
Sessione plenaria 2
Quali vaccinazioni per gli OS?


# LA VACCINAZIONE ANTINFLUENZALE NEGLI OPERATORI SANITARI

Giancarlo Icardi

DiSSal - Universita' degli Studi di Genova
IRCCS Azienda Ospedaliera Universitaria San Martino – IST

# Perché parlare di vaccinazioni negli operatori sanitari

*healthcare*

*Review*

## Immunization of Health-Care Providers: Necessity and Public Health Policies

Helena C. Maltezou [1,*] and Gregory A. Poland [2]

MDPI

*Healthcare* 2016, 4, 47;

**The rationale for immunization of Health-Care Workers (HCWs) relies on several facts:**

- **Susceptible HCWs are at increased risk for occupational acquisition of vaccine preventable diseases.** Analysis of past data indicates that HCWs have an increased risk for acquisition of measles and influenza compared to adults working in non-healthcare settings
- **HCWs provide health care to patients, many of whom are at high risk for a serious disease course, complications, or even death** because of their age (e.g., neonates, young infants, elderly) and/or underlying conditions (e.g., pregnant women, immunocompromised patients, patients with underlying diseases). These groups are frequent users of health-care services, yet often they do not develop a strong immune response after immunization or they are ineligible for immunization.

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**The rationale for immunization of Health-Care Workers (HCWs) relies on several facts:**

- **Beyond their impact on morbidity and mortality, vaccine preventable diseases outbreaks in healthcare facilities are also associated with absenteeism among personnel, disruption of health-care services, and extensive costs because of testing, prophylaxis, treatment, infection-control measures, and contact tracing.**

# Perché parlare di vaccinazione antinfluenzale negli operatori sanitari

## Some key facts…

- Healthcare workers, such as doctors, nurses, other health professionals, cleaners and porters (and also family visitors), may have substantial rates of clinical and sub-clinical influenza during influenza seasons
- Infected healthcare workers may transmit influenza to patients, many of whom have serious underlying conditions that increase the risk of complications
- Influenza illness in vulnerable patient populations, can also result in devastating consequences, with severe, prolonged, and often fatal disease
- Outbreaks of influenza among patients have been described in both long-term care and acute care facilities
- Influenza vaccination of healthcare workers is recommended in > 40 countries including United States and many countries of European Union


- Thomas RE, Jefferson T, Lasserson TJ. Influenza vaccination for healthcare workers who care for people aged 60 or older living in long-term care institutions. Cochrane Database Syst Rev. 2013
- Bridges CB, Kuehnert MJ, Hall CB. Transmission of influenza: implications for control in health care settings. Clin Infect Dis 2003; 37: 1094–101
- Ahmed F, Lindley M, Allred N, Weinbaum C, Grohskopf L. Effect of Influenza Vaccination of Health Care Personnel on Morbidity and Mortality Among Patients: Systematic Review and Grading of Evidence. Clin Infect Dis 2013

# La vaccinazione antinfluenzale negli operatori sanitari: le raccomandazioni

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

## Healthcare Personnel Vaccination Recommendations[1]

| Vaccine | Recommendations in brief |
|---|---|
| Hepatitis B | Give 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give IM. Obtain anti-HBs serologic testing 1–2 months after dose #3. |
| Influenza | Give 1 dose of influenza vaccine annually. Give inactivated injectable influenza vaccine intramuscularly or live attenuated influenza vaccine (LAIV) intranasally. |
| MMR | For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below. Give SC. |
| Varicella (chickenpox) | For HCP who have no serologic proof of immunity, prior vaccination, or history of varicella disease, give 2 doses of varicella vaccine, 4 weeks apart. Give SC. |
| Tetanus, diphtheria, pertussis | Give a one-time dose of Tdap as soon as feasible to all HCP who have not received Tdap previously. Give Td boosters every 10 years thereafter. Give IM. |
| Meningococcal | Give 1 dose to microbiologists who are routinely exposed to isolates of *N. meningitidis*. Give IM or SC. |

# La vaccinazione antinfluenzale negli operatori sanitari: le raccomandazioni

Morbidity and Mortality Weekly Report (*MMWR*)

CDC > MMWR

Prevention and Control of Seasonal Influenza with Vaccines

Recommendations of the Advisory Committee on Immunization Practices — United States, 2016–17 Influenza Season

*Recommendations and Reports* / August 26, 2016 / 65(5);1–54

Lisa A. Grohskopf, MD[1]; Leslie Z. Sokolow, MSc, MPH[1,2]; Karen R. Broder, MD[3]; Sonja J. Olsen, PhD[1]; Ruth A. Karron, MD[4]; Daniel B. Jernigan, MD[1]; Joseph S. Bresee, MD[1]

**Persons Who Live With or Care for Persons at High Risk for Influenza-Related Complications**

- All persons aged ≥6 months without contraindications should be vaccinated annually; however, continued emphasis should be placed on vaccination of persons who live with or care for persons at higher risk for influenza-related complications. When vaccine supply is limited, vaccination efforts should focus on delivering vaccination to persons at higher risk for influenza-related complications listed above, as well as these persons:
  - Health care personnel, including physicians, nurses, and other workers in inpatient and outpatient-care settings, medical emergency-response workers (e.g., paramedics and emergency medical technicians), employees of nursing home and long-term care facilities who have contact with patients or residents, and students in these professions who will have contact with patients….

*Ministero della Salute*

DIPARTIMENTO DELLA PREVENZIONE E DELLA INNOVAZIONE
DIREZIONE GENERALE DELLA PREVENZIONE – CCM
Ufficio V ex DGPREV - Malattie Infettive e Profilassi Internazionale

| | Categoria | Dettaglio |
|---|---|---|
| 1 | Soggetti di età pari o superiore a 65 anni | |
| 2 | Bambini di età superiore ai 6 mesi, ragazzi e adulti fino a 65 anni di età affetti da patologie che aumentano il rischio di complicanze da influenza | a) malattie croniche a carico dell'apparato respiratorio (inclusa l'asma grave, la displasia broncopolmonare, la fibrosi cistica e la broncopatia cronico ostruttiva-BPCO)<br>b) malattie dell'apparato cardio-circolatorio, comprese le cardiopatie congenite e acquisite<br>c) diabete mellito e altre malattie metaboliche (inclusi gli obesi con BMI >30 e gravi patologie concomitanti)<br>d) insufficienza renale cronica<br>e) malattie degli organi emopoietici ed emoglobinopatie<br>f) tumori<br>g) malattie congenite o acquisite che comportino carente produzione di anticorpi, immunosoppressione indotta da farmaci o da HIV<br>h) malattie infiammatorie croniche e sindromi da malassorbimento intestinali<br>i) patologie per le quali sono programmati importanti interventi chirurgici<br>j) patologie associate a un aumentato rischio di aspirazione delle secrezioni respiratorie (ad es. |

Le motivazioni per le quali è importante l'immunizzazione del personale santiario che opera nelle strutture ospedaliere per acuti, nelle comunità per lungodegenti, nelle strutture territoriali e a livello di popolazione (medici e pediatri di famiglia) sono diversi:

a. il rischio personale di contrarre l'influenza essendo a continuo contatto con soggetti ammalati di forme respiratorie e di influenza specie nei periodi di diffusione epidemica dei virus

b. l'assenteismo dal lavoro per influenza proprio nel periodo in cui vi è maggiore richiesta di assistenza da parte della popolazione

c. il rischio di diventare trasmettitore di infezione da virus influenzali nella comunità dove esercitano la loro attività lavorativa (ospedale, strutture per lungodegenti etc.), comunità che richiedono invece il massimo di tutela

