74 (0.61–0.90)		0.74 (0.62–0.90)		
Sex			0.72	_	0.80	
Pregnancy ^{†‡}	No	0.68 (0.51–0.91)	0.017	_		
	Yes	4.48 (0.98–20.54)		_		
Setting (urban/rural)		_	0.97	_	0.82	
Self-reported health status			0.51		0.29	
Citizenship (Swiss/non-Swiss)		_	0.80	_	0.79	
Education level (primary to tertiary)	Primary	0.55 (0.43–0.71)	0.032	_	0.15	
	Apprenticeship	0.73 (0.64–0.82)		_		
	Secondary	1.17 (0.74–1.85)		_		
	Tertiary	0.76 (0.64–0.89)		_		
Hospital stay insurance (general, semi–private/private)		-	0.18	_	0.23	
Language region (German, French, Italian)		-	0.79	-	0.12	
Use of any alternative medicine therapy		-	0.24		0.25	

95% CI = 95% confidence interval; OR = odds ratio

Estimates derived from regression models adjusted for year of survey, age group, sex, body mass index group, setting, citizenship, language region, education level, smoking, self-reported health status, hospital stay insurance, and use of any alternative medicine therapy. An interaction with the year of survey and the variable of interest was included.

^{*} p-values from interaction tests

[†] Current pregnancy in women aged 15 to 49 years

[‡] Estimate from a separate model which included the variable pregnancy instead of sex to avoid collinearity

Table S2: Associations of having been vaccinated for influenza in the last 12 months with sociodemographic characteristics and health-related factors (as compared to no vaccination) in Switzerland, 2007 and 2012, overall and among people ≥65 years old. Unadjusted and adjusted odds ratios are presented (see also table 1 in main article).

Characteristic			Al	l			≥65 ye	ars old	
		Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Year of survey	2007	1	<0.001	1	<0.001	1	<0.001	1	<0.001
	2012	0.84		0.74	1	0.68		0.64	
		(0.78-0.91)		(0.66–0.84)		(0.61–0.77)		(0.54-0.74)	
Age group,	15–19	1.30	<0.001	1.14	<0.001	-	<0.001	_	<0.001
years		(0.92–1.84)		(0.60-2.14)					
	20–29	1		1		_		_	
	30–39	1.13		1.25		-		_	
		(0.88–1.46)		(0.81–1.93)					
	40–49	1.52		1.56		-		-	
		(1.20–1.93)		(1.05–2.34)					
	50–64	2.92		2.81		-		_	
		(2.35–3.63)	_	(1.92–4.10)					
	65–75	9.77		8.24		1		1	
		(7.87–12.13)		(5.61–12.12)	_		_		
	>75	19.58		15.67		2.00		1.92	
		(15.66–24.48)		(10.50–23.39)		(1.78–2.26)		(1.64–2.25)	
Sex	Male	1	0.022	1	0.32	1	0.69	1	0.34
	Female	1.10		0.94		0.98		1.09	
		(1.01–1.18)	0.52	(0.82–1.07)		(0.87–1.10)		(0.91–1.30)	
Pregnancy (current)*	Yes	0.83 (0.46–1.49)	0.53	na		_		_	
(52.1.2.1.5)	No	<u> </u>	-		_				
	No	1	0.004	na	0.00	-	0.70	-	0.00
BMI group	Underweight	1	<0.001	1	0.99	1	0.79	1	0.98
	Normal	0.98 (0.77–1.23)		1.02 (0.71–1.47)		0.88 (0.59–1.29)		0.98 (0.55–1.74)	
	Overweight	1.45	-	1.01	_	0.92	_	1.00	
	Overweight	(1.15–1.84)		(0.70–1.47)		(0.62–1.36)		(0.56–1.79)	
	Obese	1.66	1	1.05		0.93	_	1.03	
	Obese	(1.29–2.13)		(0.71–1.54)		(0.62–1.41)		(0.57–1.88)	
Language	German-	1	<0.001	1	0.003	1	<0.001	1	0.13
region	speaking								
	French-	1.22		1.22		1.24		1.16	
	speaking	(1.12–1.32)		(1.09–1.38)		(1.09–1.40)		(0.99–1.37)	
	Italian-	0.98		1.00		0.88		0.93	
	speaking	(0.84–1.14)		(0.80–1.24)		(0.70–1.11)		(0.69–1.25)	
Setting	Urban	1.34	<0.001	1.20	0.011	1.21	0.013	1.18	0.099
		(1.22–1.47)	_	(1.04–1.38)	_	(1.04–1.40)		(0.97–1.45)	
	Rural	1		1		1		1	
Citizenship	Swiss	1	<0.001	1	0.49	1	0.50	1	0.73
	Non-Swiss	0.69		1.07		0.92		0.95	
		(0.61–0.78)		(0.88–1.30)		(0.73–1.16)		(0.70–1.28)	
Education level	Primary	1	<0.001	1	0.09	1	0.027	1	0.055
ieve	Apprentice-	0.77		1.06		1.19		1.28	
	ship	(0.68–0.86)		(0.88–1.27)	_	(1.02–1.39)		(1.02–1.59)	
	Secondary	0.63		1.19		1.33		1.37	
	-	(0.52–0.76)	-	(0.89–1.59)	_	(0.99–1.78)	_	(0.95–1.96)	
	Tertiary	0.76		1.24		1.30		1.44	

