

Convegno
**Vaccinazioni
in Medicina del Lavoro**

19 maggio 2017

Crediti formativi ECM-CPD pre assegnati n. 3,5



Auditorium Lucio Parenzan
ASST Papa Giovanni XXIII
Piazza OMS, 1 - 24127 Bergamo



Con il patrocinio di



II° SESSIONE

Esperienze di ricerca applicata



Guglielmo Dini

Dipartimento Scienze della Salute
Scuola di Specializzazione in Medicina del Lavoro
Università degli Studi di Genova
UO Medicina del Lavoro
Ospedale Policlinico San Martino di Genova

Flu and HCWs: 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



Influenza A/H1N1/2009 outbreak in a neonatal intensive care unit

V. Tsagris^{a,*}, A. Nika^a, D. Kyriakou^a, I. Kapetanakis^a, E. Harahousou^a,
F. Stripeli^a, H. Maltezou^b, M. Tsolia^a

Background: Outbreaks of influenza A/H1N1/2009 have been reported only rarely. Annual vaccination against seasonal influenza is recommended for staff as the source of nosocomial outbreaks has been identified. **Aim:** To report an outbreak of influenza A/H1N1/2009 in a NICU that resulted in considerable morbidity.

Methods: When the first influenza case was identified, a cohort study was conducted and control measures were implemented to reduce the risk of infection throughout the NICU. Neonates who developed influenza were treated with oseltamivir, and exposed neonates were given prophylaxis with oseltamivir.

Findings: Two infected infants who were immature by gestational age and birth weight developed pneumonitis requiring respiratory support, and a third full-term neonate had a mild uncomplicated illness. No significant adverse effects were noted during antiviral treatment or prophylaxis. The investigation identified infected HCWs as the likely source of the outbreak. There was a very low influenza vaccination rate of 15% among nursing staff.

Conclusion: Nosocomial influenza can cause considerable morbidity, especially in high risk neonates, and is readily transmissible in the NICU setting by unvaccinated staff members who contract influenza. To prevent outbreaks, in addition to infection control measures, the implementation of HCW vaccination is very important. Oseltamivir treatment was well-tolerated even among premature infants and appeared to be effective, because 3 neonates with influenza had complete recovery and only one of those who received prophylaxis developed the infection.

Nonvaccinated staff members who developed influenza were the likely source of the outbreak which caused considerable morbidity among the affected neonates....
Less than 15% of the nursing staff was immunized against influenza!



Ministero della Salute

DIREZIONE GENERALE DELLA PREVENZIONE SANITARIA
Ufficio 5 Prevenzione delle Malattie Trasmissibili e Profili Internazionali

**Prevenzione e controllo dell'influenza:
raccomandazioni per la stagione 2016-2017**

Elenco delle categorie per le quali la vaccinazione stagionale è raccomandata

	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 broncopulmonare, la fibrosi cistica e la broncopatia cronico ostruttiva-BPCO) b) malattie dell'apparato cardio-circolatorio, comprese le cardiopatie congenite e acquisite c) diabete mellito e altre malattie metaboliche (inclusi gli obesi con BMI >30) d) insufficienza renale/surrenale cronica e) malattie degli organi emopoietici ed emoglobinopatie f) tumori g) malattie congenite o acquisite che comportino carenza di anticorpi, immunosoppressione indotta da farmaci o da HIV h) malattie infiammatorie croniche e sindromi da malassorbimento intestinale i) patologie per le quali sono programmati importanti interventi chirurgici j) patologie associate a un aumentato rischio di aspirazione delle secrezioni respiratorie (ad es. malattie neuromuscolari) k) epatopatie croniche
3	Bambini e adolescenti in trattamento a lungo termine con acido acetilsalicilico, a rischio di Sindrome di Reye in caso di infezione influenzale.	
4	Donne che all'inizio della stagione epidemica si trovino nel secondo e terzo trimestre di gravidanza.	
5	Individui di qualunque età ricoverati presso strutture per lungodegenti.	
6	Medici e personale sanitario di assistenza.	
7	Familiari e contatti di soggetti ad alto rischio.	
8	Soggetti addetti a servizi pubblici di primario interesse collettivo e categorie di lavoratori	a) Forze di polizia b) Vigili del fuoco c) Altre categorie socialmente utili potrebbero avvantaggiarsi della vaccinazione, per motivi vincolati allo svolgimento della loro attività lavorativa; a tale riguardo, è facoltà delle Regioni/PP.AA. definire i principi e le modalità dell'offerta a tali categorie. d) Infine, è pratica internazionalmente diffusa l'offerta attiva e gratuita della vaccinazione antinfluenzale da parte dei datori di lavoro ai lavoratori particolarmente esposti per attività svolta e al fine di contenere ricadute negative sulla produttività.
9	Personale che, per motivi di lavoro, è a contatto con animali che potrebbero costituire fonte di infezione da virus influenzali non umani	a) allevatori b) addetti all'attività di allevamento c) addetti al trasporto di animali vivi d) macellatori e vaccinatori e) veterinari pubblici e libero-professionisti

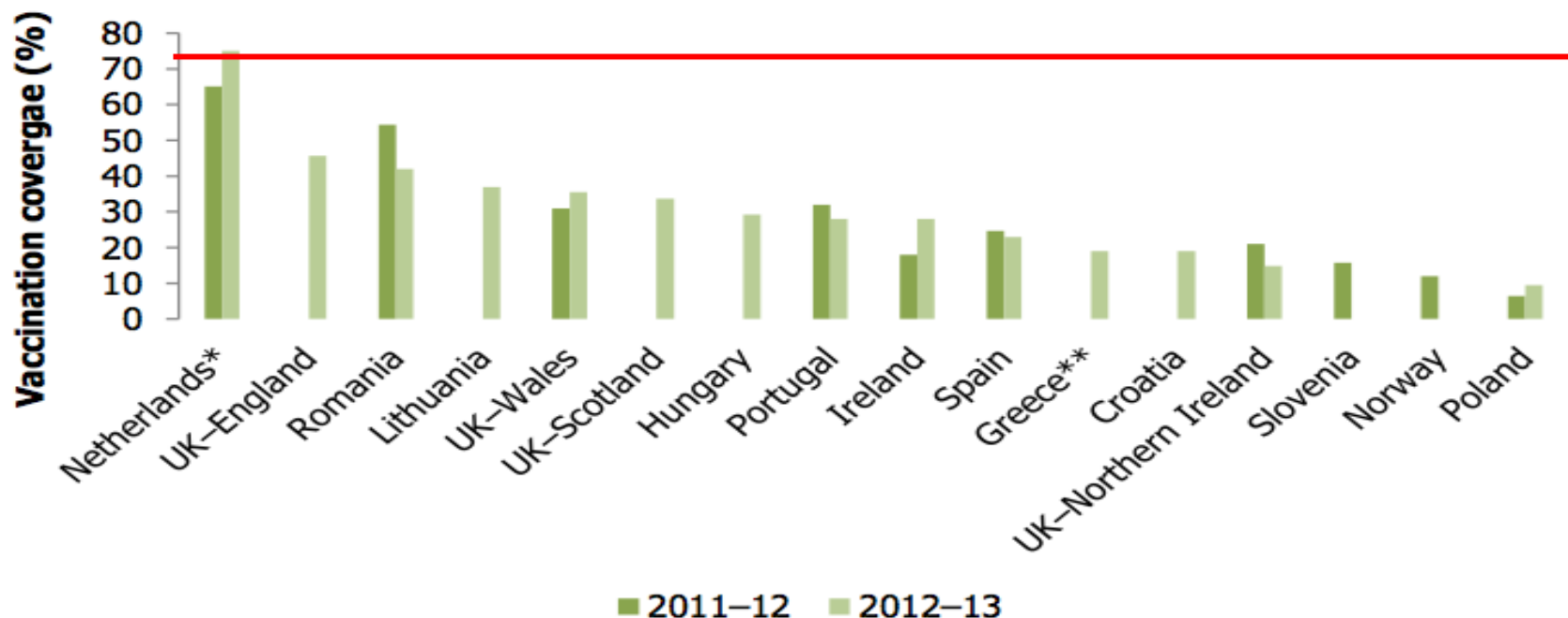


TECHNICAL REPORT

Seasonal influenza vaccination in Europe

Overview of vaccination recommendations and coverage rates in the EU Member States for the 2012–13 influenza season