# La vaccinazione antinfluenzale negli operatori sanitari: le coperture

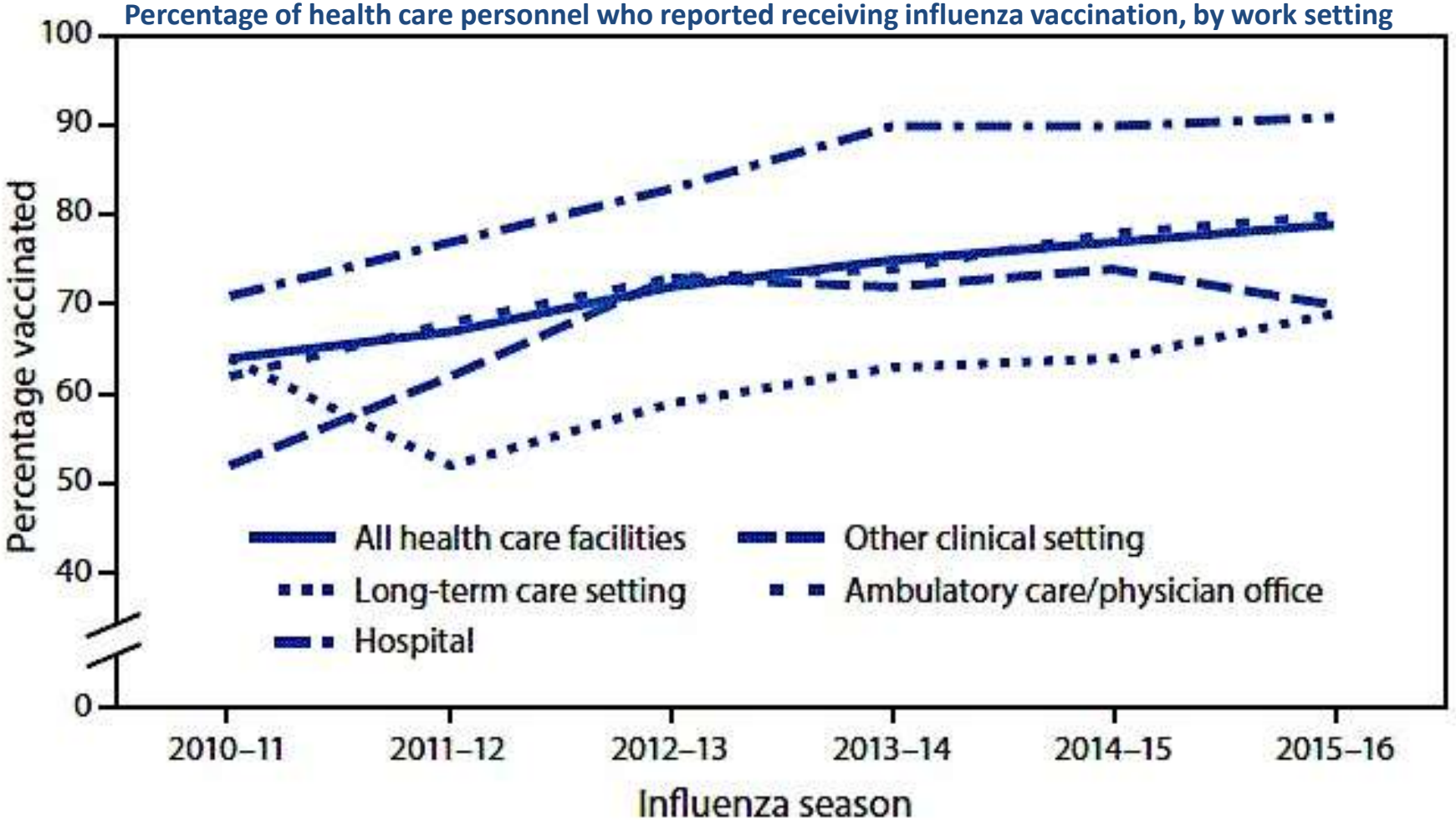
Morbidity and Mortality Weekly Report (*MMWR*)

CDC > MMWR

Influenza Vaccination Coverage Among Health Care Personnel — United States, 2015–16 Influenza Season

*Weekly* / September 30, 2016 / 65(38);1026–1031

**Percentage of health care personnel who reported receiving influenza vaccination, by work setting**



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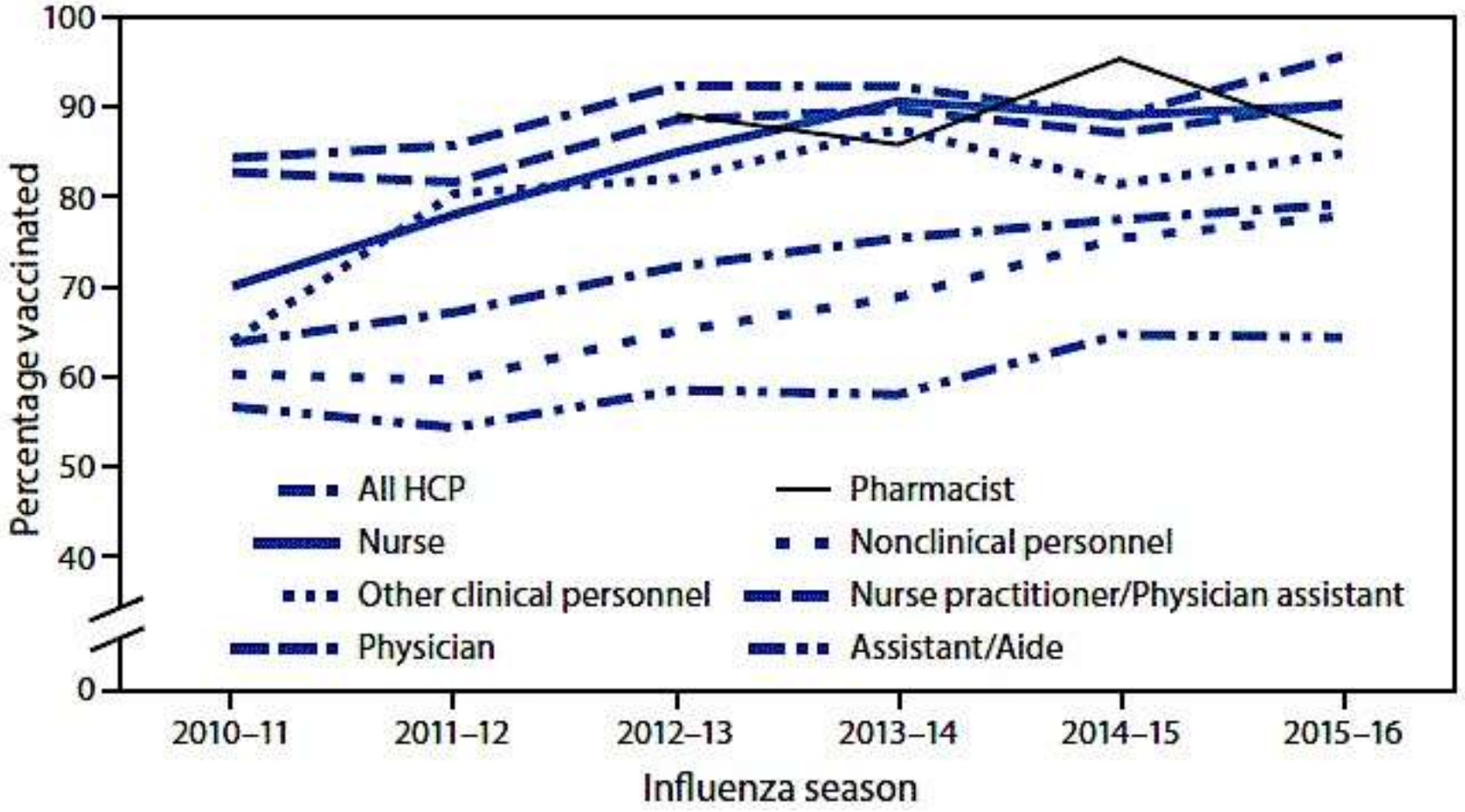
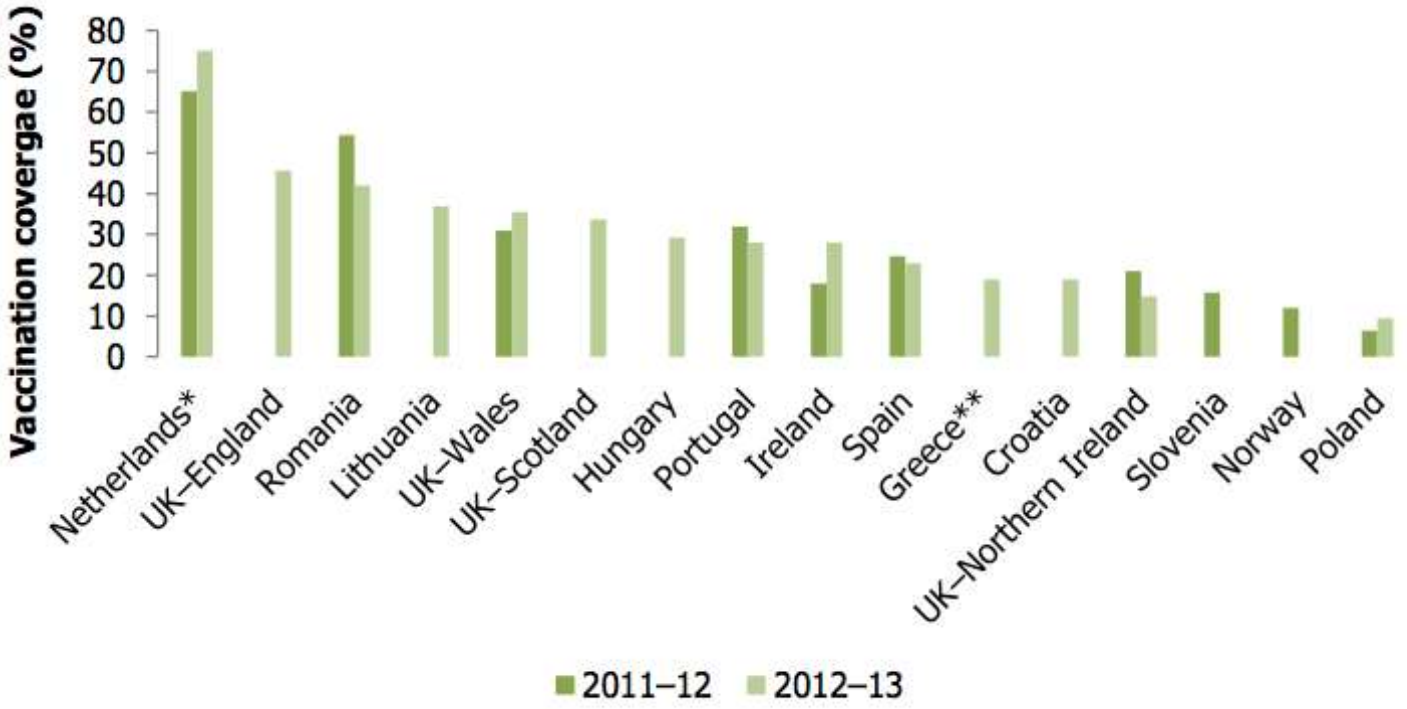


