

Vaccination of Healthcare Workers in Greece

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HProImmune EU Info Day

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Healthcare workers (HCWs) in healthcare facilities

- occupational exposure to infectious agents
- source of infections for patients and other HCWs

Occupational exposure and disease of HCWs

measles

rubella

mumps

hepatitis A

hepatitis B

pertussis

chickenpox

multi-drug resistant tuberculosis

meningococcal disease

Transmission from HCWs to patients

influenza

pertussis

rubella

chickenpox

hepatitis A

hepatitis B



onset of serious nosocomial epidemics with high associated morbidity, mortality and costs

Measles epidemic in Greece, 2010

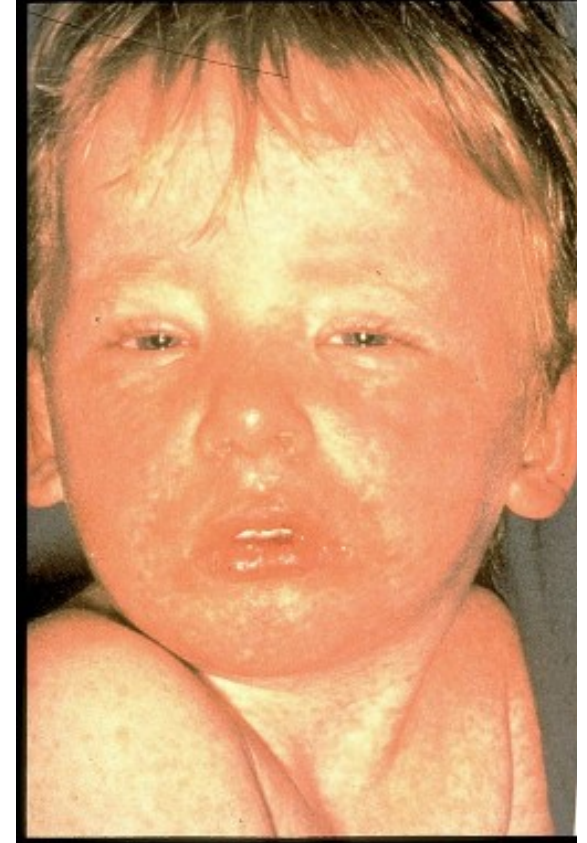
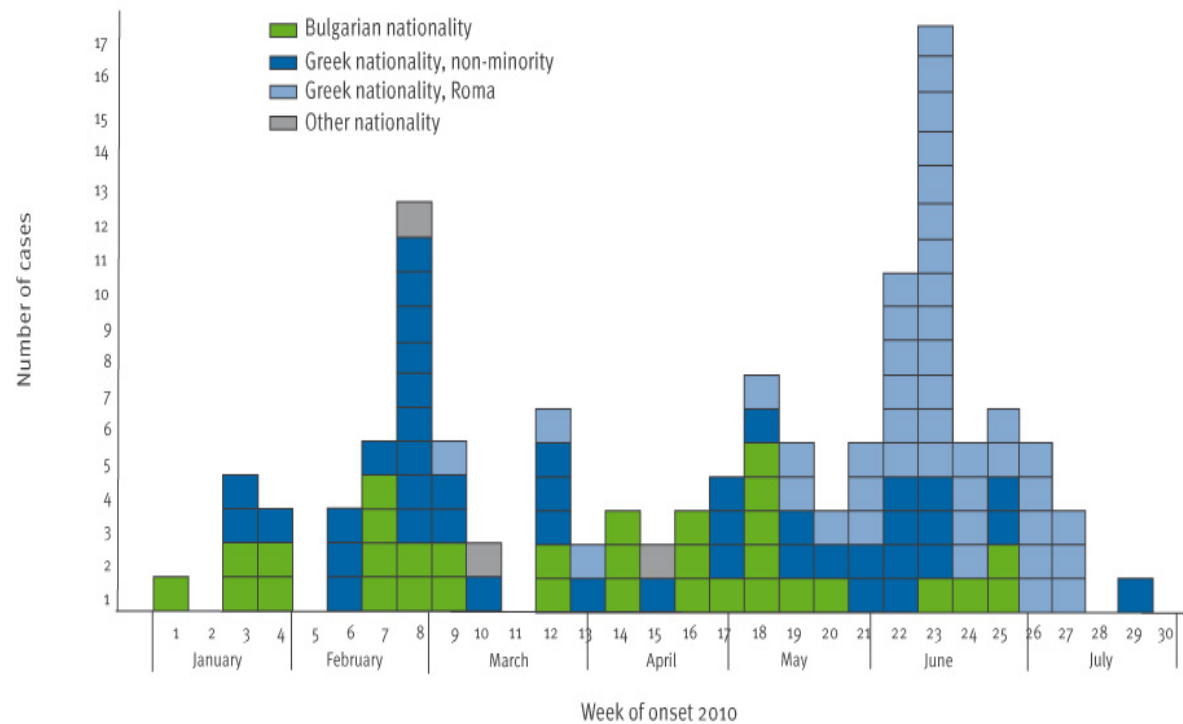