New New			(0.67–0.86)		(1.01–1.53)		(1.09–1.56)		(1.10-1.88)	
Properties Pro	Smoking		1	<0.001	1	0.045	1	0.016	1	0.11
Current Scale Sc		Former	1.51		1.15		1.16		1.21	
Self-reported health status final status in surance Very good 1 0,001 0,001		smoker	(1.38–1.65)		(1.01–1.32)		(1.02–1.32)		(1.01–1.44)	
New Note		Current	0.63		0.97		0.90		1.06	
Note		smoker	(0.57–0.70)		(0.83-1.13)		(0.75–1.08)		(0.84–1.34)	
Moderate 3.93 1.56 1.59 1.5	•	Very good	1	<0.001	1	<0.001	1	<0.001	1	<0.001
Moderate 3.93 (3.47-4.46) Bad 5.47 (4.42-6.78) Very bad 5.35 (3.28-8.72) Semiprivate 1.71 (1.56-1.88) (1.12-4.21) Semiprivate 1.71 (1.56-1.88) Private 2.55 (2.27-2.86) (2.27-2.86) (2.27-2.86) (0.37-1.57) (0.59-0.89) No	health status	Good	1.66		1.19		1.63		1.36	
Hospital stay insurance Private 2.55 2.88 2.00 2.27-2.86) 2.44 2.44 2.41			(1.49–1.84)		(1.00-1.41)		(1.38–1.93)		(1.07–1.72)	
Bad		Moderate	3.93		1.54		2.40		1.71	
Private 1.10			(3.47-4.46)		(1.27–1.88)		(1.98–2.90)		(1.30-2.24)	
Very bad 5.35 (3.28-8.72) 2.18 (1.12-4.21) (1.43-6.78) 2.02 (0.85-4.80) (0.85-4.80		Bad	5.47		2.44		3.30		2.18	
No No No No No No No No			(4.42-6.78)		(1.81-3.30)		(2.35–4.63)		(1.41–3.36)	
Basic 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 1 < 0.001 < 0.001 1 < 0.001 < 0.001 1 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.		Very bad	5.35		2.18		3.12		2.02	
Semiprivate 1.71			(3.28–8.72)		(1.12-4.21)		(1.43–6.78)		(0.85-4.80)	
Semiprivate 1.71	Hospital stay	Basic	1	<0.001	1	<0.001	1	<0.001	1	<0.001
Private 2.55 1.81 1.71 1.89 (1.51-2.37)	insurance	Semiprivate	1.71		1.40		1.29		1.39	
$ \begin{array}{ c c c c c } \hline \text{Other} & 1.10 & & & & & & & & & & & & & & & & & & &$			(1.56–1.88)		(1.22–1.60)		(1.12–1.48)		(1.15–1.67)	
Other 1.10		Private	2.55		1.81		1.71		1.89	
Ves of any alternative medicine therapy' Ves 0.89 (0.81–0.97) Ves 0.89 (0.89–0.89) Ves 0.89 (0.81–0.97) Ves 0.89 (0.69–0.89) Ves 0.89 (0.69–0.89) Ves 0.89 (0.69–0.89) Ves 0.001 Ves (0.58–0.83) Ves			(2.27–2.86)		(1.53-2.14)		(1.44–2.03)		(1.51–2.37)	
Ves		Other	1.10		1.30		0.94		1.04	
Alternative medicine therapy* No 1 1 1 1 1 1 1 1 1			(0.77–1.57)		(0.77-2.18)		(0.49–1.84)		(0.50-2.14)	
No 1	-	Yes	0.89	0.006	0.79	<0.001	0.84	0.008	0.70	<0.001
Chronic diseases¹ Diabetes 3.97 (3.45-4.57) <0.001 1.62 (1.34-1.96) <0.001 1.68 (1.40-2.02) 1.46 (1.16-1.82) 0.001 Lung disease diseases¹ 3.36 (2.69-4.20) <0.001			(0.81–0.97)		(0.69–0.89)		(0.73–0.95)		(0.58–0.83)	
Cerebrovascular disease Cardiovascular dis		No	1		1		1		1	
Lung disease 3.36 (2.69-4.20) <0.001	Chronic	Diabetes	3.97	<0.001	1.62	<0.001	1.68		1.46	0.001