# La vaccinazione antinfluenzale negli operatori sanitari: le coperture


## Seasonal influenza vaccination coverage rates among healthcare workers in EU/EEA Member States, 2011–12 and 2012–13 influenza seasons (n=13 Member States)



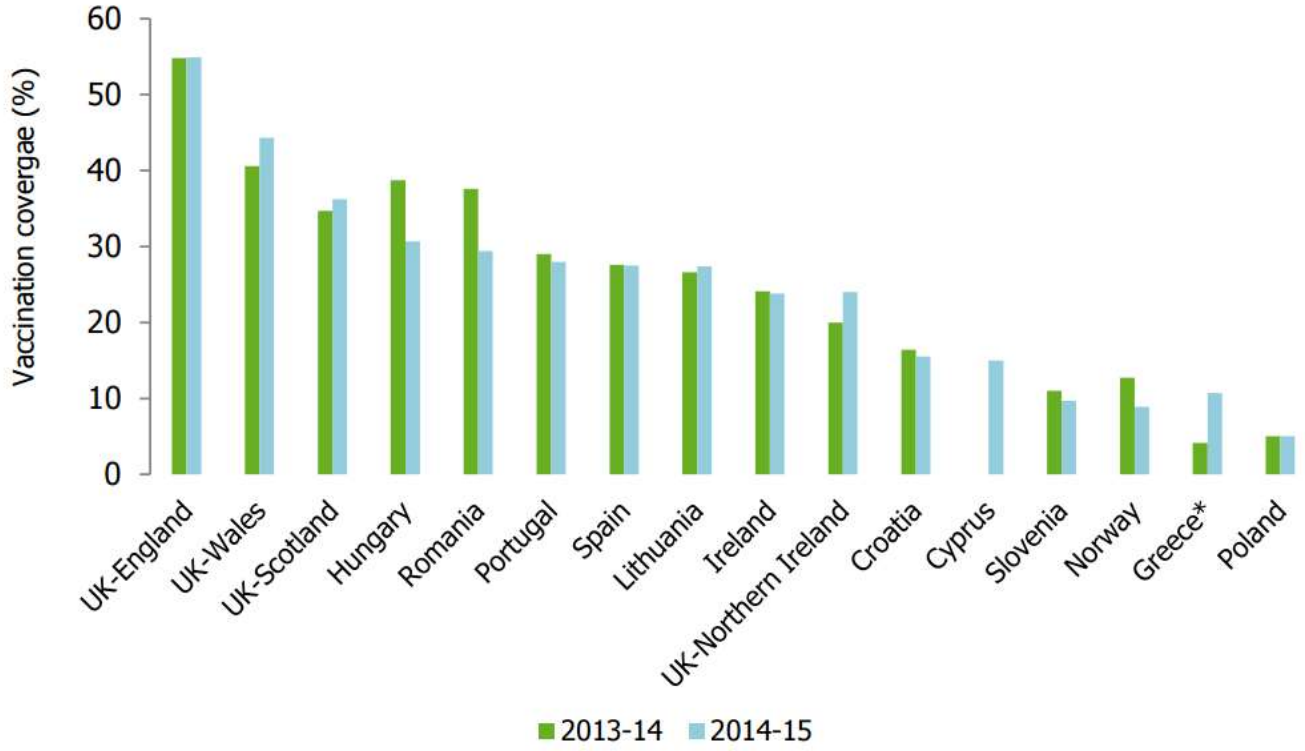

*Source: National seasonal influenza vaccination survey, March 2014*

** There are no systematically collected data available on the percentage of influenza-vaccinated HCWs in the Netherlands. A small opportunistic survey among 52 of 7 893 (0.7%) GP practices found that in 2012–13, only 7.7% of practices reported that every single employee had been vaccinated; in 67.3% of these practices, only a portion of their employees had received influenza vaccination. A recently published study among hospital HCWs found a median vaccination rate of 13% (spread 2–33%) in 2012–13 [9].*

*** Healthcare workers in GP practices/outpatient healthcare settings*

# La vaccinazione antinfluenzale negli operatori sanitari: le coperture

**Seasonal influenza vaccination coverage rates among healthcare workers, 13 EU/EEA Member States, 2013–14 and 2014–15 influenza seasons**




*Source: National seasonal influenza vaccination survey, December 2015*

** Inpatient healthcare settings*

ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

# La vaccinazione antinfluenzale negli operatori sanitari: le coperture

## Seasonal influenza vaccination programme country profile: Italy

### 2012–13 Season

### Vaccination coverage rates

**Vaccination coverage (%) in population groups targeted by seasonal influenza vaccination the from 2008–09 to the 2012–13 influenza season by method of data collection (administrative and /or survey)**

| Population group | Influenza season | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2008–09 | | 2009–10 | | 2010–11 | | 2011–12 | | 2012–13 | |
| | Admin. | Surv. | Admin. | Surv. | Admin. | Surv. | Admin. | Surv. | Admin. | Surv. |
| Overall population | na | na | na | na | na | na | na | na | na | na |
| Children/adolescents | na | na | na | na | na | na | na | na | na | na |
| Older population groups: ≥65 years of age | 66.3 | na | 65.6 | na | 62.4 | na | 62.7 | na | 54.2 | na |
| Chronic medical conditions groups | na | na | na | na | na | na | na | na | na | na |
| Pregnant women [a] | - | - | - | - | na | na | na | na | na | na |
| Healthcare workers | na | na | na | na | na | na | na | na | na | na |
| Staff in long-stay care facilities [b] | - | - | - | - | - | - | na | na | na | na |
| Residents in long stay care facilities [b] | - | - | - | - | - | - | na | na | na | na |

# La vaccinazione antinfluenzale negli operatori sanitari: le coperture

## Vaccination coverage rates in eleven European countries during two consecutive influenza seasons

Patricia R. Blank [a,c], Matthias Schwenkglenks [b,c], Thomas D. Szucs [a,*,c]