FIGURE 2

Reported measles cases by week of symptoms' onset and by population group, Greece, 1 January–25 July 2010 (n=122^a)



^a Date of onset of symptoms was known only for 122 cases.

Pervanidou D, Horefti E, Patrinos S, et al. Spotlight on measles 2010: ongoing measles outbreak in Greece, January – July 2010. *EuroSurveillance* 2010;15:pii=19629

Surveillance and outbreak reports

LARGE MEASLES EPIDEMIC IN SWITZERLAND FROM 2006 TO 2009: CONSEQUENCES FOR THE ELIMINATION OF MEASLES IN EUROPE

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Spotlight on measles 2010: Preliminary results of an ongoing measles outbreak in a subpopulation with low vaccination coverage in Berlin, Germany, March 2010

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6. Vaccination Unit, Robert Koch-Institute (RKI), Berlin, Germany
7. Department for Health, Environment and Consumers Protection (SenGUV), Federal State of Berlin, Berlin, Germany

Measles Outbreak, the Netherlands, 2008

Cherie Long, Timothy F. Jones, Duc J. Vugia, Joni Scheftel, Nancy Strockbine, Patricia Ryan, Beletshachew Shiferaw, Robert V. Tauxe, and L. Hannah Gould

Emerging Infectious Diseases • www.cdc.gov/eid • Vol. 16, No. 3, March 2010

Nosocomial transmission of measles among healthcare workers, Bulgaria, 2010

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Euro Surveill. 2011;16(15)

Hospital-Associated Measles Outbreak — Pennsylvania, March–April 2009

MMWR / January 20, 2012 / Vol. 61 / No. 2

NOSOCOMIAL MEASLES CLUSTER IN DENMARK FOLLOWING AN IMPORTED CASE, DECEMBER 2008–JANUARY 2009

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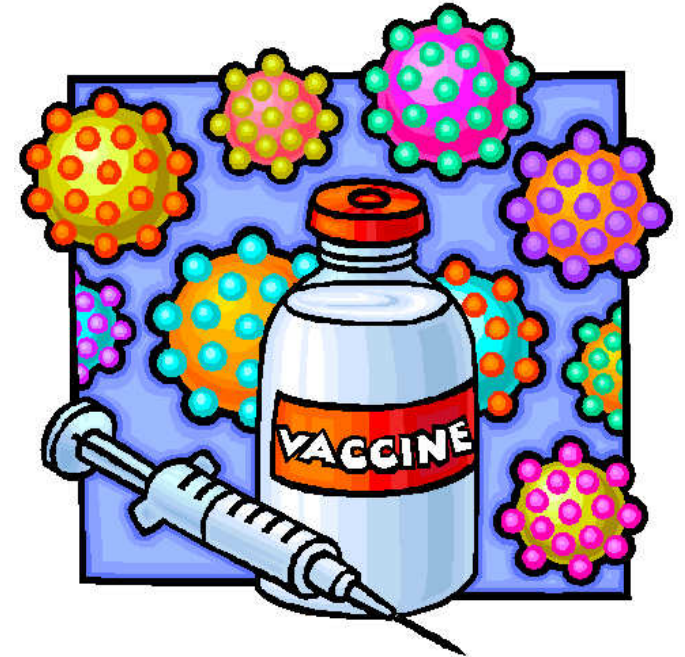
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Eurosurveillance - Volume 14, Issue 8 - 26 February 2009