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

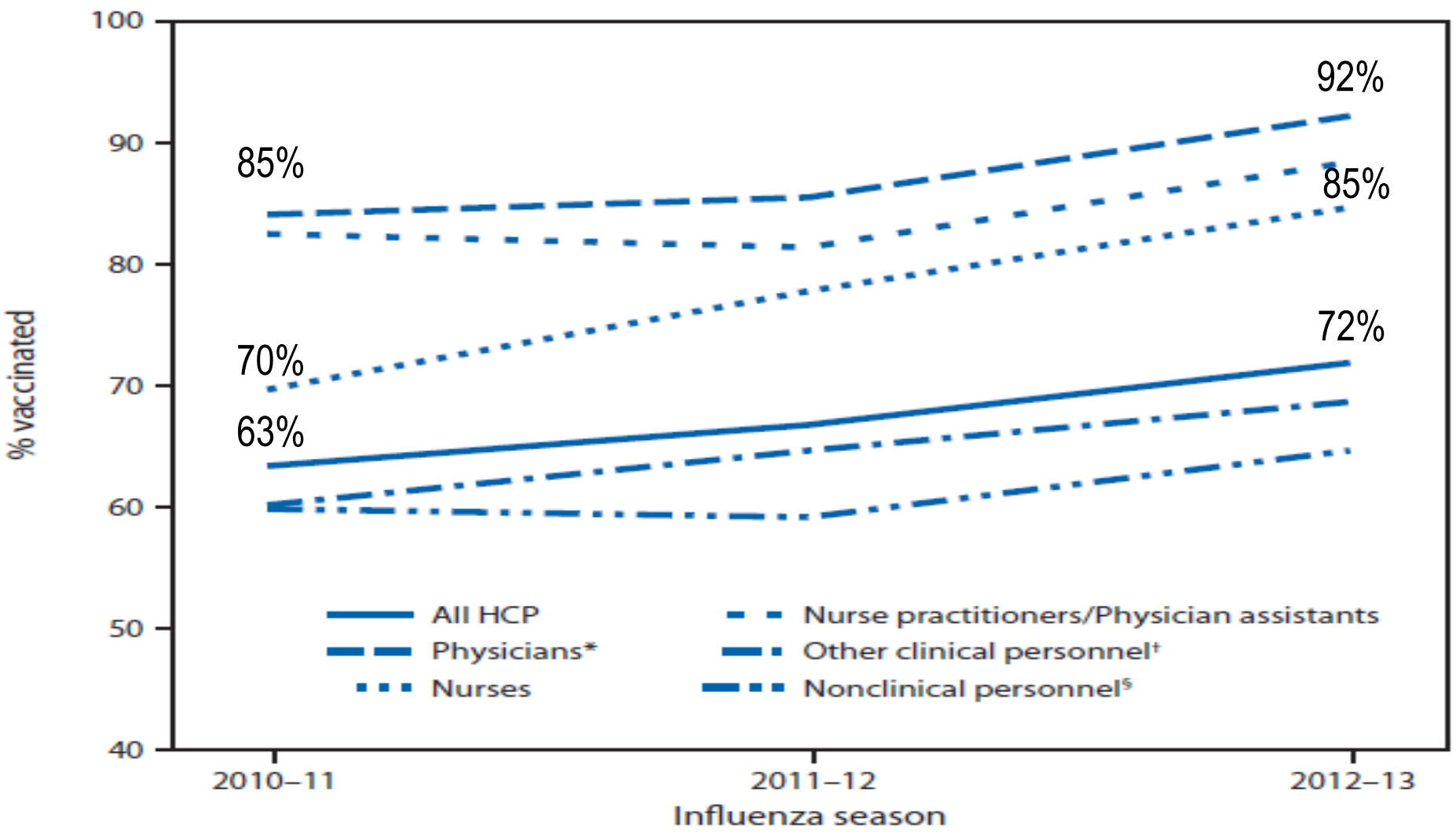


Source: National seasonal influenza vaccination survey, March 2014

* 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

Percentage of health-care personnel who received influenza vaccination, by occupation type — Internet panel survey, United States, 2010–11, 2011–12, and 2012–13 influenza seasons



Centers for Disease Control and Prevention (CDC). Influenza vaccination coverage among health-care personnel--United States, 2012-13 influenza season. MMWR Morb Mortal Wkly Rep. 2013 Sep 27;62(38):781-6.

Priorità in tema di vaccinazione influenzale negli operatori sanitari

Si raccomanda, pertanto, di promuovere fortemente la vaccinazione antinfluenzale di tutti gli operatori sanitari, con particolare riguardo a quelli che prestano assistenza diretta nei reparti a più elevato rischio di acquisizione/trasmissione dell'infezione **e l'accurato monitoraggio da parte delle Aziende sanitarie delle relative coperture vaccinali raggiunte.**

In particolare, nei seguenti reparti:

**pronto soccorso
terapie intensive
oncologie
ematologie
cardiologie
chirurgie
residenze sanitarie assistenziali**



Influenza vaccination among healthcare workers in Italy

the experience of a large tertiary acute-care teaching
hospital

Cristiano Alicino^{1,*}, Rocco Iudici¹, Ilaria Barberis¹, Chiara Paganino¹, Roberto Cacciani¹, Monica Zacconi¹, Angela Battistini¹, Dorotea Bellina¹, Anna Maria Di Bella¹, Antonella Talamini¹, Laura Sticchi¹, Alessandra Morando², Filippo Ansaldi¹, and Paolo Durando¹

¹Department 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; ²Medical Directory of the I.R.C.C.S.; University Hospital San Martino; IST National Institute for Cancer Research; Genoa, Italy

Since 2005/06 season, a comprehensive multifaceted intervention project aimed at increasing the seasonal influenza vaccination coverage rates among HCWs was performed at the IRCCS AOU San Martino IST teaching hospital in Genoa, Italy

Regional tertiary adult acute-care reference center with
a 1300 bed capacity and more than 3400 HCWs



IRCCS Azienda Ospedaliera Universitaria San Martino – IST
Istituto Nazionale per la Ricerca sul Cancro
Largo Rosanna Benzi, 10 16132 GENOVA

DIPARTIMENTO DI SCIENZE DELLA SALUTE

**INIZIA LA CAMPAGNA DI OFFERTA ATTIVA DELLA VACCINAZIONE
ANTINFLUENZALE**

STAGIONE 2015-2016
PER OPERATORI SANITARI E DIPENDENTI AZIENDALI

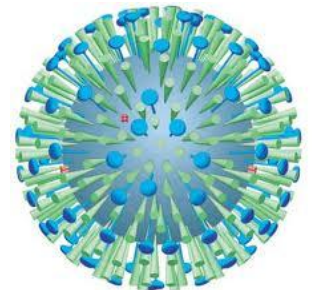
**PROTEGGI TE STESSO
E IL TUO PAZIENTE!**

LE VACCINAZIONI POTRANNO ESSERE EFFETTUATE PRESSO:

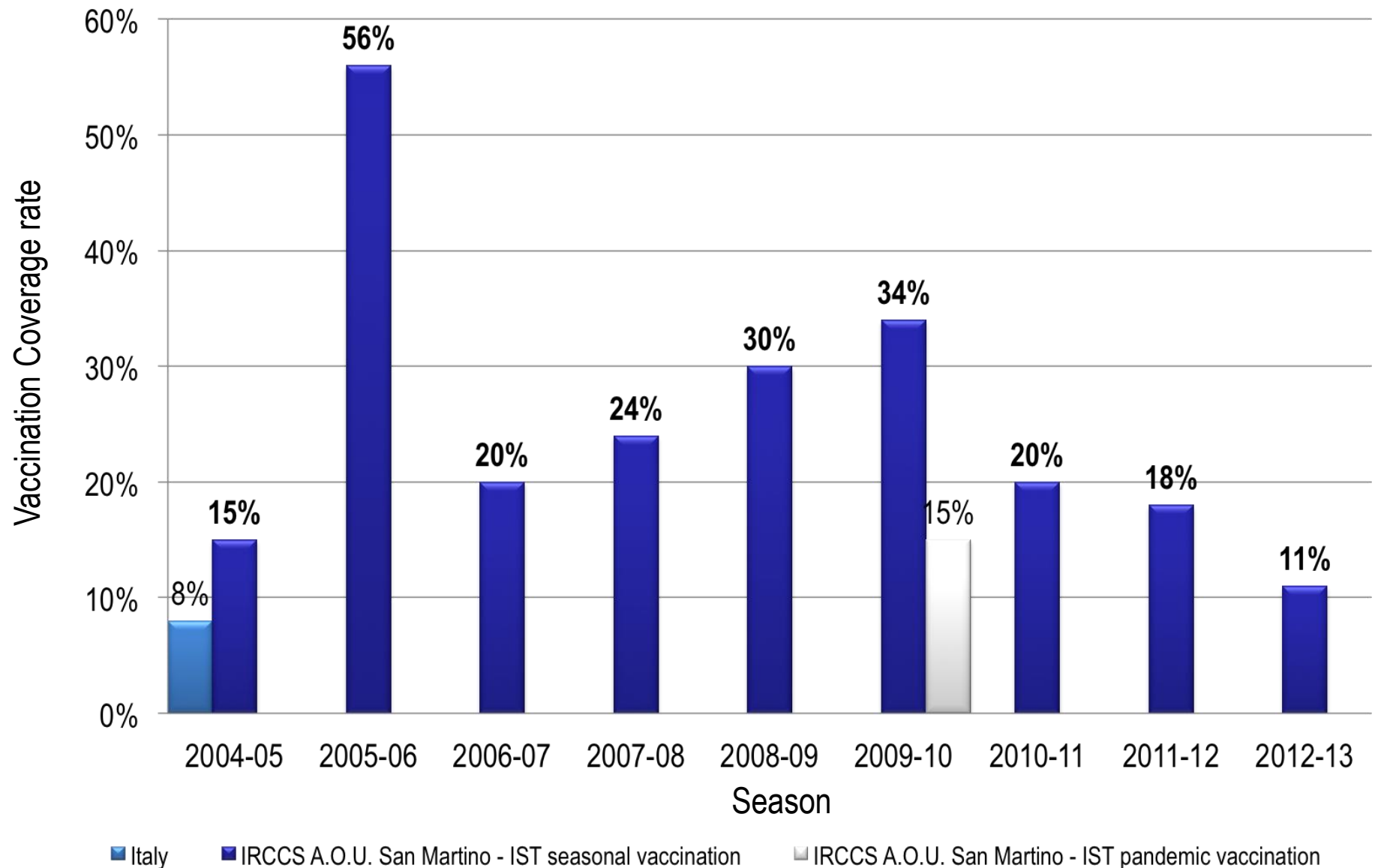
➤ **U.O. DI APPARTENENZA**

➤ **U.O. IGIENE e U.O. MEDICINA DEL LAVORO Ambulatori Pad. 3 L.go R. Benzi 10 Genova**