Cerebrovascular disease (3.58-6.07) (0.83-1.64) (1.34-2.52) (1.18-3.00) Cardiovascular disease (3.58-6.07) (0.83-1.64) (1.25-2.38) (0.73-1.54) Cardiovascular disease (3.20-4.07) (1.28-1.74) (1.28-1.74) (1.42-1.93) (1.20-1.71) Kidney disease (1.52-2.14) (0.80-1.28) (0.97-1.60) (0.97-1.60) (0.66-1.22) Cancer 2.67 <0.001 1.26 0.030 1.33 0.007 1.11 0.44	diseases‡		(3.45–4.57)		(1.34–1.96)		(1.40–2.02)		(1.16-1.82)	
Cerebrovascular disease 4.66 (3.58–6.07) <0.001		Lung disease	3.36	<0.001	2.43	<0.001	1.84	<0.001	1.88	0.008
vascular disease (3.58–6.07) (0.83–1.64) (1.25–2.38) (0.73–1.54) Cardio-vascular disease 3.61 <0.001			(2.69–4.20)		(1.69-3.49)		(1.34–2.52)		(1.18-3.00)	
disease (5.55 6.67) (5.65 16.7) <		Cerebro-	4.66	<0.001	1.17	0.38	1.72	0.001	1.06	0.75
Cardio-vascular disease 3.61 (3.20-4.07) <0.001 (1.28-1.74) 1.65 (1.42-1.93) <0.001 (1.20-1.71) 1.43 (1.20-1.71) <0.001 (1.20-1.71) Kidney disease 1.80 (1.52-2.14) <0.001 (0.80-1.28)			(3.58–6.07)		(0.83-1.64)		(1.25–2.38)		(0.73-1.54)	
vascular disease (3.20-4.07) (1.28-1.74) (1.42-1.93) (1.20-1.71) Kidney disease 1.80 (1.52-2.14) (0.80-1.28) 0.91 (0.97-1.60) 0.090 (0.66-1.22) Cancer 2.67 (0.001) 1.26 (0.030) 1.33 (0.007) 1.11 (0.44)			2.64	10.001	1.40	10.001	1.65	10.001	1.42	10.001
disease (1.52-2.14) (2.67			4	<0.001		<0.001	4	<0.001	4	<0.001
disease (1.52-2.14) (0.80-1.28) (0.97-1.60) (0.66-1.22) Cancer 2.67 <0.001			(3.20–4.07)		(1.28–1.74)		(1.42–1.93)		(1.20-1.71)	
Cancer 2.67 <0.001 1.26 0.030 1.33 0.007 1.11 0.44		Kidney	1.80	<0.001	1.01	0.91	1.24	0.090	0.90	0.48
		disease	(1.52–2.14)		(0.80-1.28)		(0.97–1.60)		(0.66–1.22)	
(2.30–3.11) (1.41–2.09) (1.08–1.64) (0.86–1.43)		Cancer	2.67	<0.001	1.26	0.030	1.33	0.007	1.11	0.44
(2.00 2.00)			(2.30-3.11)	<u> </u>	(1.41-2.09)	<u> </u>	(1.08–1.64)		(0.86-1.43)	
Healthcare 1.12 0.069 1.71 <0.001			1.12	0.069	1.71	<0.001			_	
profession§ (0.99–1.26) (1.41–2.09)	•		` '							

95% CI = 95% confidence interval; BM = body mass index; na = not available (collinearity); OR = odds ratio Model adjusted for all variables included in the table.

^{*} Current pregnancy in women aged 15 to 49 years

[†] Use of any alternative therapy in the past 12 months (including acupuncture, traditional Chinese medicine, homeopathy, osteopathy)

[‡] Current chronic disease versus no chronic disease (reference); lung diseases: bronchial asthma, chronic bronchitis and emphysema vs no lung disease (reference); diabetes: use of any diabetic drug vs no diabetes (reference); cardiovascular disease: use of any heart medication vs no cardiovascular disease (reference); all other diseases: self-reported disease vs no disease (reference)

[§] Any profession in the healthcare system (in the 2007 survey, the veterinary professions were also included in this category) vs any other profession (reference)