[a] Institute of Social and Preventive Medicine, University of Zurich, Hirschengraben 84, CH-8001 Zurich, Switzerland
[b] European Center of Pharmaceutical Medicine, University of Basel, Blumenrain 23, 4051 Basel, Switzerland

Journal of Infection (2009) 58, 446–458

**Table 2** VCR of health care workers (%) during two influenza seasons.

| Country | 2006/07 | 95% CI | 2007/08 | 95% CI | *p*-value |
|---|---|---|---|---|---|
| UK | 15.9 | 8.9–22.9 | 24.0 | 17.0–31.0 | 0.117 |
| Germany | 22.6 | 16.6–29.6 | 17.3 | 9.3–24.3 | 0.290 |
| Italy | 12.2 | 4.2–20.2 | 10.9 | 2.9–18.9 | 0.824 |
| France | 22.2 | 15.2–30.2 | 22.9 | 14.9–30.9 | 0.910 |
| Spain | 20.5 | 11.5–29.5 | 25.4 | 18.4–33.4 | 0.416 |
| Austria | 15.5 | 9.5–20.5 | 19.0 | 13.0–25.0 | 0.404 |
| Czech Republic | 23.5 | 14.5–32.5 | 26.3 | 16.3–36.3 | 0.688 |
| Finland | 7.8 | 2.8–12.8 | 19.4 | 12.4–27.4 | 0.009 |
| Ireland | 18.6 | 11.6–25.6 | 20.5 | 13.5–26.5 | 0.687 |
| Poland | 20.7 | 9.7–30.7 | 6.4 | −1.4–14.4 | 0.038 |
| Portugal | 25.4 | 14.4–37.4 | 25.0 | 14.0–37.0 | 0.958 |

*p*-values: difference between season 2006/07 and 2007/08.

# La vaccinazione antinfluenzale negli operatori sanitari: le coperture

RESEARCH PAPER

Human Vaccines & Immunotherapeutics 11:1, 95–100; January 2015; © 2015 Landes Bioscience

## Influenza vaccination among healthcare workers in Italy

### The experience of a large tertiary acute-care teaching hospital

Cristiano Alicino[1,*], Rocco Iudici[1], Ilaria Barberis[1], Chiara Paganino[1], Roberto Cacciani[1], Monica Zacconi[1], Angela Battistini[1], Dorotea Bellina[1], Anna Maria Di Bella[1], Antonella Talamini[1], Laura Sticchi[1], Alessandra Morando[2], Filippo Ansaldi[1], and Paolo Durando[1]

[1]Department of Health Sciences, Vaccines and Clinical Trials Unit; University of Genoa; Italy and I.R.C.C.S. University Hospital San Martino; IST National Institute for Cancer Research; Genoa, Italy; [2]Medical Directory of the I.R.C.C.S.; University Hospital San Martino; IST National Institute for Cancer Research; Genoa, Italy

**Education**

**Promotion**

**Easy access to vaccination**

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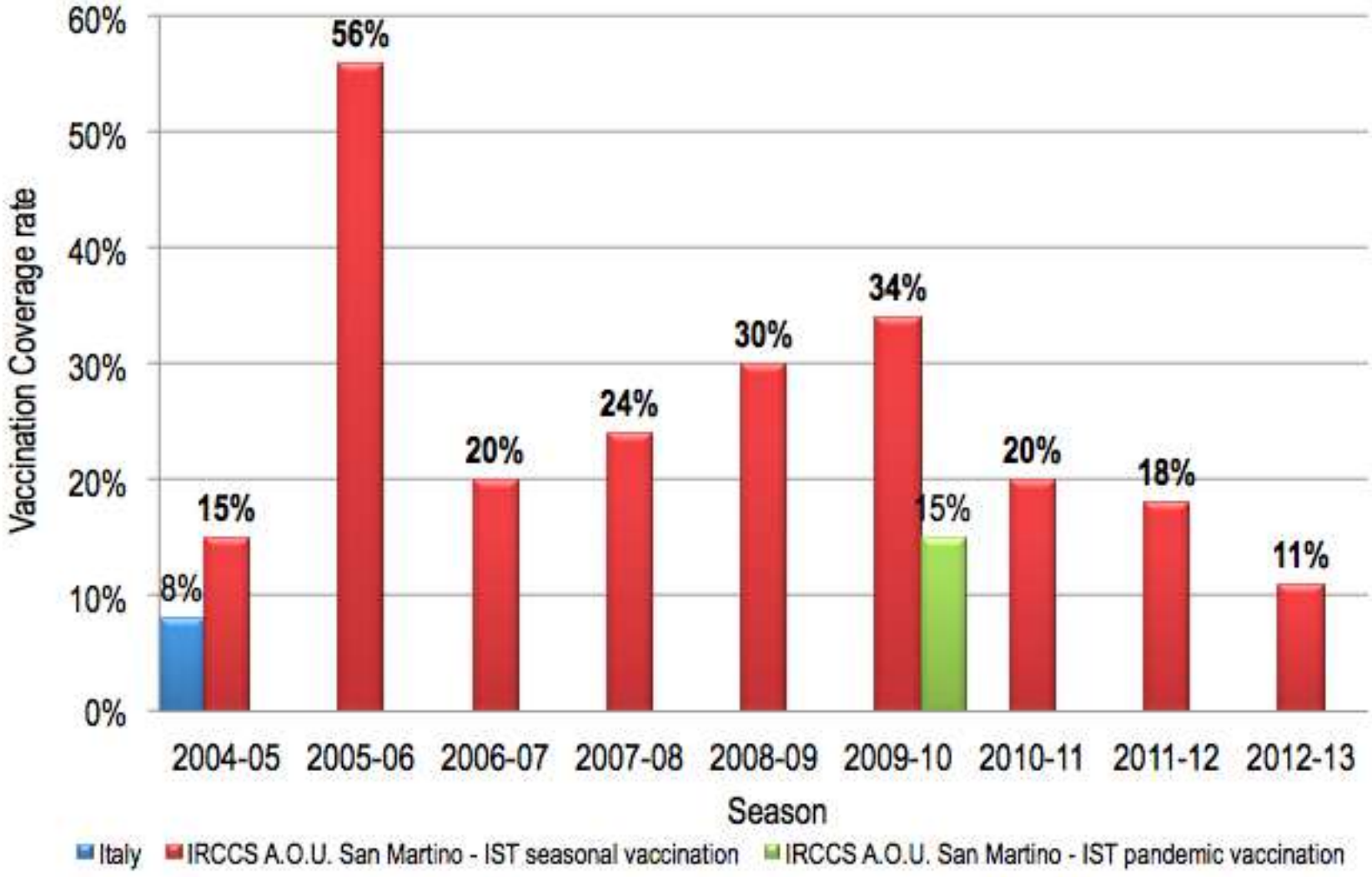
## Vaccination coverage rates among healthcare workers of IRCCS AOU San Martino – IST of Genoa during 9 consecutive seasons