Vaccination of HCWs

- direct protection of HCWs
- indirect protection of patients

from nosocomial transmission
of vaccine-preventable diseases (VPDs)



Attitudes toward mandatory occupational vaccinations and vaccination coverage against vaccine-preventable diseases of health care workers in primary health care centers

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American Journal of Infection Control xxx (2012) 1-5

- **185 primary healthcare centers across the country**
- **Primary healthcare centers provide the first-line response for almost all health issues for the majority of the population & routine vaccinations**
- **self-reported, anonymous questionnaire to all HCWs**
- **2,055 HCWs participated**

As of Sep 2011 the Ministry of Health in Greece

recommended the following vaccinations for HCWs

- **seasonal influenza (annually)**
- **hepatitis A (for pediatricians & infectious disease specialists)**
- **hepatitis B**

Table 2

HCWs' knowledge of Ministry of Health–recommended vaccines

Vaccine	HCWs ring correctly (N = 2,055), n (%)
Seasonal influenza annually	1,550 (75.4)
Measles	1,896 (92.3)
Mumps	1,931 (94.0)
Rubella	1,897 (92.3)
Varicella	1,899 (92.4)
Hepatitis A	604 (29.4)
Hepatitis B	1,669 (81.2)
Pertussis	1,956 (95.2)
Tetanus-diphtheria	1,616 (78.6)

NOTE. In Greece, the following vaccines are recommended for HCWs: Seasonal influenza (annually), hepatitis B, and hepatitis A.

265 HCWs (12.9%) named correctly the 3 recommended vaccines.

Table 3

HCWs' completed vaccination rates against vaccine-preventable diseases

Disease	Completed vaccination, %
Measles (n = 831)	23.3
Mumps (n = 831)	23.3
Rubella (n = 831)	29.8
Varicella (n = 1,175)	3.0
Hepatitis A (n = 1,610)	5.8
Hepatitis B (n = 1,428)	55.7
Tetanus-diphtheria (n = 1,816)	47.3

History of natural illness reported by HCWs

- measles 42.4%
- mumps 34.2%
- rubella 33.8%
- varicella 63.1%
- hepatitis A 4.5%
- hepatitis B 4.7%
- pertussis 20.7%

Table 5

HCWs' susceptibility to vaccine-preventable diseases by age group

Disease	Susceptibility by age group, years, %				
	<31	31-40	41-50	>50	Total
Measles (n = 1,043)	14.3	14.4	17.7	20.2	17.0
Mumps (n = 980)	14.7	19.9	29.8	27.6	25.0
Rubella (n = 951)	10.5	15.5	19.1	25.6	18.6
Varicella (n = 1,248)	12.6	16.0	17.6	19.0	16.7
Hepatitis A (n = 1,241)	79.5	85.1	89.0	91.0	87.5??
Hepatitis B (n = 1,267)	25.0	29.2	36.6	44.4	35.0
Tetanus-diphtheria (n = 1,716)	39.0	59.7	53.0	50.0	52.6

Table 6

Attitudes of HCWs regarding mandatory vaccinations for HCWs (n = 1,005)