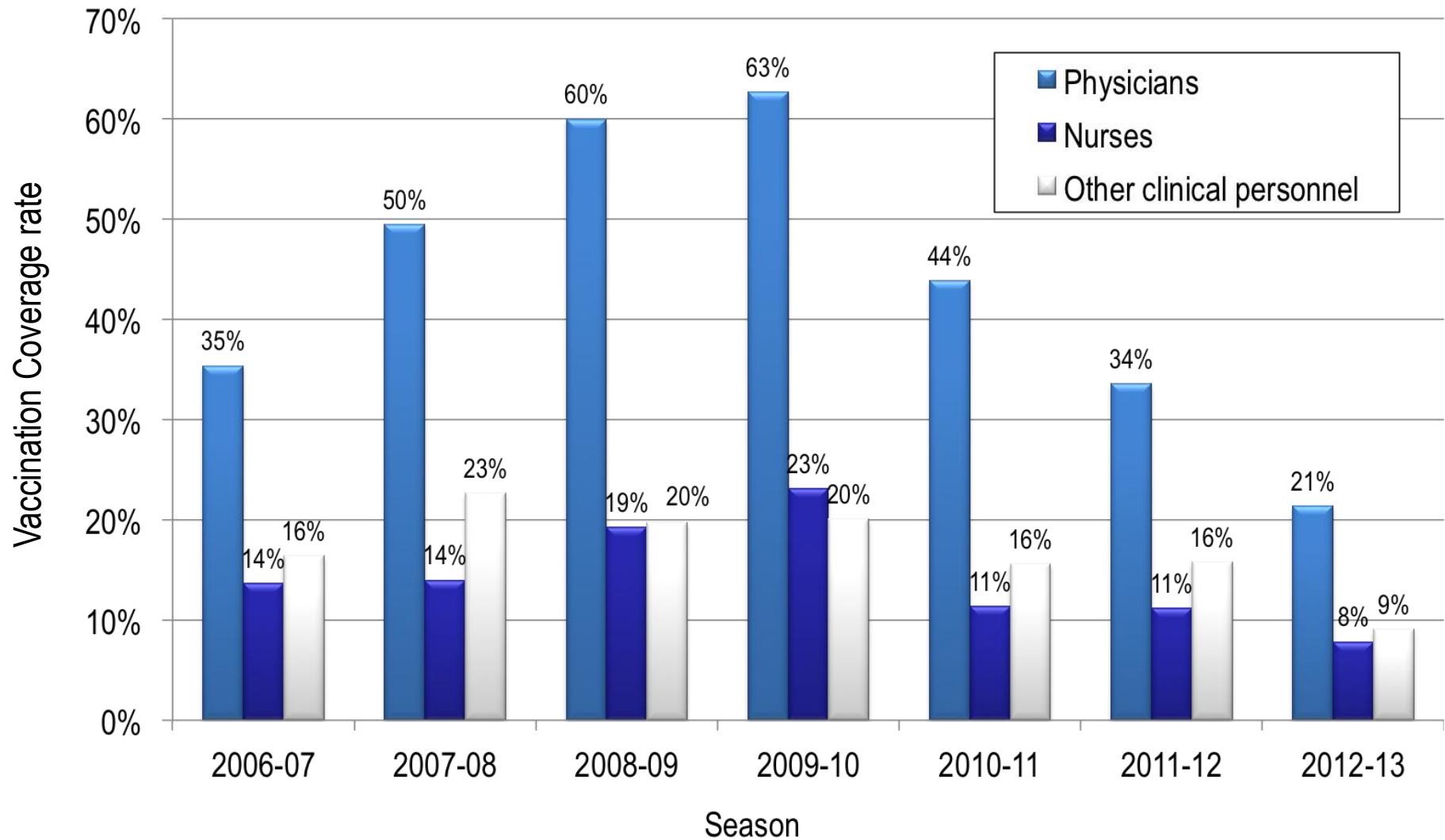
Lunedì- Venerdì orario 8,15-13,00 14,00-16,30



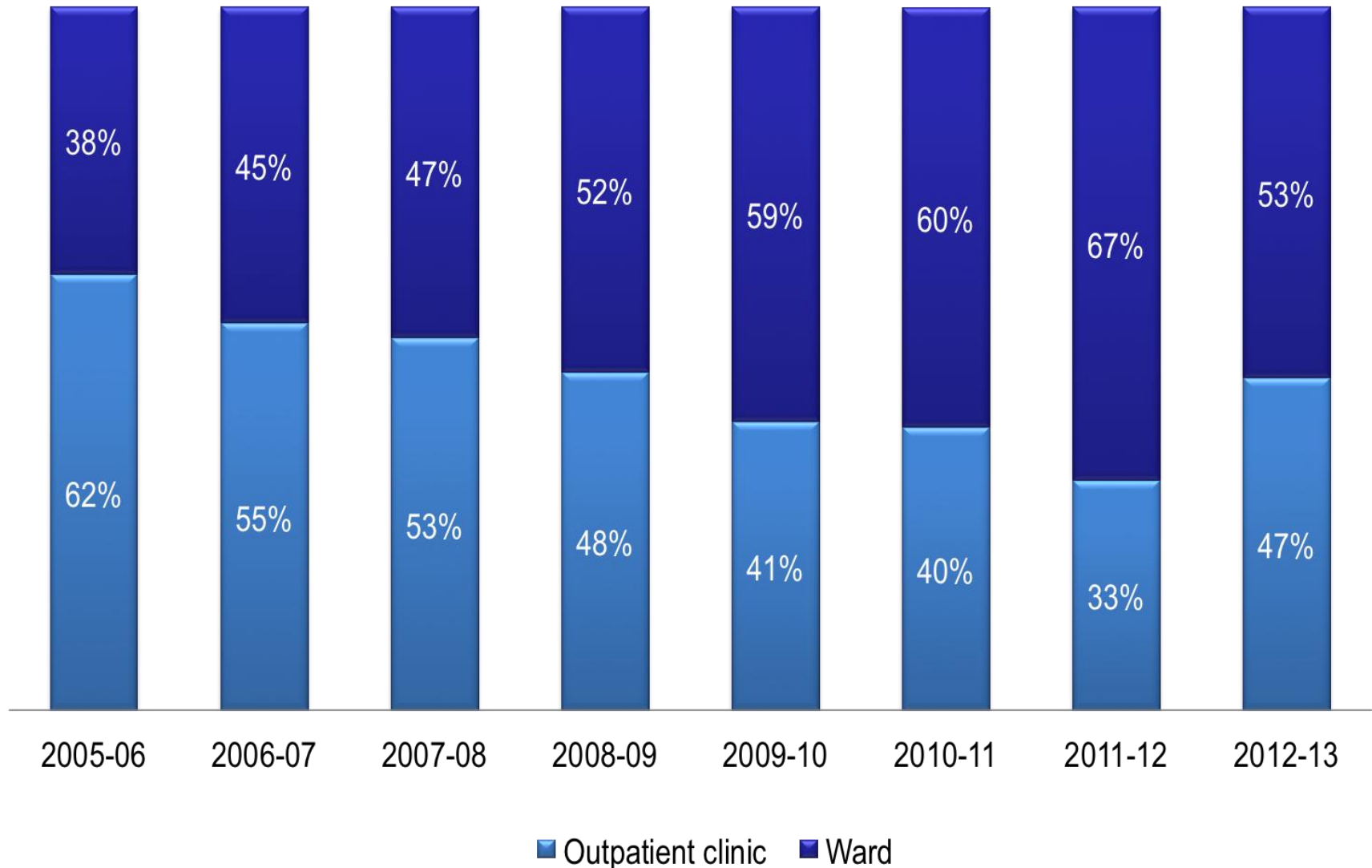
Vaccination coverage rates among healthcare workers of IRCCS AOU San Martino – IST of Genoa during 8 consecutive seasons

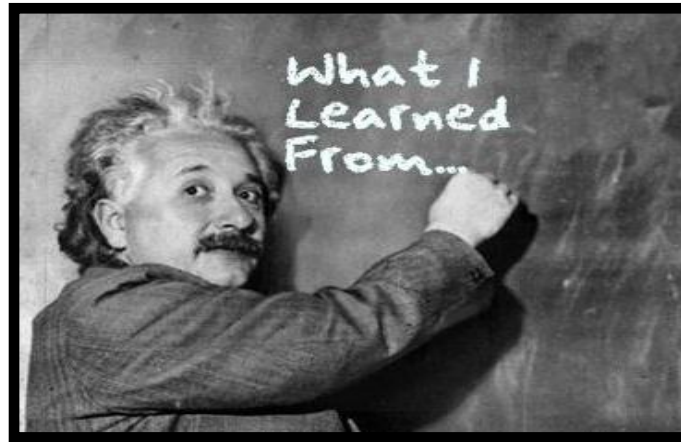


Vaccination coverage rates among healthcare workers of IRCCS AOU San Martino – IST of Genoa during 8 consecutive seasons according to occupation type



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





hopefully.....