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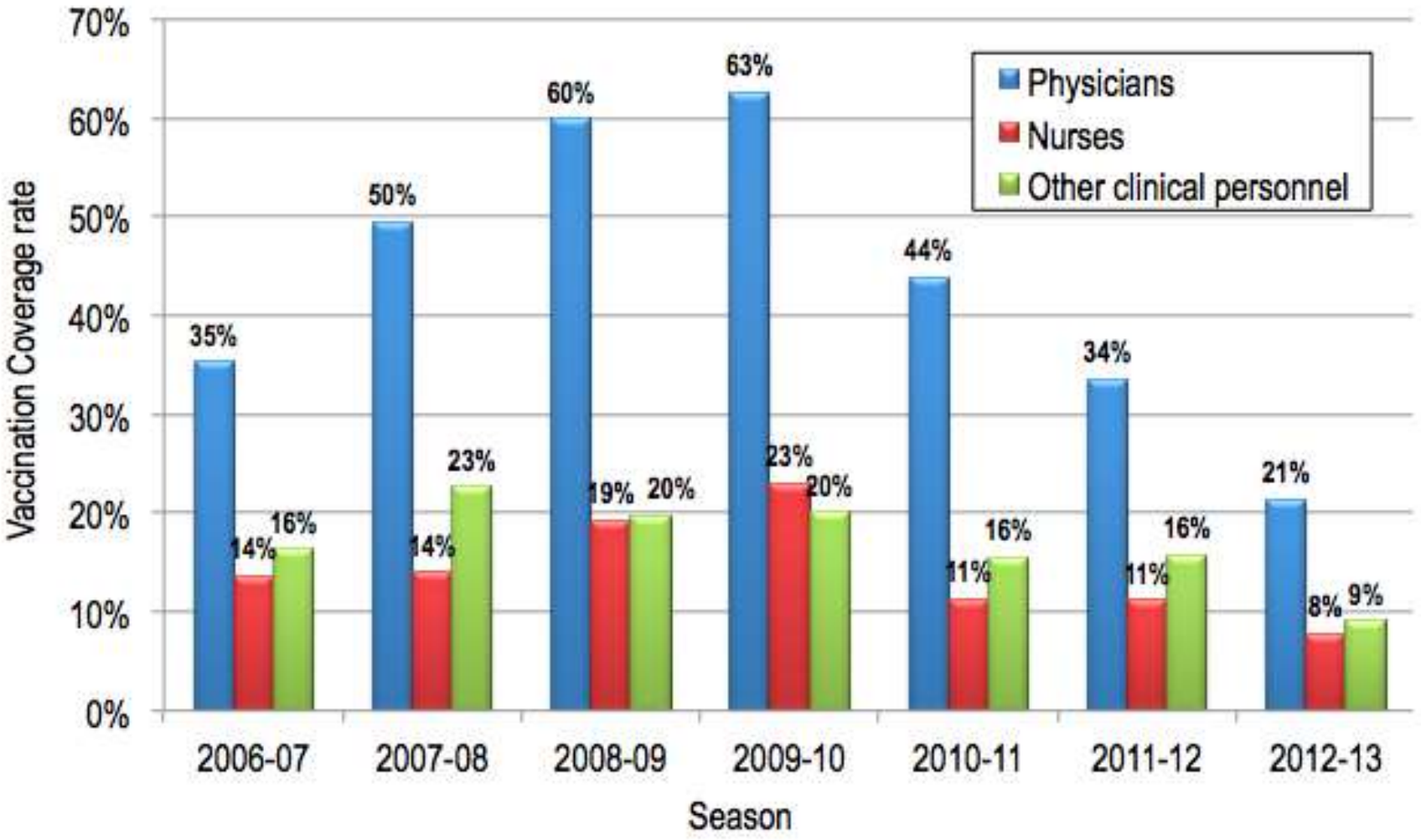
**Vaccination coverage rates among healthcare workers of IRCCS AOU San Martino – IST of Genoa during 7 consecutive seasons according to occupation type**



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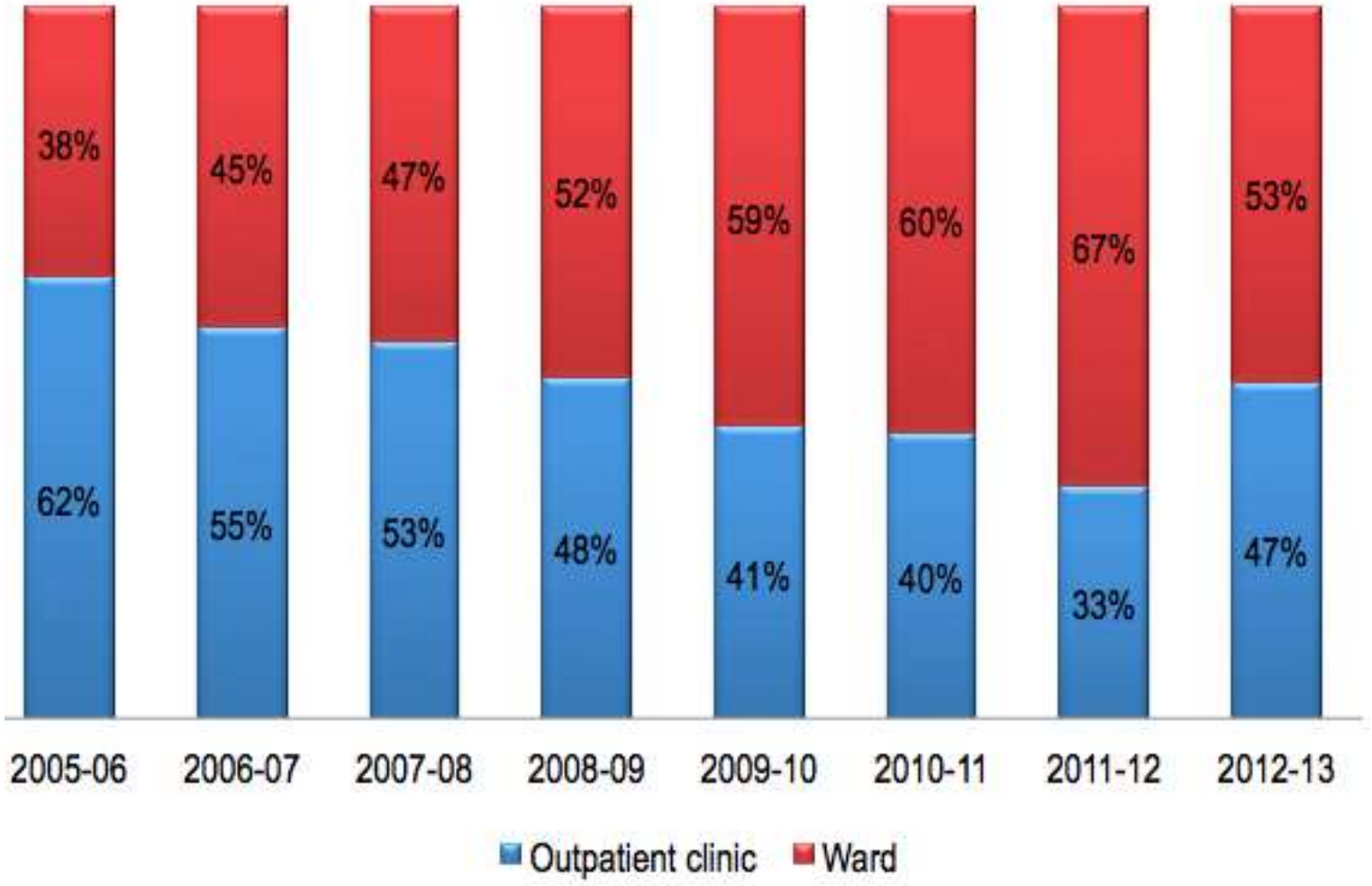
**Setting of influenza vaccination coverage rates among healthcare workers of IRCCS AOU San Martino – IST of Genoa during 8 consecutive seasons**



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## The pilot project in the high risk wards

### Objective

Improve immunization coverage for influenza in the healthcare workers of high risk wards for nosocomial transmission of influenza.

### Methods

Medical and nursing staff of the Hygiene Unit of the Hospital have performed:

- Vaccination counselling to health care workers of high risk wards
- Active vaccination offer
- Collection of vaccination consent / dissent

All the activities have been performed directly in the wards included in the project