Statement	HCWs favoring mandatory vaccinations for all HCWs, n (%)	HCWs favoring mandatory vaccinations for HCWs caring for immunocompromised patients, n (%)	P value*
Vaccination should be mandatory for			
Influenza	556 (55.3)	755 (75.1)	<.001
Measles	171 (17.0)	435 (43.3)	<.001
Mumps	154 (15.3)	342 (34.0)	<.001
Rubella	184 (18.3)	375 (37.3)	<.001
Varicella	180 (17.9)	416 (41.4)	<.001
Hepatitis A	429 (42.7)	565 (56.2)	.001
Hepatitis B	877 (87.3)	804 (80.0)	<.001
Pertussis	129 (12.8)	322 (32.0)	<.001

NS, not significant.

*McNemar's test.

ΔΕΝ θα μεταδώσω τη γρίπη
ούτε στους ασθενείς μου
ούτε στην οικογένειά μου

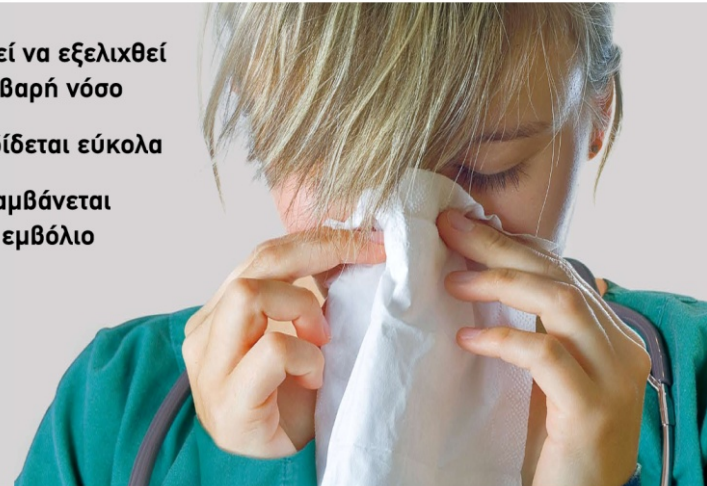


- ✓ Όλοι οι επαγγελματίες υγείας πρέπει να εμβολιασθούν κατά της γρίπης. Αυτό περιλαμβάνει και εσένα.
- ✓ Αυτό το χειμώνα εμβολιασθείτε κατά της γρίπης και προστατέψτε τον εαυτό σας και τους συνανθρώπους σας.



γρίπη

μπορεί να εξελιχθεί
σε σοβαρή νόσο
μεταδίδεται εύκολα
προλαμβάνεται
με το εμβόλιο



ΚΑΝΤΕ ΤΟ ΑΝΤΙΓΡΙΠΙΚΟ ΕΜΒΟΛΙΟ
ΠΡΟΣΤΑΤΕΨΤΕ ΤΟΥΣ ΑΣΘΕΝΕΙΣ ΣΑΣ,
ΤΗΝ ΟΙΚΟΓΕΝΕΙΑ ΣΑΣ, ΤΟΝ ΕΑΥΤΟ ΣΑΣ



ΚΕΝΤΡΟ ΕΛΕΓΧΟΥ & ΠΡΟΛΗΨΗΣ ΝΟΣΗΜΑΤΩΝ



ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ & ΚΟΙΝΩΝΙΚΗΣ ΑΛΛΗΛΕΓΥΗΣ



Strategies to increase influenza vaccine uptake among health care workers in Greece

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THEODOROS PAPADIMITRIOU & IOANNIS N. PIERROUTSAKOS

Scandinavian Journal of Infectious Diseases, 2008; 40: 266–268

2005 nation-wide campaign to promote HCWs influenza

vaccination in hospitals

- **informative leaflets**
- **suggested strategies to increase vaccine uptake**
- **suggested educative materials**

**HCWs influenza vaccination rate increased from
1.72% (2004-2005) to 16.36% (2005-2006) (9.5-fold)**

Aim of our study

To investigate the contribution of various strategies to increase vaccine uptake by HCWs in hospitals

In Greece influenza vaccine is offered to HCWs at their workplace and free of charge.

