

Barriers and drivers of seasonal influenza vaccination coverage in the EU

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This tool was developed by the European Centre Disease Prevention and Control with the Groupe d'Etudes en Preventiolog

Vaccine schedule platform:

View national immunisation schedules
 View immunisation schedules by target disease

Disease:

[Advanced search](#)

Recommended immunisations for influenza

[Export as spreadsheet](#)

	Months		Years													
	6	7-23	2	3	4	5	12	15	18	19	50	55	60	64	≥ 65	
Austria			TIV ¹										TIV ²			
Belgium			TIV													
Bulgaria															TIV ²	
Croatia			TIV													
Cyprus	[trv ³]								[trv ³]							
Czech Republic										TIV						
Denmark															TIV ⁴	
Estonia															TIV ²	
Finland		TIV ⁵													TIV ⁶	
France			TIV													
Germany														TIV ⁷		
Greece	[trv ⁸]														TIV	
Hungary															TIV	
Iceland															TIV	
Ireland															TIV ⁹	
Italy															TIV	
Latvia															TIV	
Liechtenstein															TIV	
Lithuania															TIV ⁷	
Luxembourg															TIV	
Malta			TIV										TIV ¹⁰			
Netherlands															TIV	
Norway															TIV	
Poland													TIV ²			
Portugal															TIV	
Romania															TIV ⁶	
Slovakia			TIV												TIV	
Slovenia		TIV ¹¹													TIV ¹²	
Spain															TIV ⁶	
Sweden															TIV	
United Kingdom			[trv ¹⁵]		LAV ¹⁴				[LAV ¹⁵]				[trv ¹⁵]		TIV ⁷	

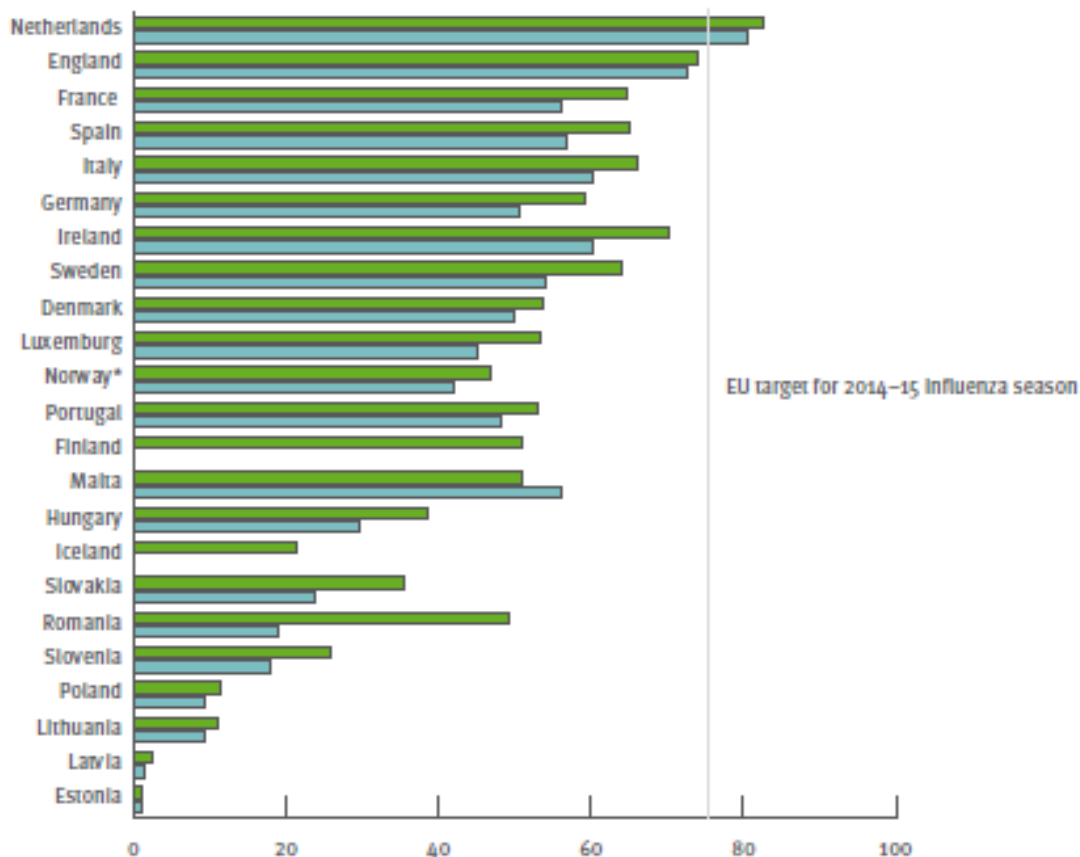
■ General recommendation
 ■ Specific recommendation
 ■ Catch-up