# La vaccinazione antinfluenzale negli operatori sanitari: le coperture

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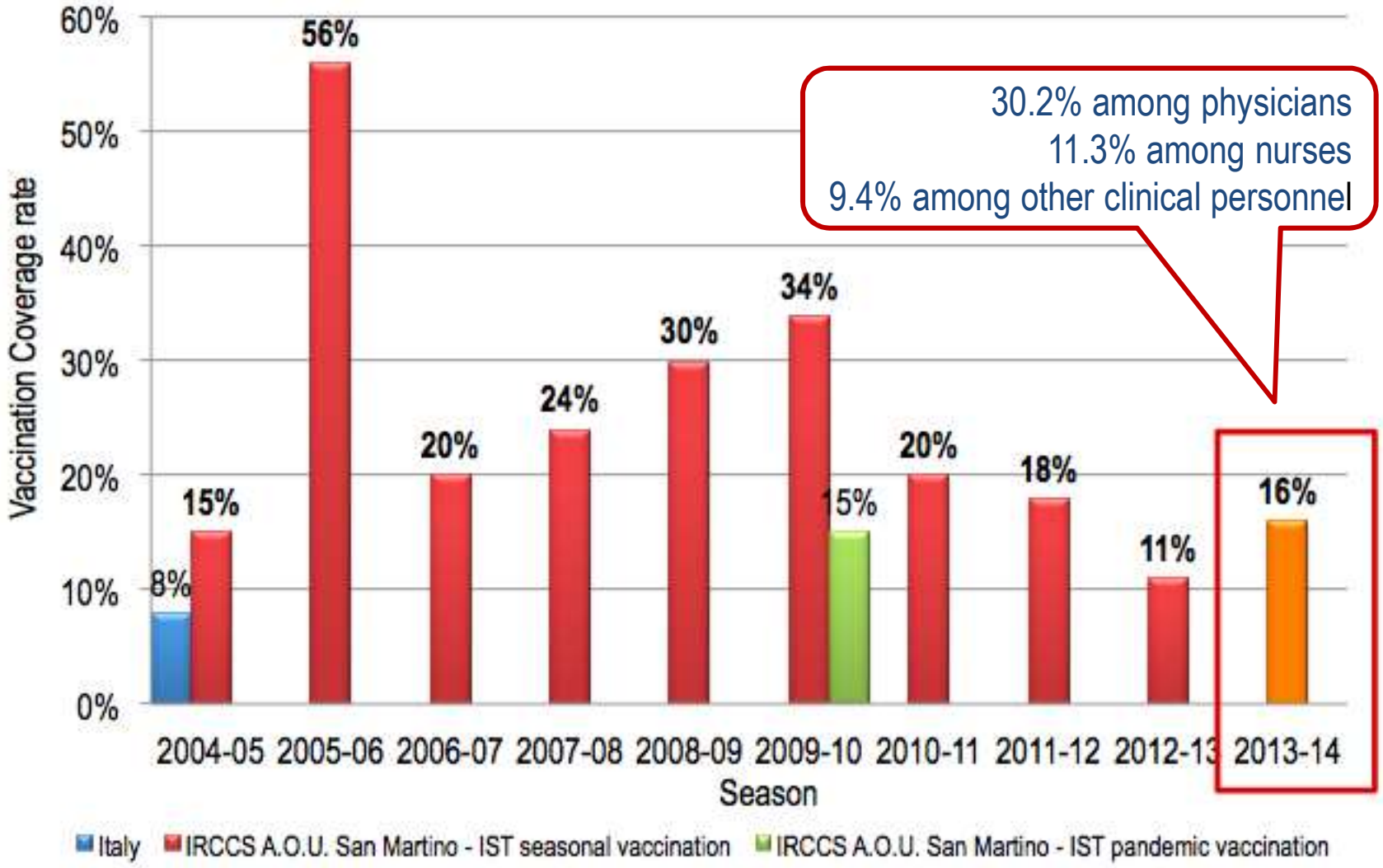

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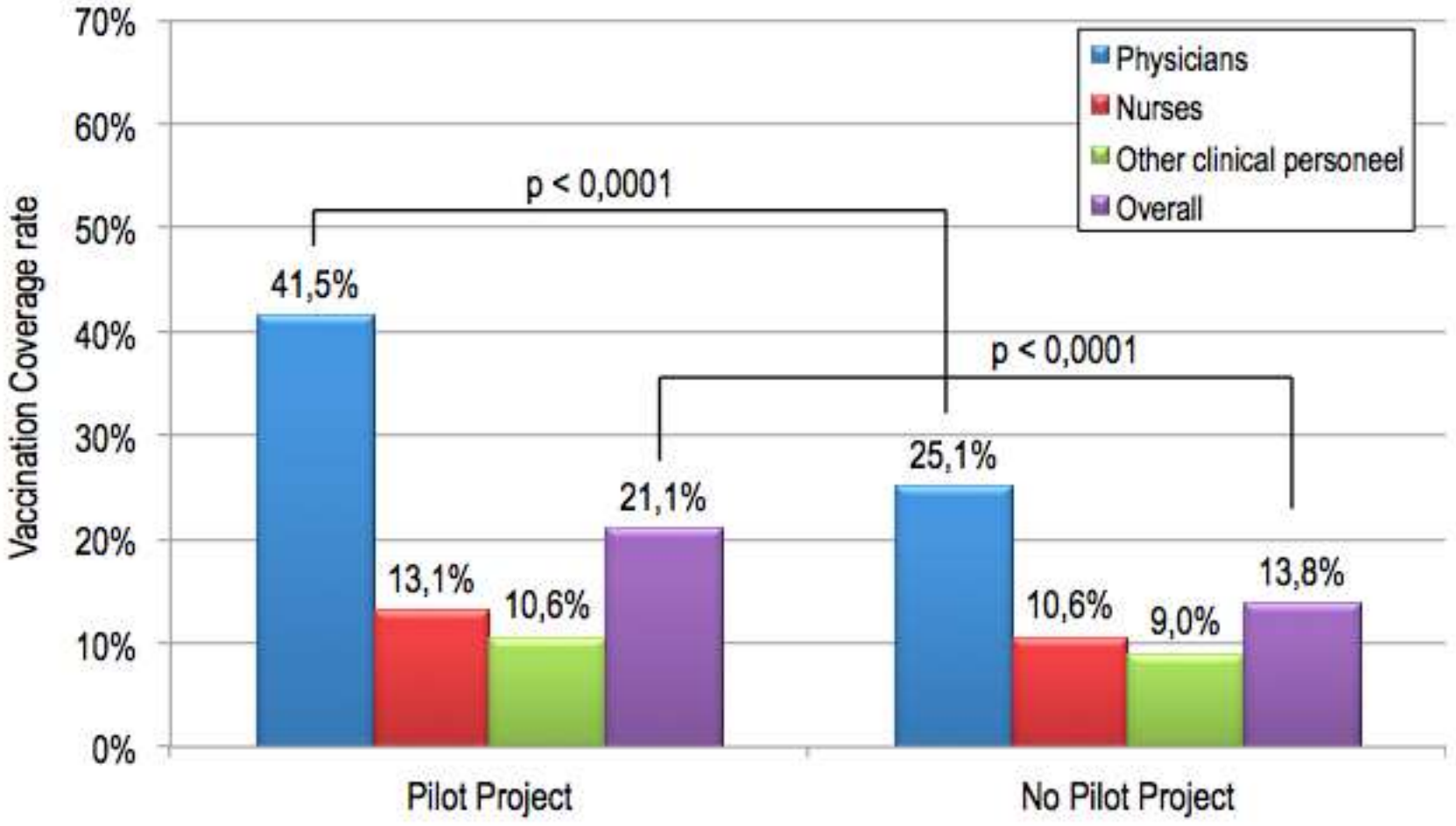
## Results of the pilot project in the high risk wards



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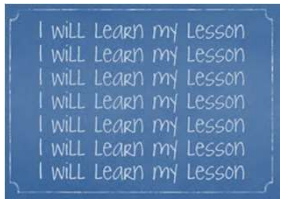


## Conclusions and lesson learnt in a 9-year experience

- ✓ **Vaccination coverage rates at our hospital still remain unsatisfactory** despite the efforts by the infection control unit. This scenario is in accordance with that of several other italian and european hospitals.

- ✓ Every time that **concerns about the safety or efficacy of influenza vaccination** were spread by mass media, **confidence of health care workers decreased and vaccination coverage fell off**.

- ✓ Counselling on vaccination and active offer, directly in the high risk wards, seem to be associated with a better compliance to vaccination, particularly among physicians.