8. Πόσο αποτελεσματικό είναι το εποχικό αντιγριπικό εμβόλιο;

Η αποτελεσματικότητα του εμβολίου είναι 70%-90%. Η προστασία που παρέχει εξαρτάται από την κατάσταση της υγείας του ατόμου που εμβολιάζεται, καθώς και από την ταύση των στελεχών του εμβολίου με αυτά που κυκλοφορούν την ίδια περίοδο στην κοινότητα.

9. Πόσο ασφαρές είναι το εποχικό αντιγριπικό εμβόλιο;

Το εποχικό εμβόλιο είναι καλά ανεκτό και ασφαρές. Οι πιο συχνές ανεπιθύμητες ενέργειες που μπορεί να εμφανιστούν είναι: τοπικός ερεθισμός στο σημείο της ένεσης, κεφαλαλγία, αίσθημα κόπωσης και κακουχίας, μυαλγίες, αρθραλγίες και πυρετός. Μετά τον εμβολιασμό ενδέχεται να εμφανιστεί αλλεργική αντίδραση, η οποία σε σπάνιες περιπτώσεις μπορεί να είναι πολύ σοβαρή. Από τα μέχρι τώρα δεδομένα των διεθνών συστημάτων φαρμακοεπιτήρησης δεν προκύπτει συσχέτιση με την εμφάνιση του συνδρόμου Guillain-Barré.

10. Ποιοί δεν πρέπει να κάνουν το εποχικό αντιγριπικό εμβόλιο;

Οι αντενδείξεις αφορούν τις εξής κατηγορίες:

- άτομα με ιστορικό σοβαρής αλλεργίας σε αυγά ή σε κάποιο από τα συστατικά του εμβολίου (για άτομα υψηλού κινδύνου πρέπει να προηγείται επικοινωνία με αλλεργιολογικό τμήμα).
- άτομα με ιστορικό αλλεργικής αντίδρασης στο εμβόλιο της εποχικής γρίπης.
- άτομα με ιστορικό συνδρόμου Guillain-Barré.
- άτομα με πυρετό πρέπει να περιμένουν να υποχωρήσει ο πυρετός πριν κάνουν το εμβόλιο.



ΟΛΑ ΟΣΑ ΟΙ ΕΠΑΓΓΕΛΜΑΤΙΕΣ ΥΓΕΙΑΣ
ΘΑ ΗΘΕΛΑΝ ΝΑ ΓΝΩΡΙΖΟΥΝ
ΓΙΑ ΤΟ ΕΜΒΟΛΙΟ ΤΗΣ ΕΠΟΧΙΚΗΣ ΓΡΙΠΗΣ

10 ΣΥΧΝΑ ΕΡΩΤΗΜΑΤΑ ΓΙΑ ΤΟ ΕΠΟΧΙΚΟ ΕΜΒΟΛΙΟ



προστατέψτε τον εαυτό σας
και τους ασθενείς σας



ΚΕΝΤΡΟ ΕΛΕΓΧΟΥ & ΠΡΟΛΗΨΗΣ ΝΟΣΗΜΑΤΩΝ



ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ & ΚΟΙΝΩΝΙΚΗΣ ΑΛΛΗΛΕΓΓΥΗΣ

Univariate analysis for strategies associated with HCW influenza vaccination rates above the mean rate (16.36%)