Footnotes

National Influenza schedule in Europe (www.ecdc/vaccine_scheduler)

Influenza vaccination coverage in Europe (VENICE Study)

Figure 2.1.4. Reported seasonal influenza vaccination coverage (%) in the older population in 23 EU/EEA Member States for 2008–2009 and 2010–2011 influenza seasons



Couverture vaccinale grippe en France (InVS)

Couverture vaccinale anti-grippale dans les populations cible

	2008		2009		2010	
	Couverture	IC95%	Couverture	IC95%	Couverture	IC95%
65 ans et plus	62,7%	58,9-66,4	62,6%	58,1-67,0	61,0%	56,7-65,0
< 65 ans en ALD-grippe	33,6%	26,2-42,0	35,5%	28,0-43,8	46,6%	39,7-53,6

Couverture vaccinale grippe, professionnels de santé, InVS

Couverture vaccinale grippe chez les professionnels de santé

2008-2009		2009-2010		2010-2011	
Couverture	IC95%	Couverture	IC95%	Couverture	IC95%
24,9%	17,9-33,5	33,9%	25,4-43,6	27,6%	21,3-34,9

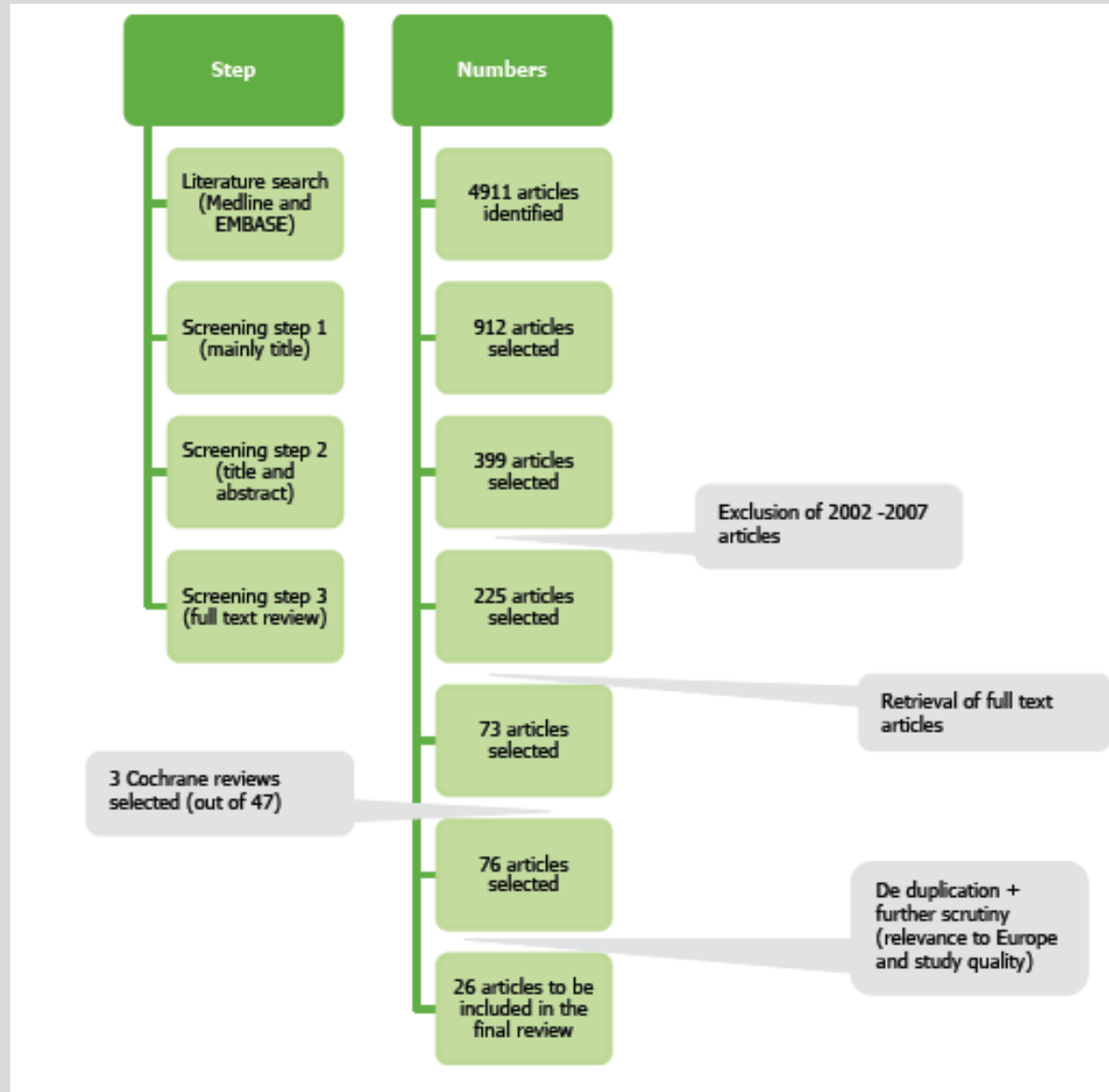
Key questions on the barriers of seasonal influenza vaccination coverage in Europe