Principali interventi di provata efficacia in ambiente ospedaliero per aumentare la *compliance* alla vaccinazione influenzale negli operatori sanitari

La combinazione d'interventi di tipo organizzativo, educativo e promozionale, all'interno di una strategia *multi-tasking*, tra cui:

- la disponibilità e gratuità del vaccino
- la presenza di personale dedicato all'organizzazione del servizio vaccinale
- la promozione della vaccinazione tra pari
- l'utilizzo d'incentivi/disincentivi economici
- utilizzo del dissenso alla vaccinazione / di requisiti specifici (es., per area specialistica)

Pilot project in the high risk wards at the IRCCS AOU San Martino IST of Genoa, Italy (2013-2014 season)

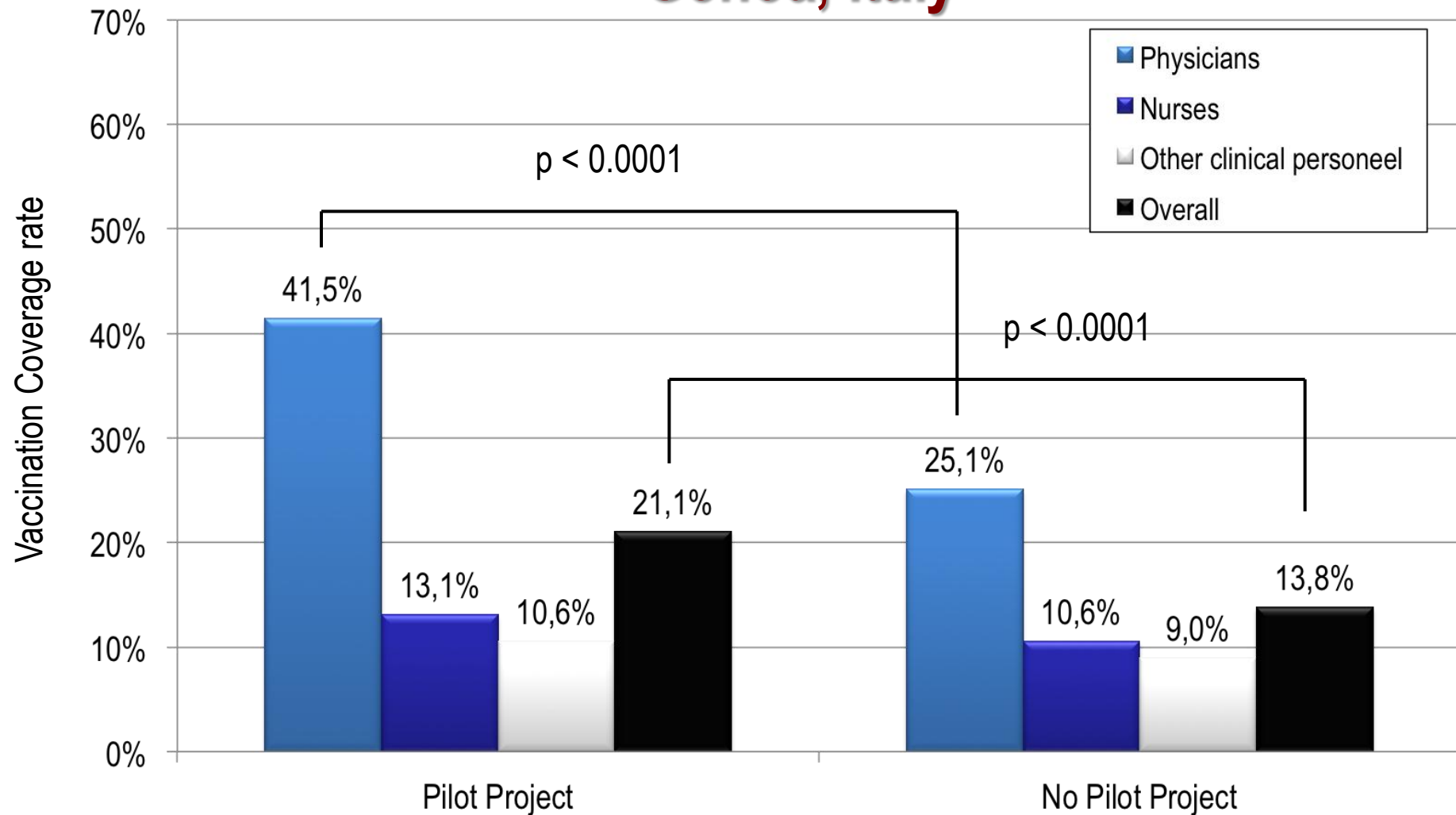
Objective: Improve immunization coverage for influenza in the healthcare workers of high risk wards for nosocomial transmission of influenza.

Methods. Medical and nursing staff of the Hygiene Unit and the Occupational 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.

Results of the Pilot project in the high risk wards at the IRCCS AOU San Martino IST of Genoa, Italy



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}

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^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, is it time to consider mandatory vaccination policies for HCWs in Europe?

Knowledge and Risk Perception are important predictors of flu vaccination and should be a target for campaigns to promote uptake in HCWs

Herzog et al. *BMC Public Health* 2013, **13**:154
<http://www.biomedcentral.com/1471-2458/13/154>



RESEARCH ARTICLE

Open Access

Are healthcare workers' intentions to vaccinate related to their knowledge, beliefs and attitudes? a systematic review

Raúl Herzog¹, M^a José Álvarez-Pasquin^{1,2*}, Camino Díaz¹, José Luis Del Barrio³, José Manuel Estrada⁴ and Ángel Gil³

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY SEPTEMBER 2012, VOL. 33, NO. 9

ORIGINAL ARTICLE

Innovative Approaches for Understanding Seasonal Influenza Vaccine Declination in Healthcare Personnel Support Development of New Campaign Strategies

Tamara M. Schult, MPH;¹ Ebi R. Awosika, MD, MPH;^{1,2} Michael J. Hodgson, MD, MPH;¹
Pamela R. Hirsch, NP-C, Med, MS;¹ Kristin L. Nichol, MD, MPH, MBA;^{2,3}
Sue R. Dyrenforth, PhD;⁴ Scott C. Moore, PhD⁴

American Journal of Infection Control 42 (2014) 288-93



Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org



Major article

The impact of influenza vaccination requirements for hospital personnel in California: Knowledge, attitudes, and vaccine uptake

Katherine M. Harris PhD^{a,*}, Lori Uscher-Pines PhD^a, Bing Han PhD^b,
Megan C. Lindley MPH^c, Suchita A. Lorick DO, MPH^c

Human Vaccines & Immunotherapeutics 9:12, 2603–2612; December 2013; © 2013 Landes Bioscience

RESEARCH PAPER

Predictive factors associated with the acceptance of pandemic and seasonal influenza vaccination in health care workers and students in Tuscany, Central Italy

Guglielmo Bonaccorsi¹, Chiara Lorini^{2,*}, Francesca Santomauro², Silvia Guarducci³, Elettra Pellegrino³, Francesco Puggelli³, Marta Balli³, and Paolo Bonanni²

¹Department of Clinical and Experimental Medicine; University of Florence; Florence, Italy; ²Department of Health Science; University of Florence; Florence, Italy; ³School of Specialization in Hygiene and Preventive Medicine; University of Florence; Florence, Italy

Cozza et al. *BMC Public Health* (2015) 15:697
DOI 10.1186/s12889-015-2067-9



RESEARCH ARTICLE

Open Access



Promotion of influenza vaccination among health care workers: findings from a tertiary care children's hospital in Italy

Vanessa Cozza^{1,2}, Valeria Alfonsi³, Maria Cristina Rota³, Valerio Paolini² and Marta Luisa Ciofi degli Atti^{4*}

Epidemiol. Infect. (2012), **140**, 1569–1577. © Cambridge University Press 2011
doi:10.1017/S0950268811002214

Seasonal influenza vaccination knowledge, risk perception, health beliefs and vaccination behaviours of nurses

J. ZHANG¹, A. E. WHILE^{2*} AND I. J. NORMAN²

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 Sasso¹

Received 7 December 2015

Revised 21 March 2016

Accepted 22 March 2016

Razionale e obiettivi

La vaccinazione antinfluenzale è raccomandata da anni dal Ministero della salute a tutti gli operatori sanitari: nonostante ciò, le coperture vaccinali sono ancora largamente subottimali (10-20%).

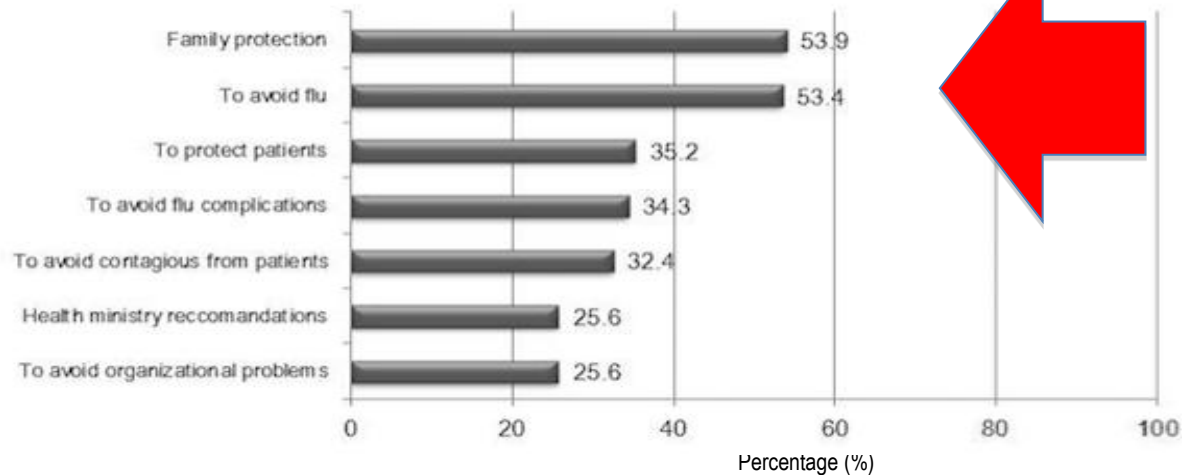
Principali finalità dello studio sono state (i) monitorare le CV(%), (ii) indagare le conoscenze, le convinzioni e i comportamenti relativamente all'influenza e alla vaccinazione antinfluenzale negli operatori sanitari, nonché (iii) identificare i principali determinanti positivi e negativi associati alla vaccinazione.