- ✓ No difference were registered among nurse and other clinical personnel: this imposes to implement further efforts to improve both the knowledge on the flu burden and the compliance with preventive tools among these categories

- ✓ **Novel strategies such as mandatory vaccination at least in high risk wards** should be considered in order to reduce the risk of nosocomial trasmission

# La vaccinazione antinfluenzale negli operatori sanitari: la *compliance*

Open Access Research

BMJ Open

## Determinants of adherence to seasonal influenza vaccination among healthcare workers from an Italian region: results from a cross-sectional study

P Durando,[1,2] C Alicino,[1] G Dini,[1,2] I Barberis,[1,3] A M Bagnasco,[1] R Iudici,[1] M Zanini,[1] M Martini,[1] A Toletone,[1,2] C Paganino,[1,3] E Massa,[1,2] A Orsi,[1,3] L Sasso[1]

Department of Health Sciences, University of Genoa, Genoa, Italy

- ✓ **830 operatori sanitari IRCCS AOU San Martino – IST e ASL 3 Genovese**
- ✓ **Informazioni su vaccinazione influenzale dalla stagione 2008/2009 alla stagione 2013/2014 (6 stagioni)**
- ✓ **Motivazioni per avvenuta vaccinazione o rifiuto della vaccinazione nell'ultima stagione studiata (2013/2014)**
- ✓ **Conoscenze, credenze e attitudini nei confronti del vaccino influenzale**

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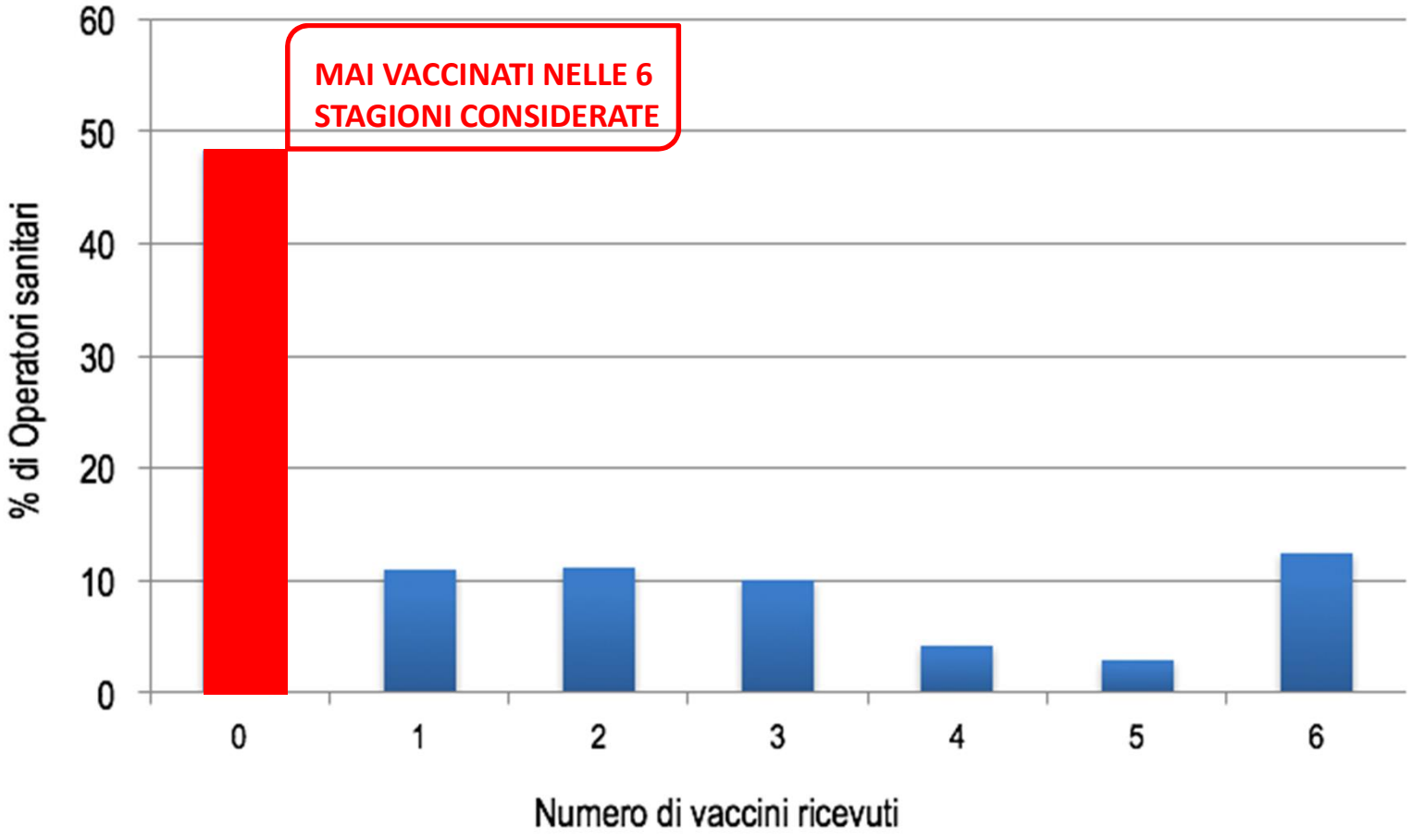
**Numero delle vaccinazioni influenzali ricevute fra la stagione 2008/2009 e quella 2013/2014**



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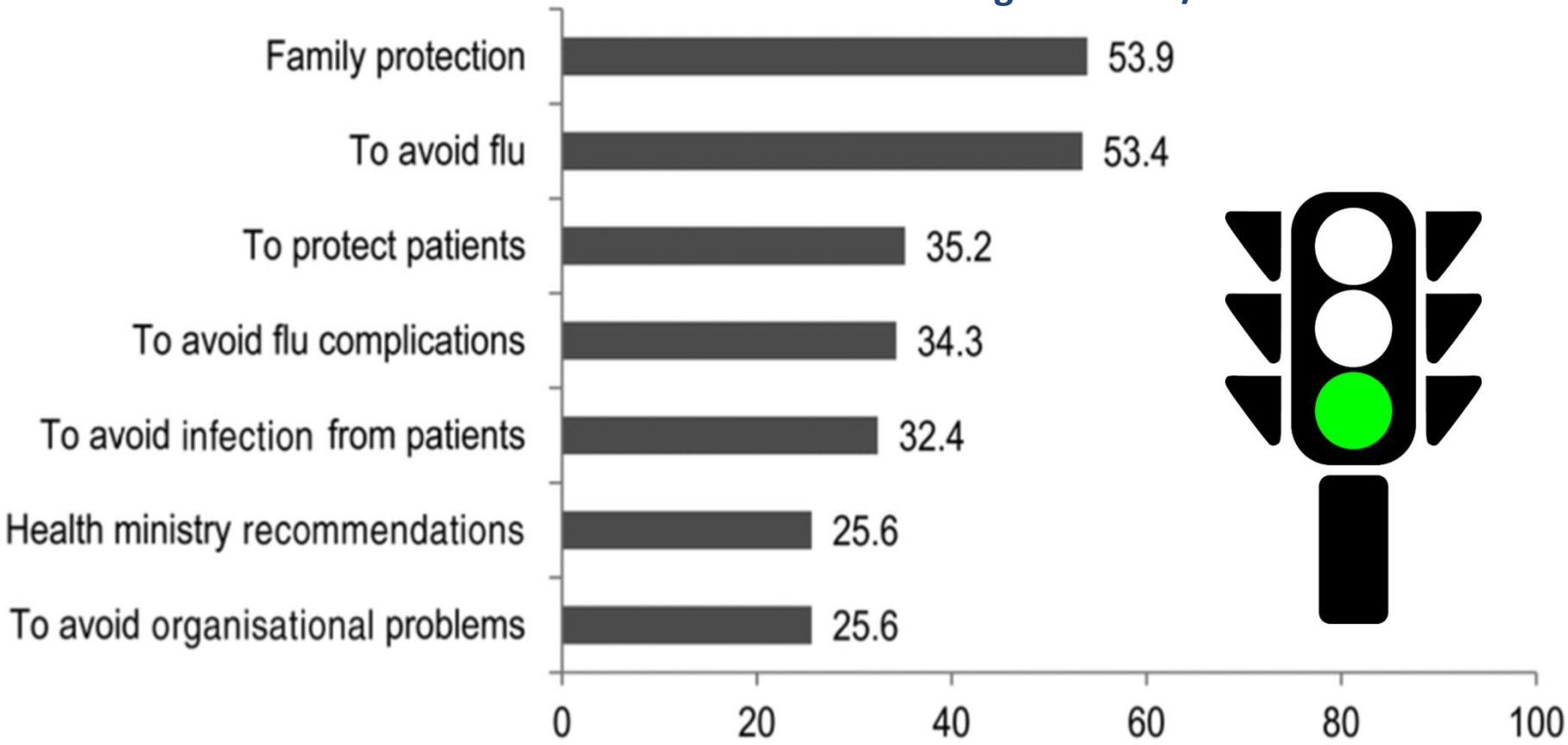
**Copertura vaccinale fra gli operatori sanitari partecipanti allo studio: 26,4%**