- Drivers for increased seasonal flu vaccination coverage in the risk/target groups?
- Improvement of current low rates of healthcare workers' influenza vaccination?
- Good practice that increase vaccination uptake in all groups?

Methodology

- Review Literature on specific risk groups
 - Older age groups: 19/28 countries: ≥ 65 Y.
 - Pregnant women: 19/28 countries
 - Children ($< 2Y$, $< 5Y$): 7 countries
 - Healthcare workers
 - Individuals over 6 months of age with chronic medical conditions:
 - Chronic respiratory diseases,
 - Persons with a compromised respiratory function
 - Chronic cardiovascular diseases
 - Chronic metabolic conditions
 - Chronic renal and hepatic diseases
 - Persons with acquired or congenital immunodeficiency
 - Persons with morbid obesity:

Review of scientific literature on barriers of seasonal influenza vaccination coverage in EU (1946-2012)



Interventions to increase flu vaccination in the Elderly people

Design Study	Intervention	Grade of evidence/ Results
<p>Cochrane Systematic review (Thomas et al. (Vaccine 2010) 44 RCT : US (25), Canada (7), Australia (4), UK (4), Denmark (1), Spain (1), Puerto Rico (1), New Zealand (1) 21 RCT</p>	<p><u>Increasing community demand</u></p> <p>-Reminders participants (postcard, letter, personalized phone calls)</p> <p>-Educating participants + offer vaccination</p>	<p>Low grade Positive effects: 9/21 OR= 1,61 (1,49-1,74)</p> <p>Very Low grade OR 3,20 (1,91-5,66)</p>
<p>2 RCT</p>	<p><u>Increasing access</u></p> <p>-Home visits -Free vaccines</p>	<p>Moderate grade OR: 1,3 (1,05-1,61)</p>

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<p>4 RCT</p>	<p>-Reminders to physicians</p>	<p>1/ 4 RCT : OR= 3,79 (2,31-5,55)</p>
<p>4 RCT</p>	<p>- Facilitators within the clinics (good practices, visit of facilitators)</p>	<p>¾ RCT : OR=2,11 (1,27-3,49), to 292,81 (18,16-4721)</p>
<p>3 RCT</p>	<p>- Education and feedback to physician</p>	<p>1/ 3 RCT : OR= 3,43 (2,37-4,97)</p>