Materiali e Metodi

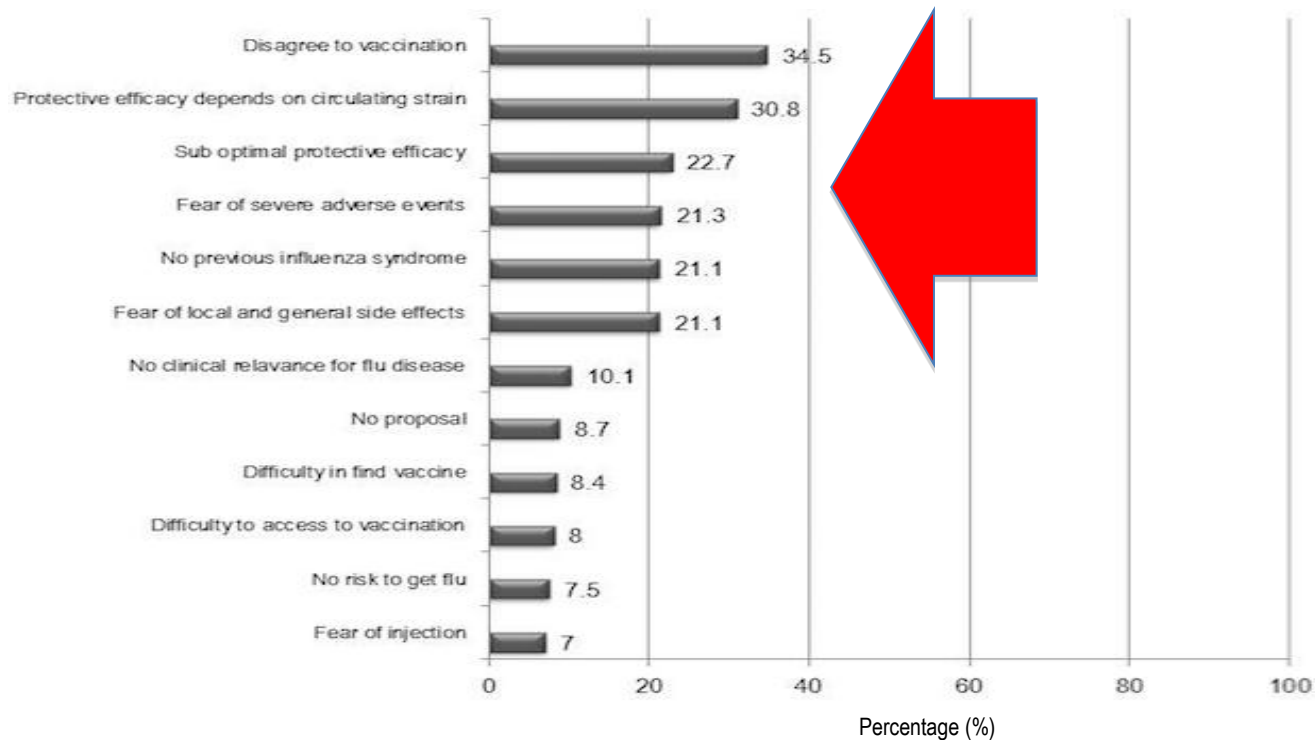
Nel periodo 2013-2014, è stato somministrato via web a personale sanitario dell'IRCCS San Martino e dell'ASL 3 Genovese un questionario strutturato e compilabile in forma anonima, composto da 29 domande a risposta chiusa allo scopo d'indagare, nel periodo 2009-2014:

- caratteristiche socio-demografiche della popolazione in studio
- conoscenze epidemiologiche sull'influenza
- sicurezza ed efficacia dei vaccini disponibili
- convinzioni riguardo alle vaccinazioni in generale e a quella influenzale in particolare
- comportamenti in termini di aderenza alla vaccinazione influenzale nel periodo monitorato e relative motivazioni della scelta

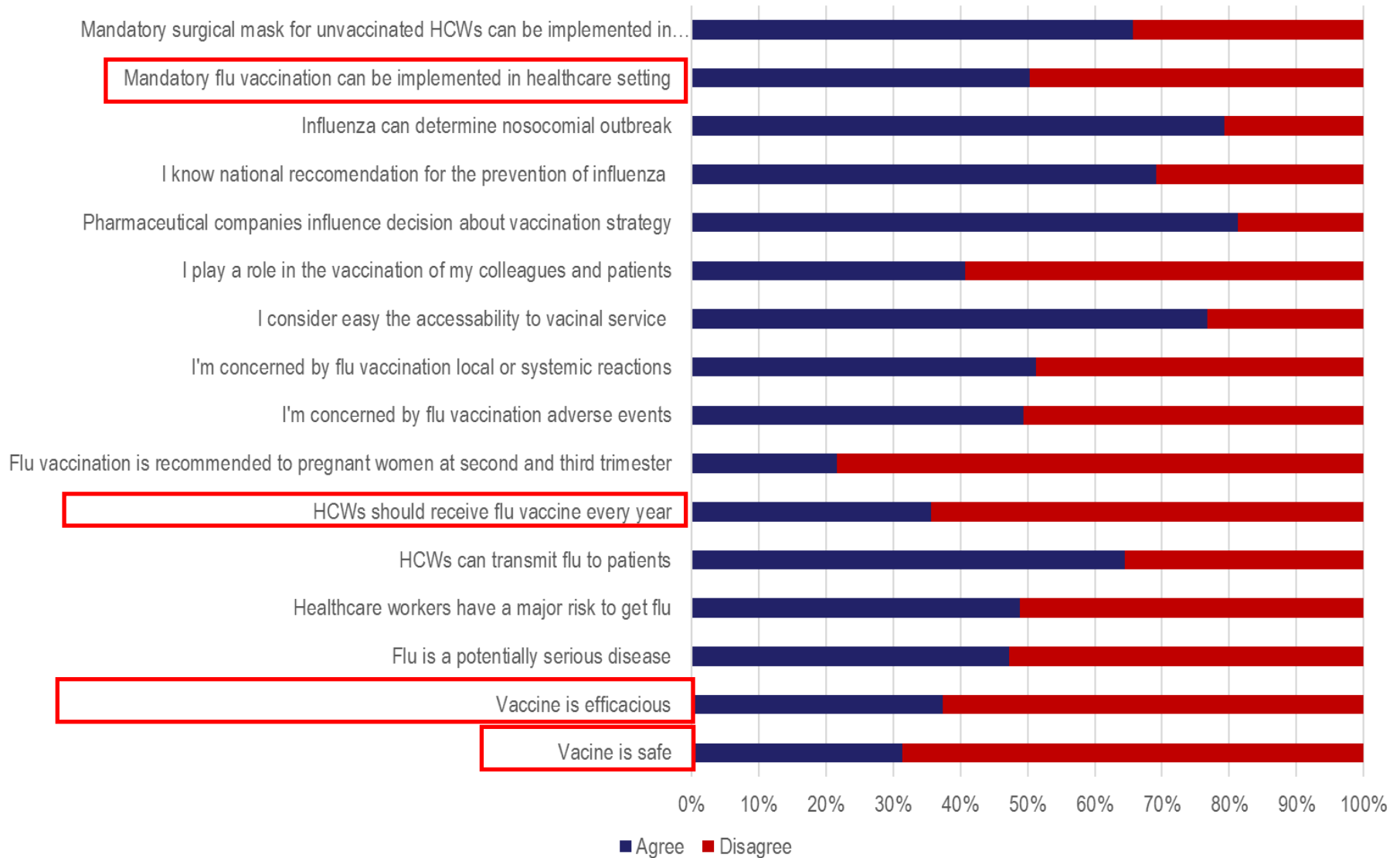
Reasons to have been vaccinated during 2013/2014 season



Reasons to have been not vaccinated during 2013/2014 season



Conoscenze e convinzioni della popolazione in studio durante le sei stagioni influenzali analizzate



Factors independently associated with seasonal influenza vaccination uptake in the 2013/2014 season at multivariate logistic regression analysis

Variables	OR (IC 95%)	P-value
Occupational category (Medical Doctors vs Other Healthcare Workers)	2.56 (1.39 – 4.73)	0.003
Vaccine is safe (Agree vs Disagree)	3.61 (2.35 – 5.56)	<0.001
Healthcare workers have a higher risk to get flu (Agree vs Disagree)	1.61 (1.05 – 2.47)	0.03
Healthcare workers should receive flu vaccine every year (Agree vs Disagree)	3.07 (1.99 – 4.74)	<0.001
I believe that pharmaceutical companies influence decision about vaccination strategy (Agree vs Disagree)	0.35 (0.22 – 0.57)	<0.001

Factors independently associated with the number of seasonal influenza vaccination uptakes from 2008/2009 to 2013/2014 seasons at multivariate Poisson regression analysis

Variables	IRR (IC 95%)	P-value
Level of education (Degree vs No degree)	1.14 (1.05 – 1.23)	<0.001
Occupational category (Medical Doctors vs Other Healthcare Workers)	1.17 (1.07 – 1.24)	<0.001
At least one chronic disease (Yes vs No)	1.18 (1.1 – 1.35)	<0.001
Vaccine is safe (Agree vs Disagree)	1.39 (1.29 – 1.48)	<0.001
Healthcare workers have a higher risk to get flu (Agree vs Disagree)	1.11 (1.04 – 1.18)	0.002
Healthcare workers should receive flu vaccine every year (Agree vs Disagree)	1.47 (1.37 – 1.58)	<0.001
I consider the vaccine service and flu vaccine easily accessible (Agree vs Disagree)	1.13 (1.05 – 1.22)	<0.001
I believe that mandatory flu vaccination can be implemented in healthcare setting (Agree vs Disagree)	1.22 (1.14 – 1.31)	<0.001

Influenza vaccination in healthcare workers: a comprehensive critical appraisal of the literature

Guglielmo Dini, Alessandra Toletone, Emanuela Massa, Alfredo Montecucco,
Nicola Luigi Bragazzi, Paolo Durando