Strategy	Group A* (%) N=72 **	Group B* (%) N=47 **	p-value
Directors informed about the program	69 (95.8)	47 (100)	0.218
trained Infection Control Nurse	55 (76.4)	41 (87.2)	0.109
person for organizing the program	70 (97.2)	46 (97.9)	0.488
posters	22 (30.6)	19 (40.4)	0.181
leaflets	54 (75.0)	27 (57.4)	0.036
videotapes	9 (12.5)	10 (21.3)	0.154
lectures	46 (63.9)	38 (80.9)	0.036
frequent meetings with the personnel	50 (69.4)	39 (83.0)	0.072
specific area for vaccination	49 (68.1)	26 (55.3)	0.113
mobile vaccination team	20 (27.8)	23 (48.9)	0.016
massive vaccine prescription	19 (26.4)	14 (29.8)	0.420
vaccination program in the past	29 (40.3)	20 (42.6)	0.477

* Groups A and B: hospitals with vaccination rates below and above the mean vaccination rate, respectively

** Hospitals with available data on strategies

Multivariate analysis for strategies associated with vaccination rates above the mean vaccination rate*

- **use of a mobile vaccination team**
(OR:2.942, 95% CIs: 1.154-5.382;p-value=0.016)
- **organization of lectures**
(OR:2.386, 95% CIs: 0.999-5.704;p-value=0.036)

* Mean vaccination rate: 16.36%

Reasons for influenza vaccination refusal among healthcare workers in Greece, 2006 - 2007

- belief that they are not at risk from influenza 43.2%
- concerns about adverse effects 33.4%
- the vaccine is not effective 19.2%
- unaware of the national recommendations for vaccination 3.8%

Determinants of intention to get vaccinated against novel (pandemic) influenza A H1N1 among health-care workers in a nationwide survey

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Marios Lazanas ^c

Journal of Infection (2010) 61, 252e258

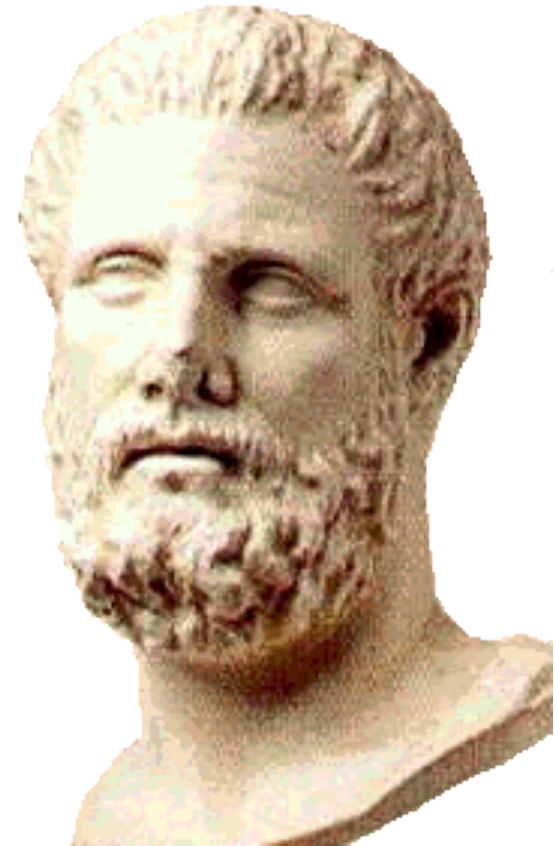
Reason	Rate (%)
Concerns about vaccine safety	43.1
Inadequate information about the vaccine	27.8
Not at risk for contracting novel influenza	10.7
Concerns about vaccine efficacy	7.2
Against vaccinations in general	6.5
Other	4.7

- **Vaccinations recommended for healthcare workers in Greece:**
 - **seasonal influenza**
 - **hepatitis B**
 - **hepatitis A**
 - **measles - mumps - rubella**
 - **varicella**
 - **Td**
 - **tetravalent meningococcal for laboratory personnel**

National Committee for Vaccinations, Ministry of Health (2011)

«Ωφελείν ή μη βλάπτειν»
First do not harm.

Hippocrates (460-377 BC)



Thank you for your attention !