Interventions to increase flu vaccination in the Elderly people

Design study	Intervention	Grade of evidence/ Results
1 RCT= 84 community Pharmacies (Usami et al., J Pharmaceutical Society Japan 2009)	Impact of community pharmacists	High grade Positive effects Uptake 8,7% (95 CI= 2,2-15,2%)
Case control (11 European countries) Onder et al., 2008 J Am Med Dir Association: N= 4007 elders + Control UK: Dexter et al.,BMJ Open 2012 N= 795 GP	<u>Increasing access:</u> Interdisciplinary team with a Case manager (planning flu campaign,sending personal invitation, producing performance report)	OR= 2,08 (1,81-2,39) OR= 1;45 (1,1- 1,92)
Cross sectional survey Italy N= 25 183 Chiatti et al., 2011, BMC Public Health	Socioeconomic determinants (use of health care)	Highest rates ≥ 85 Y. OR= 1,99 (1,77-2,21) Suffering from chronic conditions: OR= 2,06 (1,9-2,24)

Interventions to increase flu vaccination in the people with chronic conditions

Design of studies	Intervention	Grade of evidence/ Results
<p>1RCT Walter et al., J Clin Out management, 2008 (USA) (N= 8912 first year, 8355 next year)</p>	<p>Asthmatic patients (children, adults)</p> <p>Reasons for not getting the vaccine</p> <p><u>Increasing demand to asthmatic patients</u></p> <p><u>Increasing access</u></p>	<p>Low quality</p> <ul style="list-style-type: none"> - Misperceptions about flu caused by vaccine (adults : 48 %, children 39%) and fear of side effects - No impact of educational message +postcard reminder - Impact of medical insurance and age > 65 Y

Interventions to increase flu vaccination in the people with chronic conditions

Design of studies	Intervention	Grade of evidence/ Results
<p>2 RCT Esposito et al. Vaccine 2009 (N= 285)</p> <p>Fiks et al., Pediatrics 2009 N= 10667 first year, 11919 next year)</p>	<p><u>Increasing demand in asthmatic patients</u> -Reminders participants (postcard, letter, personalized phone calls) + vaccination in same clinic or another clinic</p> <p><u>Provider</u> Electronic health reminders alerts to physicians</p>	<p>Best rates of increased coverage to 10 to 21%</p> <p>Very Low grade OR 3,20 (1,91-5,66)</p> <p>Increase in uptake: 4% (-1,3, 9,1%)</p>

Interventions to increase flu vaccination in the people with chronic conditions

Design of studies	Intervention	Grade of evidence/ Results
Cross sectional + survey Dexter et al., BMJ Open 2008 UK	Identification of practices strategies associated with high flu vaccination (practice managers, nurses, GP)	<ul style="list-style-type: none">- Staff member planning the flu campaign and production of written report of practice performance : OR : 1,37 (1,1-1,71) 8 % Increase for patients < 65 Y.- Sending personal invitation to eligible patients : OR= 1,45 (1,1- 1,92), 7 % Increase, patients > 65Y

Interventions to increase flu vaccination in the people with chronic conditions

Design of studies	Intervention	Grade of evidence/ Results
<p>Cross sectional + survey Blank, 2009 (UK, Germany, Italy, France, Spain)</p>	<p>Tel ITW: 10.009 participants (2.000/per country)</p> <p>7 seasons flu : 2001/2002 to 2008/2009</p>	<p>Reasons for vaccination: advice from family doctor (58%) Perception of influenza as a serious illness (52%)</p> <p>Reasons for not be vaccinated: Not being to catch influenza (39,5%) Never having considered the option of being vaccinated (35,8%)</p>

Interventions to increase flu vaccination in the pregnant women

Flu vaccine coverage:

- Romania: 3,6%
- England: 56,6% (High risk)
36,6% (Healthy)