Manuscript #	2016HV0522
Current Revision #	0
Submission Date	2017-04-21 15:26:42
Current Stage	Under Review
Title	Influenza vaccination in health care workers: a comprehensive critical appraisal of the literature
Running Title/Tweet Title	Influenza vaccination in health care workers
Manuscript Type	Reviews - Solicited
Commissioned Due Date	2017-04-15
Special Section	2017 Influenza Vaccines
Corresponding Author	Prof. Paolo Durando (University of Genoa)
Contributing Authors	Guglielmo Dini , Alessandra Toletone , Emanuela Massa , Alfredo Montecucco , Nicola Luigi Bragazzi
Abstract	Influenza imposes a significant burden worldwide under healthcare and socio-economic view point. This is also due to suboptimal vaccination coverage among the target population, even though immunization is recommended since many years and still remains the fundamental tool for its prevention. Healthcare workers (HCWs) are at increased risk of exposure to respiratory pathogens compared to the general population, including flu, with potential threat for their health and for patients' safety. Nevertheless, despite recommendation for immunization of this work-category exist in most of Western Countries, inadequate flu vaccine uptake is reported during the last decade in the European area. According to recent systematic reviews investigating this topic, the main determinants of vaccine acceptance among HCWs has been largely investigated: desire for self-protection and to protect family rather than absolute disease risk or desire to protect patients represented the main drivers. On the other hand, concerns regarding safety of the vaccines resulted in decreased vaccine uptake. Moreover, influenza vaccine hesitancy among HCWs was also associated with several issues such as low risk perception, denial of the social benefit of influenza vaccination, low social pressure, lack of perceived behavioral control, negative attitude towards vaccines, not having been previously vaccinated against influenza, not having previously suffered from influenza, lack of adequate influenza-specific knowledge, lack of access to vaccination facilities, and socio-demographic variables. The topic of influenza vaccination among HCWs is challenging, full of ethical issues. Systematic reviews of randomized controlled trials (RCTs) investigating the effectiveness of interventions for improving vaccine uptake among HCWs found that combined strategies were more effective than isolate approaches. Mandatory policies are currently under debate in several countries. High-quality studies would help policy-makers and stake-holders to shape evidence-based initiatives and programs to improve the control of influenza.
Free-Form Keywords	influenza vaccination, healthcare workers, evidence-based medicine, vaccine uptake, occupational health
Subject Areas	influenza
Conflict of Interest	No, there is no conflict of interest that I should disclose, having read the above statement.
How did you hear about HV&I?	most authors of the current manuscript already published in HVI and also heard of the call for special issue edited by Prof. Dr. Susanna Esposito

Material and methods

✓ *Study design*

umbrella review: according to “Preferred Reporting Items for Systematic Reviews and Meta-analyses” (PRISMA) guidelines.

✓ *Protocol*

The study protocol was deposited in the PROSPERO database and registered as CRD42017064140.

UNIVERSITY of York
Centre for Reviews and Dissemination

PROSPERO International prospective register of systematic reviews

Influenza vaccination in healthcare workers: a comprehensive critical appraisal of the literature

Nicola Luigi Bragazzi, Guglielmo Dini, Alessandra Toletone, Emanuela Massa, Alfredo Montecucco, Paolo Durando

✓ *Search Terms*

The string used included keywords pertinent to the research question, such as “influenza”, “vaccination”, “immunization”, “beliefs”, “perceptions”, “knowledge”, “healthcare workers”, and “healthcare personnel”.

✓ *Critical appraisal*

Two independent reviewers (NLB and GD) applied the AMSTAR (“A MeaSurement Tool to Assess systematic Reviews”) checklist to each included study, and any disagreements was resolved by consensus. To avoid conflicts of interest, the paper by Maggiore *et al.* was reviewed by two different independent reviewers (NLB and EM), who were not authors of the study.

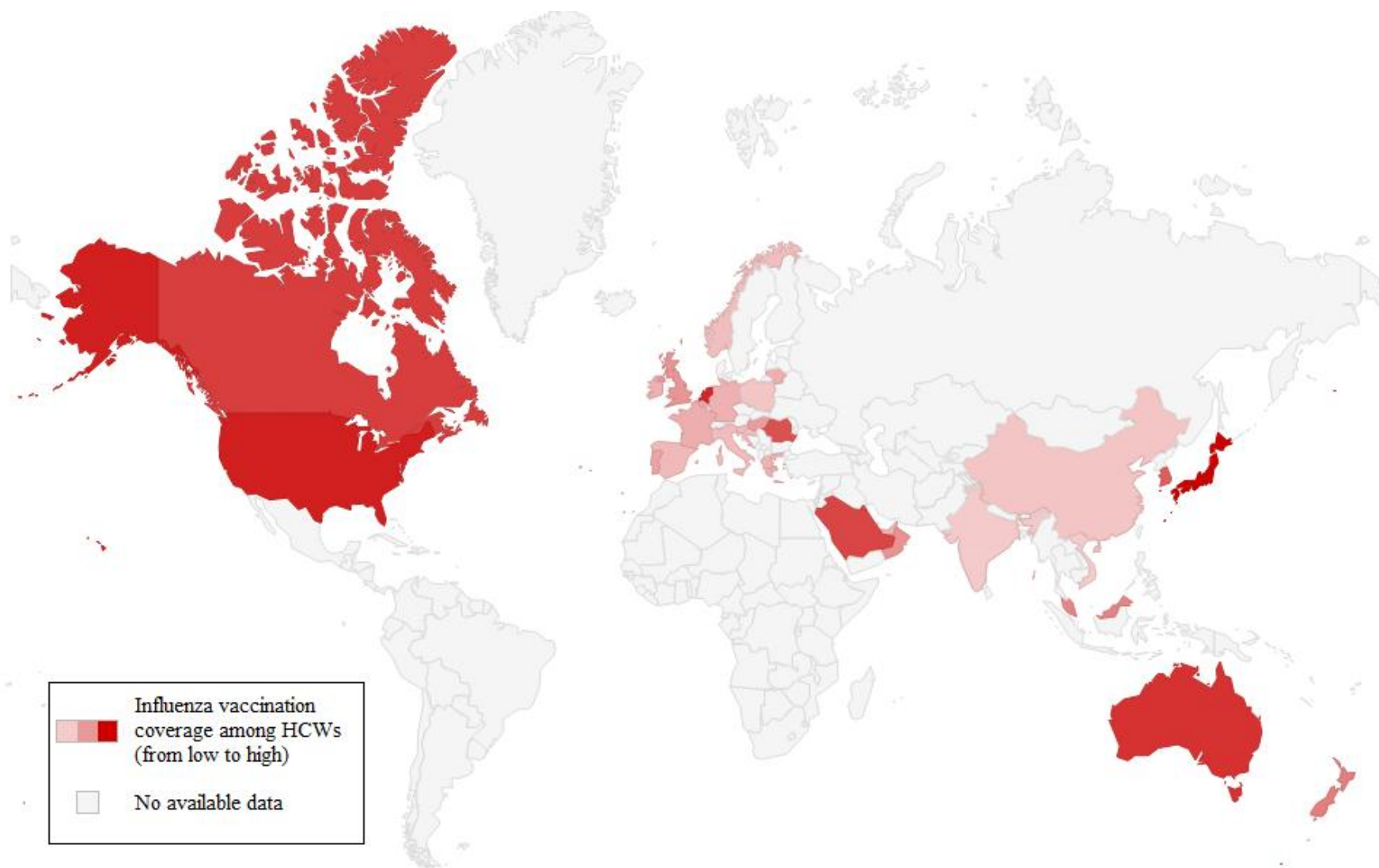
Search strategy item	Details
Inclusion criteria	P: HCWs I: strategies for improving vaccination coverage among HCWs C: vaccinated HCWs <i>versus</i> unvaccinated HCWs O: reduction in influenza cases, patient hospitalization and mortality Study design: systematic review and/or meta-analysis
Exclusion criteria	Study design: duplicated or not updated systematic review and/or meta-analysis
Time filter	None applied (from inception to 18 th April 2017)
Language filter	None applied (any language)

Main results – (I)

- Increased risk among HCWs, with a pooled prevalence rate of influenza of 6.3%.
- Low vaccination coverage among HCWs in EU (generally less than 30%) despite several recommendations. A significant difference comparing data reported in the USA *versus* EU and other countries exists

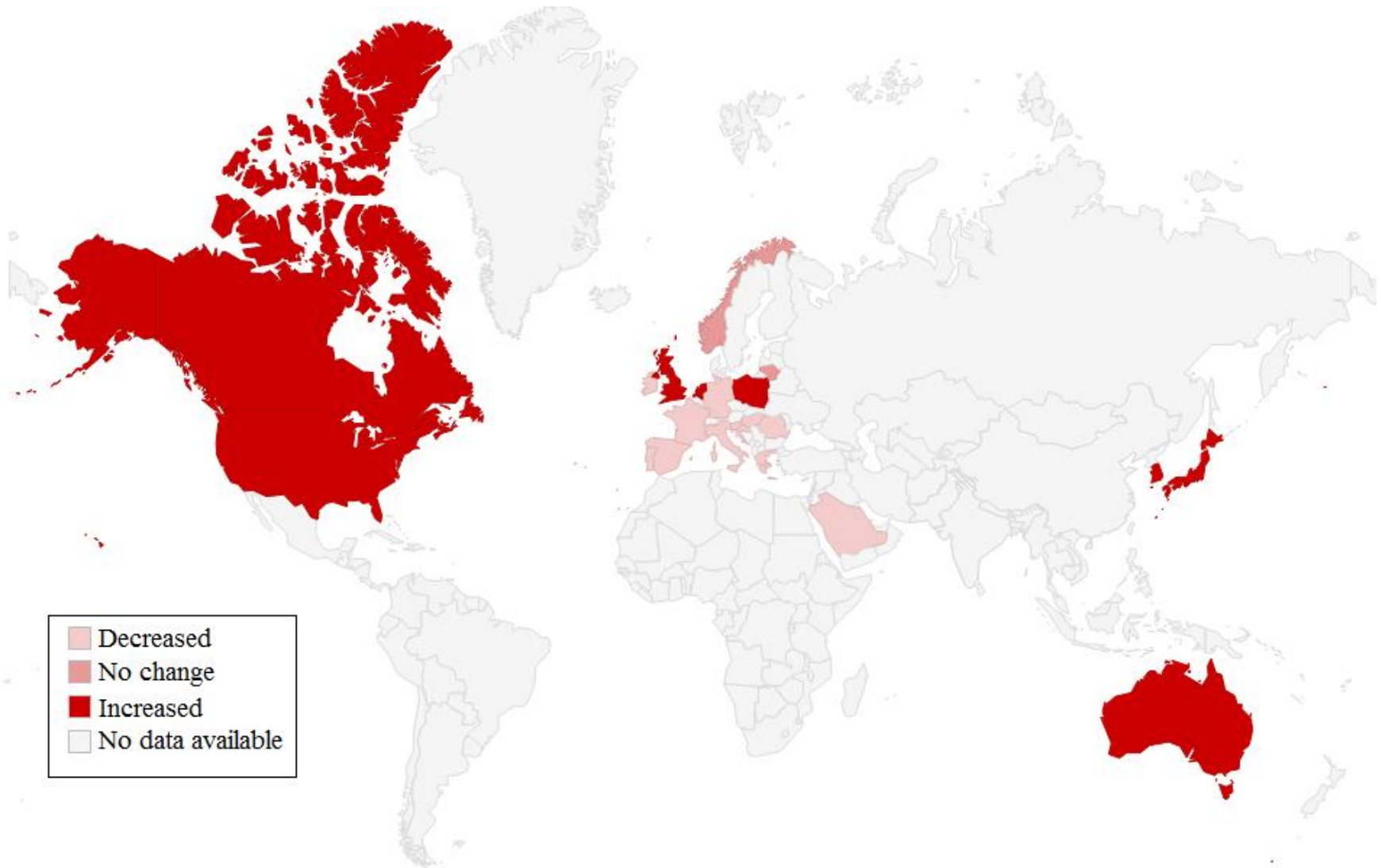
Influenza vaccination uptake among healthcare workers (2006-2015)

