

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

Original article | doi:10.4414/smw.2019.14705

Cite this as: Swiss Med Wkly. 2019;149:w14705

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	
		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
 * 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
 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.

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

		(0.67–0.86)		(1.01–1.53)		(1.09–1.56)		(1.10–1.88)	
Smoking	Never smoked	1	<0.001	1	0.045	1	0.016	1	0.11
	Former smoker	1.51 (1.38–1.65)		1.15 (1.01–1.32)		1.16 (1.02–1.32)		1.21 (1.01–1.44)	
	Current smoker	0.63 (0.57–0.70)		0.97 (0.83–1.13)		0.90 (0.75–1.08)		1.06 (0.84–1.34)	
Self-reported health status	Very good	1	<0.001	1	<0.001	1	<0.001	1	<0.001
	Good	1.66 (1.49–1.84)		1.19 (1.00–1.41)		1.63 (1.38–1.93)		1.36 (1.07–1.72)	
	Moderate	3.93 (3.47–4.46)		1.54 (1.27–1.88)		2.40 (1.98–2.90)		1.71 (1.30–2.24)	
	Bad	5.47 (4.42–6.78)		2.44 (1.81–3.30)		3.30 (2.35–4.63)		2.18 (1.41–3.36)	
	Very bad	5.35 (3.28–8.72)		2.18 (1.12–4.21)		3.12 (1.43–6.78)		2.02 (0.85–4.80)	
Hospital stay insurance	Basic	1	<0.001	1	<0.001	1	<0.001	1	<0.001
	Semiprivate	1.71 (1.56–1.88)		1.40 (1.22–1.60)		1.29 (1.12–1.48)		1.39 (1.15–1.67)	
	Private	2.55 (2.27–2.86)		1.81 (1.53–2.14)		1.71 (1.44–2.03)		1.89 (1.51–2.37)	
	Other	1.10 (0.77–1.57)		1.30 (0.77–2.18)		0.94 (0.49–1.84)		1.04 (0.50–2.14)	
Use of any alternative medicine therapy[†]	Yes	0.89 (0.81–0.97)	0.006	0.79 (0.69–0.89)	<0.001	0.84 (0.73–0.95)	0.008	0.70 (0.58–0.83)	<0.001
	No	1		1		1		1	
Chronic diseases[‡]	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	3.36 (2.69–4.20)	<0.001	2.43 (1.69–3.49)	<0.001	1.84 (1.34–2.52)	<0.001	1.88 (1.18–3.00)	0.008
	Cerebro-vascular disease	4.66 (3.58–6.07)	<0.001	1.17 (0.83–1.64)	0.38	1.72 (1.25–2.38)	0.001	1.06 (0.73–1.54)	0.75
	Cardio-vascular disease	3.61 (3.20–4.07)	<0.001	1.49 (1.28–1.74)	<0.001	1.65 (1.42–1.93)	<0.001	1.43 (1.20–1.71)	<0.001
	Kidney disease	1.80 (1.52–2.14)	<0.001	1.01 (0.80–1.28)	0.91	1.24 (0.97–1.60)	0.090	0.90 (0.66–1.22)	0.48
	Cancer	2.67 (2.30–3.11)	<0.001	1.26 (1.41–2.09)	0.030	1.33 (1.08–1.64)	0.007	1.11 (0.86–1.43)	0.44
Healthcare profession[§]		1.12 (0.99–1.26)	0.069	1.71 (1.41–2.09)	<0.001	–		–	

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)