Interventions to increase flu vaccination in the pregnant women

Design of studies	Intervention	Grade of evidence/ Results
<p>No RCT</p> <p>Cross sectional studies Audits of clinical data Mouzoon et al. Am J Managed Care, 2010 USA,</p>	<p>N= 20 233</p>	<p>Reasons for not be vaccinated:</p> <ul style="list-style-type: none"> - Concern about risk to unborn baby - Concern about risk to self - Concern about safety and efficacy of vaccines - Lack of availability of vaccine - Lack of inconsistent advice/offer from healthcare professional
	<p><u>Providers</u> Improvement of knowledge, guidelines on practices)</p>	<p>Interventions with positive effects:</p> <ul style="list-style-type: none"> - Assessment of baseline immunisation rates for each obstetrician's pregnant population - Encourage immunization in pregnancy by all immunization providers (primary care physicians, immunization nurses) - Training on vaccinations by obstetric nurses (best guidelines)

Interventions to increase flu vaccination in the pregnant women

Design of studies	Intervention	Grade of evidence/ Results
<p>Cross sectional studies Panda et al. J Maternal fetal & Neonatal Medicine 2011 (USA) N= 520 pregnant women</p>	<p><u>Increasing community demand:</u> - Information participants (distribution posters in offices offering prenatal care)</p> <p><u>Increasing access:</u> availability of vaccine</p> <p><u>Providers</u> Staff education and information</p>	<p>Bias: no control</p> <p>Increasing vaccination rate from 19% to 31%</p>
<p>Repeat cross-section Mc Carthy et al. Australian & New Zealand J Obstetrics & Gynecology (Australia) N=212 first year, N=240 2nd year</p>	<p>Staff education Patient information</p>	<p>- Bias: no control</p> <p>- 2010: 30%</p> <p>- 2011: 40%</p>

Interventions to increase flu vaccination in the Healthcare workers

Design of studies	Intervention	Grade of evidence/ Results
<p>Cochrane Review</p> <p>Lam et al. 2010 (Canadian Medical Association Journal) 12 studies conducted in the USA, Canada, UK, Germany, France)</p>	<p><u>Combined interventions</u></p> <p>Education and improved access to vaccine</p> <p>Education and access and legislation and role model</p>	<p>RR: 1,2-2,43</p> <p>Personal ITW of the HCW with a member of the study :</p> <p>RR: 2,16 (1,96-2,43)</p> <p>RR: 7,06 (5,67-8,78) -8,05 (6,3-10,3)</p>
<p>Cluster RCT Geriatric health care settings</p> <p>Rothan-Tondeur et al., 2011 France</p>	<p>1,814 HCW in 20 interventional group 2,435 HCW in 23 control group</p> <p>Educational programm (information about fears, development their altruism, then promotion vaccination to answer colleagues)</p>	<ul style="list-style-type: none"> - Vaccination rate to 21% to 44% according to flu season - HCW Interventional group: 44% - HCW control group: 27%

Interventions to increase flu vaccination in the children

Design of studies	Intervention	Grade of evidence/ Results
<p>No RCT</p> <p>Observational studies (Web survey)</p> <p>Flood et al. Clinical Therapeutics 2010 USA</p> <p>500 parents, representative of the US population</p>		<p>Barriers to vaccination:</p> <ul style="list-style-type: none"> - Low perception of risk influenza (46%) - Vaccine caused influenza (44%) - Side effects caused by vaccine (36,6%)
	<p>Information public</p> <p>Personal concern</p>	<p>Drivers of vaccination</p> <ul style="list-style-type: none"> - Prevention of influenza (95%) - Doctor's recommendation (90%) - Reduction of influenza symptoms (83,3%)

Interventions to increase flu vaccination in the Adult population studies

Design of studies	Intervention	Grade of evidence/ Results
RCT Wright et al. USA J General Internal Medicine 2012	<u>Increasing community demand</u> Electronic Personal health record N= 396 case N= 460 control	Vaccination rate from 14 % to 22% OR: 1,83

Conclusions: Interventions may be effective

✓ Personalised messages

Postcards, phone calls: in elderly people

Reminder/recall systems: in patients with chronic conditions

Electronic reminders: in adults

✓ Doctor's recommendations: in elderly, patients with chronic conditions

✓ Information on flu, concerns about side-effects: in pregnant women, in adults, in parents with their children

✓ Combined informations

Education, access to vaccine, legislation: in HCW

✓ Questions:

- Evaluation of efficiency on target populations
- Availability of new generation of flu vaccines