Adapted from (To et al., 2016)



Temporal trend of influenza vaccination uptake among healthcare workers (2006-2015)

Adapted from (To et al., 2016)



Main results – (II)

- Adherence to influenza vaccination went from 13% to 53% (with an intention to vaccinate oneself in the range 22- 83%)
- In European countries, such as United Kingdom, Germany, France, the mean of influenza vaccination prevalence ranged from 15% to 29% (9%-56% overall).
- Effectiveness of influenza vaccination among HCWs is well recognized and established, ranging from 70.5% to 90.5%, the impact of HCWs vaccination on patients' health is still a controversial:
 - On the one hand, a recent systematic review and meta-analysis carried out by the Cochrane group found a non statistically significant effect of influenza immunization.
 - On the other hand, other Authors computed that influenza vaccination among HCWs contributed to a 42% reduction in ILI episodes and a 29% reduction in patient mortality.
- Vaccination coverage declined in the post pandemic season in Europe: In Germany influenza vaccine uptake among HCWs decreased from 30.5% in the pre-pandemic season 2008/09 to 25.8% in the first post-pandemic season 2010/11. Similar reduction was observed in many other European countries.

Narrative synthesis of the main evidences emerging from the present comprehensive review of the literature about the topic of influenza vaccination among HCWs

Topic synthesized	References
Prevalence/incidence of influenza among HCWs	HCWs are a risk group
Influenza-related KABs	Higher and more favourable among medical doctors Positive KABs have increased throughout the years, even though misconceptions persist
Influenza-related risk perceptions among HCWs	Variable according to type or category of HCWs
Adherence of HCWs to influenza vaccination	Low coverage, despite recommendations In some countries have increased throughout the years Higher among medical doctors
Determinants of influenza vaccine uptake among HCWs	Extensively studied Different categories including KABs, past experiences and socio-demographic variables
Effects of influenza vaccination among HCWs on HCWs themselves	Influenza vaccination has a protective effect for HCWs
Effects of influenza vaccination among HCWs on patients	Controversial effects
Strategies for improving vaccination coverage among HCWs	Mandatory vaccination is effective in increasing vaccination coverage among HCWs Soft mandate-based programs are effective as well Multi-faceted, complex and integrated programs seem to be the most effective approaches
Economic impact of influenza vaccination among HCWs	Potentially cost saving



Review

Blood-borne viruses in health care workers: Prevention and management

S. Deuffic-Burban^{a,b,*}, E. Delarocque-Astagneau^c, D. Abiteboul^{d,e}, E. Bouvet^{d,e}, Y. Yazdanpanah^{a,b,d,f}

SURGICAL INFECTIONS
Volume 11, Number 3, 2010
© Mary Ann Liebert, Inc.
DOI: 10.1089/sur.2010.025

Current Risks of Occupational Blood-Borne Viral Infection

Arash Mohebat¹, John Mihran Davis² and Donald E. Fry³

Nosocomial transmission of bloodborne viruses from
infected health care workers to patients

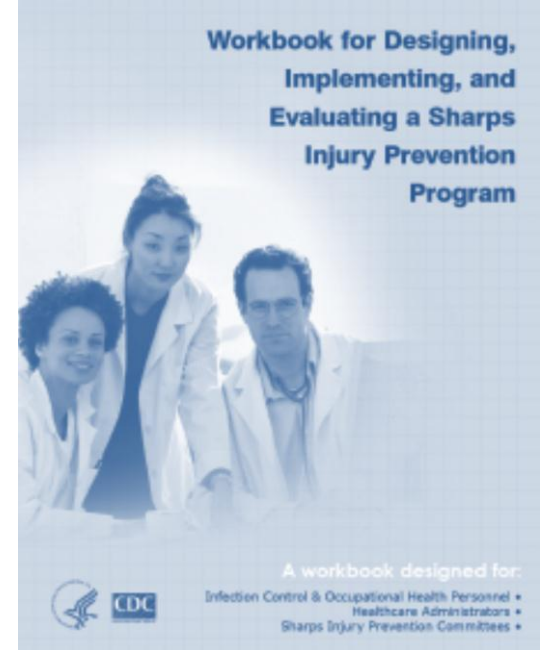
B Lynn Johnston MD¹, John M Conly MD²

Can J Infect Dis Vol 14 No 4 July/August 2003

Three pathogens account for most cases of occupationally acquired blood-borne infection: hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV).

The highest proportion of occupational transmission is due to percutaneous injury (PI) via hollow-bore needles with vascular access.

Risks of Seroconversion due to Sharps Injury from a known positive source



Virus	Risk (Range)
HBV	6-30%
HCV	< 2%
HIV	0.3%

NEEDLESTICK-PREVENTION DEVICES (NPDs)

Let's get to the point. Sharps Safety begins with you.



CDU

sharps

SHARPS SAFETY FEATURES:

- RETRACTABLE:** Retractable devices automatically retract the needle and/or blade into the handle after use.
- RETRACTABLE:** Retractable devices automatically retract the needle and/or blade into the handle after use.
- RETRACTABLE:** Retractable devices automatically retract the needle and/or blade into the handle after use.

Sharps Safety begins with you.



CDU

sharps

SHARPS SAFETY FEATURES:

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- RETRACTABLE:** Retractable devices automatically retract the needle and/or blade into the handle after use.
- RETRACTABLE:** Retractable devices automatically retract the needle and/or blade into the handle after use.

NOW YOU SEE IT.



NOW YOU DON'T.



PROTECT YOURSELF AND OTHERS-USE SHARPS WITH SAFETY FEATURES

DO PREPARED: Sharps safety features will protect you and others. Do your best to use the sharps safety features on all sharps devices.

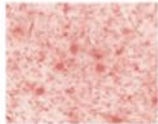
DO AWARE: Learn how to use the sharps safety features on all sharps devices.

DISPOSE WITH CARE: Sharps safety features will protect you and others. Do your best to use the sharps safety features on all sharps devices.

CDU

sharps

Human Vaccines & Immunotherapeutics



ISSN: 2164-5515 (Print) 2164-554X (Online) Journal homepage: <http://www.tandfonline.com/loi/khvi20>

Persistence of protective anti-HBs antibody levels and anamnestic response to HBV booster vaccination: A cross-sectional study among healthcare students 20 years following the universal immunization campaign in Italy

Guglielmo Dini, Alessandra Toletone, Ilaria Barberis, Nicoletta Debarbieri, Emanuela Massa, Chiara Paganino, Francesca Bersi, Alfredo Montecucco, Cristiano Alicino & Paolo Durando