**Motivazioni per accettare o rifiutare la vaccinazione nella stagione 2013/2014**



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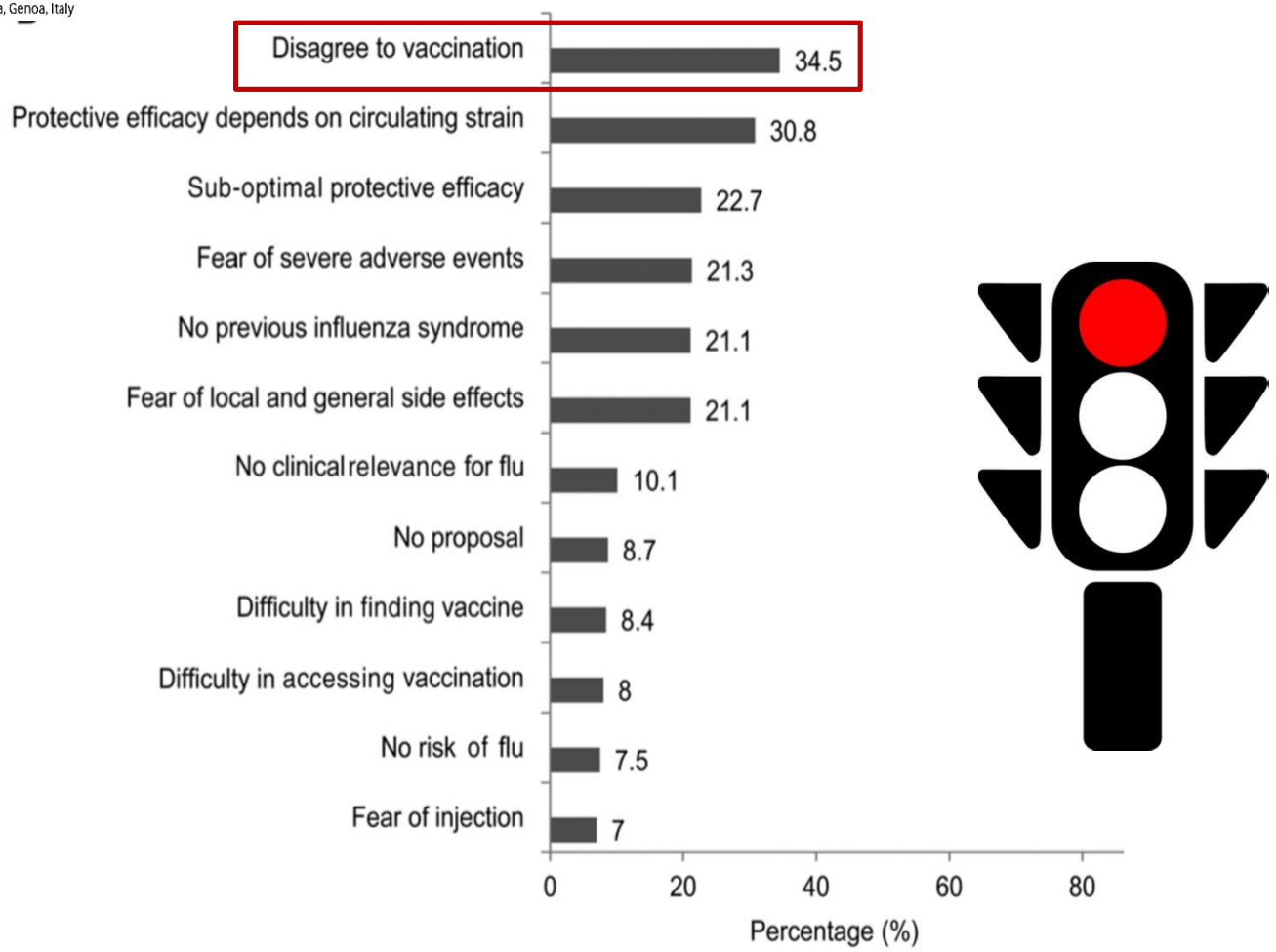
## Determinants of adherence to seasonal influenza vaccination among healthcare workers from an Italian region: results from a cross-sectional study

P Durando,[1,2] C Alicino,[1] G Dini,[1,2] I Barberis,[1,3] A M Bagnasco,[1] R Iudici,[1] M Zanini,[1] M Martini,[1] A Toletone,[1,2] C Paganino,[1,3] E Massa,[1,2] A Orsi,[1,3] L Sasso[1]

Department of Health Sciences, University of Genoa, Genoa, Italy

**Copertura vaccinale fra gli operatori sanitari partecipanti allo studio: 26,4%**

**Motivazioni per accettare o rifiutare la vaccinazione nella stagione 2013/2014**



# La vaccinazione antinfluenzale negli operatori sanitari: come superare le barriere


**Principali motivazioni *della vaccine hesitancy* fra gli operatori sanitari**

- **Preoccupazioni relative alla sicurezza dei vaccini**
- **Preoccupazioni relative ai nuovi vaccini**
- **Sfiducia nei confronti delle istituzioni sanitarie**
- **Sfiducia nei confronti delle industrie produttrici di vaccini**

# La vaccinazione antinfluenzale negli operatori sanitari: come superare le barriere

TECHNICAL REPORT

Review of the scientific literature on drivers and barriers of seasonal influenza vaccination coverage in the EU/EEA

## Evidence table: barriers and facilitators of increased flu seasonal vaccination coverage among healthcare workers

| Author and country of study | Design, quality grade, sample | Intervention and grade of evidence | Number of participants, intervention (I) and control (C) and outcomes. | Results and final conclusion |
|---|---|---|---|---|
| **Evidence statement 6:** Evidence from two observational studies suggests mandatory vaccine policies are more successful to improve rates of vaccination above 95% [16 17]. But there are ethical and legal obstacles associated with mandatory programmes. | | | | |
| Rakita, 2010 [1 U | Before and after | Mandatory vaccination | In five years, vaccination | In five years, vaccination rates have been s s It s e ar. |
| Quan et al [17] USA | Series of cross sectional surveys and a study on attitudes and beliefs N=6 414 to 6 734 (range during the 5 years) | 2006–2011 influenza seasons. Serial campaigns that include a mandatory HCP vaccination policy | 62.9%, in year two 86.7%, year four 91.2%, year five | Vaccination rate peaked at 62.9% in year two. In year four, mandatory vaccination was introduced as was a measurement/feedback component. In year five, more measurement and feedback was introduced. Non-compliance is recorded on declination forms. Year four vaccination rates were 86.7%, year five vaccination rates were 91.2%. |

**Evidence statement 6:**
**Evidence from two observational studies suggests mandatory vaccine policies are more successful to improve rates of vaccination above 95% [16 17]. But there are ethical and legal obstacles associated with mandatory programmes.**

# La vaccinazione antinfluenzale negli operatori sanitari: obbligatoria?

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Vaccine

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## Vaccination of health care workers against influenza: Is it time to think about a mandatory policy in Europe?

Sabine Wicker[a,*], Georg Marckmann[b,1]

[a] Occupational Health Service, University Hospital Frankfurt, Goethe University, Theodor-Stern-Kai 7, 60590 Frankfurt am Main, Germany
[b] Ludwig-Maximilians-University, Munich, Department of Medical Ethics, Lessingstrasse 2, 80336 Munich, Germany

After three decades of official recommendations that all HCWs be vaccinated against influenza, vaccination rates generally remain below 30% in Europe.

Experiences in the USA have shown that mandatory policies achieve a compliance rate of nearly 100%

Given the available evidence concerning the benefits, burdens and risks of HCWs influenza vaccination and the limited effectiveness of voluntary policies, it is time to consider mandatory vaccination policies for HCWs in Europe?

# La vaccinazione antinfluenzale negli operatori sanitari: obbligatoria?

*"There are many ways to apply the medical literature. For me it starts with the premise that health care workers may not injure a human being or, through inaction, allow a human being to come to harm."*

Mark Crislip on March 3, 2017


GRAZIE PER
L'ATTENZIONE