VACCINAZIONE ANTI-EPATITE B IN ITALIA

LEGGE 165/1991

**VACCINAZIONE ANTIEPATITE B
OBBLIGATORIA**

nei nuovi nati e *catch up* a 12 anni di età

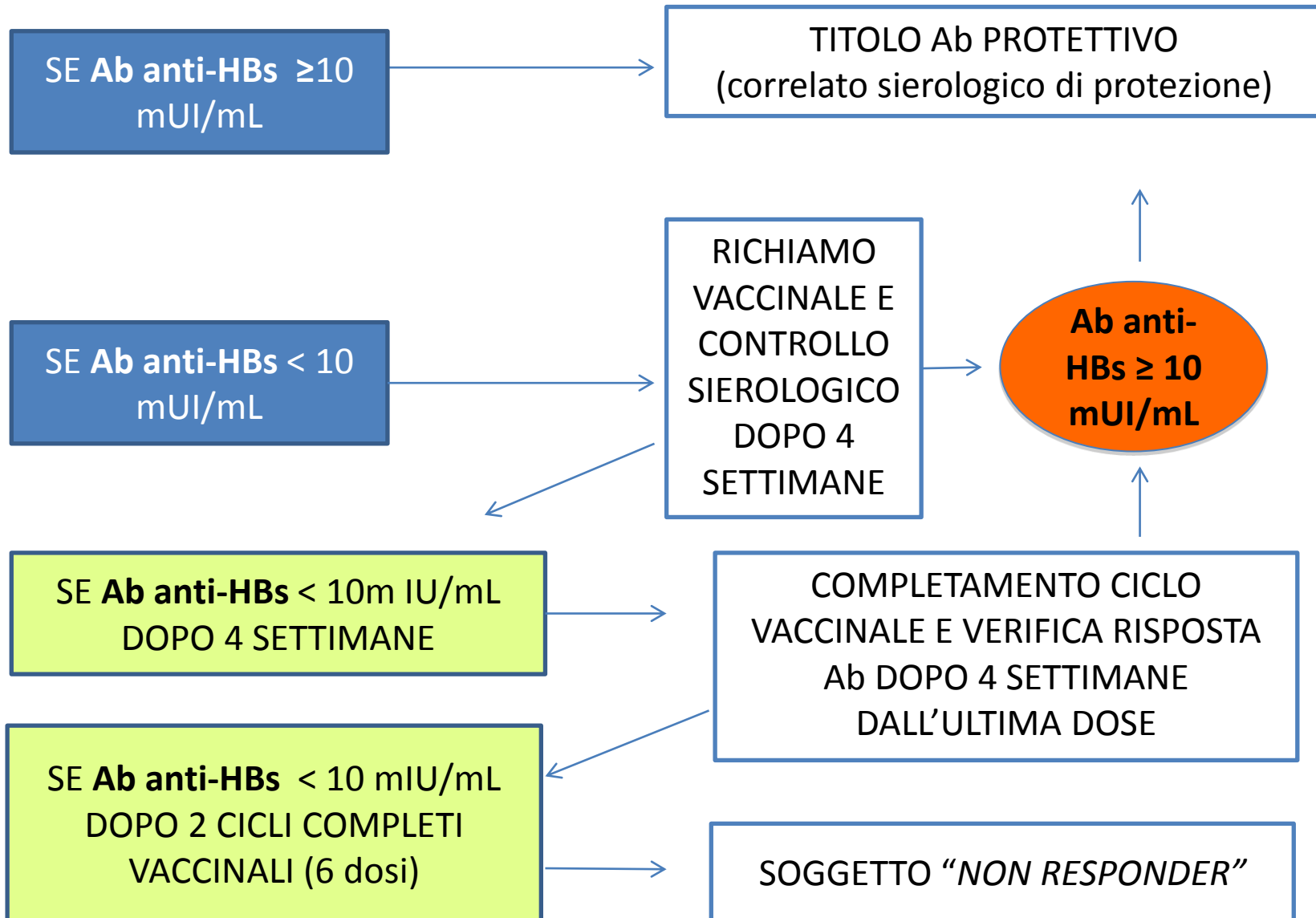
D.Lgs. 81/2008

SORVEGLIANZA SANITARIA per
lavoratori, studenti e addetti alle attività
ritenute a rischio di infezione

PIANI NAZIONALI DI
PREVENZIONE VACCINALE
2012/14 – 2017/19 DEL
MINISTERO DELLA SALUTE

CONTROLLO
del titolo di anticorpi anti
HBs prima dell'inizio
dell'attività a rischio

Vaccinazione HBV e protocollo di Sorveglianza Sanitaria



Immunogenicity of the DTaP-HBV-IPV-Hib-hexavalent vaccine and PCV-7 administered at age 3, 5 and 11–12 months in healthy infants in Liguria, Italy, measured 1 month post-dose 3, according to treatment group

	DTaP-HBV-IPV-Hib-vaccine + PCV-7			DTaP-HBV-IPV-Hib-vaccine		
	No. Seroprotection (%)	GMC-GMT	95% CI	No. Seroprotection (%)	GMC-GMT	95% CI
Anti-tetanus [≥ 0.1 IU/ml] ^a	151 (100)	9.26	8.21–10.44	43 (100)	8.98	6.79–11.88
Anti-diphtheria [≥ 0.1 IU/ml]	151 (100)	12.6 ^g	10.21–15.56	43 (100)	7.27 ^g	4.73–11.18
Anti-PRP ^b [≥ 0.15 μ g/ml] [≥ 1 μ g/ml]	151 (100) 148 (98)	17.98	14.9–21.69	43 (100)	18.77	13.68–25.75
Anti-PT ^c /FHA ^d [El. U]	151 n.a.	163.94	144.45–186.06	43 n.a.	149.25	113.05–197.05
Anti-HBs ^e [≥ 10 mIU/ml]	150 (99.3)	3899.69	3115.33–4881.50	42 (97.7)	3141.62	2167.93–4552.62
Anti-Polio 1 [$\geq 1:8$]	148 (100)	1327.6	1107.69–1591.31	43 (100)	1359.23	938.67–1968.2
Anti-Polio 2 [$\geq 1:8$]	148 (100)	1260.88	1053.23–1509.47	43 (100)	1412.47	983.25–2029.07
Anti-Polio 3 [$\geq 1:8$]	148 (100)	2415.08	1976.31–2952.25	43 (100)	2696.72	1859.09–3911.77
Pn ^f serotype 4 [≥ 0.35 μ g/ml]	146 (100)	4.70	4.07–5.43	–	–	–
Pn ^f serotype 6B [≥ 0.35 μ g/ml]	142 (97.3)	6.73	5.54–8.18	–	–	–
Pn ^f serotype 9V [≥ 0.35 μ g/ml]	146 (100)	3.84	3.40–4.33	–	–	–
Pn ^f serotype 14 [≥ 0.35 μ g/ml]	145 (99.3)	12.29	10.49–14.39	–	–	–
Pn ^f serotype 18C [≥ 0.35 μ g/ml]	145 (99.3)	2.50	2.16–2.90	–	–	–
Pn ^f serotype 19F [≥ 0.35 μ g/ml]	145 (99.3)	10.21	8.61–12.12	–	–	–
Pn ^f serotype 23F [≥ 0.35 μ g/ml]	144 (98.6)	4.41	3.75–5.18	–	–	–

^a In square brackets, measure units and cut-off values adopted to calculate protective levels.

^b PRP = Hib polysaccharide polyribosylribitol phosphate.

^c PT = pertussis toxoid, acellular pertussis component.

^d FHA = filamentous haemagglutinin, acellular pertussis component.

^e HBs = recombinant hepatitis B surface antigen;

^f Pn = pneumococcal.

^g *p*-value = 0.0026 (by Kruskal Wallis nonparametric test).

Hepatitis B immunity in teenagers vaccinated as infants: an Italian 17-year follow-up study

Article published online: 16 February 2014

Clin Microbiol Infect

E. Spada^{1,2*}, L. Romano^{3*}, M. E. Tosti¹, O. Zuccaro¹, S. Paladini³, M. Chironna⁴, R. C. Coppola⁵, M. Cuccia⁶, R. Mangione⁷, F. Marrone⁸, F. S. Negrone⁹, A. Parlato¹⁰, E. Zamparo¹¹, C. M. Zotti¹², A. Mele¹, A. R. Zanetti³ on behalf of the Study Group[†]

Assessment of the persistence of anti-HBs response and of the immune memory in a cohort of 571 teenagers vaccinated against hepatitis B as infants, 17 years earlier. Vaccinees were followed-up in 2003 and in 2010 (i.e. 10 years and 17 years after primary vaccination, respectively).

-199 (group A) had a booster dose of hepatitis B vaccine in 2003

-372 (group B) were not boosted

Vaccinees	Post-booster anti-HBs concentrations (mIU/mL)						GMC (95% CI)
	Undetectable	<10	10–100	>100–1000	>1000	Subtotal ≥10	
Group A (n = 37)	–	–	4 (10.8) ^c	21 (56.8)	12 (32.4) ^a	37 (100)	492.2 ^b (323.2–749)
Group B (n = 59)	1 (1.7)	1 (1.7)	3 (5.1)	27 (45.8)	27 (45.8) ^a	57 (96.6)	895.6 ^b (531.4–1509.5)
Total (n = 96)	1 (1.0)	1 (1.0)	7 (7.3)	48 (50)	39 (40.6)	94 (97.9)	711.1 (496.6–1018.2)

^ap 0.196; ^bp 0.039.
^cData are numbers (%).

Overall, the booster dose of vaccine given in 2010 elicited a strong anamnestic response

The immune memory for HBsAg achieved by primary immunization with three paediatric doses of recombinant hepatitis B vaccine given in the first year of life lasts for at least 17 years and additional booster doses are not needed at this time to maintain long-term protection.

Study population, Materials & Methods



✓ *Study design*

The study was observational, cross-sectional, and used routine demographic, clinical, and laboratory data collected within the Occupational Health Surveillance Program

✓ *Study period:*

2011-2013 yrs

✓ *Inclusion criteria at enrollment:*

Born in the Genoa metropolitan area; HBsAg/anti-HBc negative and born from HBsAg-negative mothers; vaccinated according the Italian universal HBV immunization campaign when infants or adolescents with a full 3 doses immunization course; having documentation of vaccination, in the form of a certificate or booklet generated by Local Health Unit of Genoa.

✓ *Exclusion criteria*

Serological evidence of HBV infection (i.e., positivity for anti-HBc antigen or other HBV-related antigens), presence of chronic diseases and congenital or acquired immune disorders.

✓ *Ethics*

The study was approved by the Ethics Committee of the Liguria Region. All the activities were performed in compliance with current healthcare standards according to the recommendations of the Italian Ministry of Health. All students included in the survey had signed a written informed consent. Personal information regarding all the subjects included in the investigation was protected according to the Italian law.

Table 1. Demographic characteristics and anti-Hbs features of Healthcare Students attending the Medical and Pharmaceutical School of the University of Genoa, Italy (Total Vaccinated Cohort).

	n (%)
No of subjects	717 (100)
Age (mean, SD)	24.8 (4.6)
Gender, Female	481 (67.2)
Medical Students	189 (26.4)
Healthcare Professional Students	528 (73.6)
Years since vaccination(mean,SD)	21.35 (3.8)
Vaccinated in infancy	535 (74.6)
Vaccinated in adolescence	182 (25.4)
HBs titer Total Cohort Vaccination ≥ 10 mIU/mL	507 (70.7)

Table 2. Characteristics of vaccinated Health Care Students attending the Medical and Pharmaceutical School of the University of Genoa, Italy, stratified by age at vaccination.

	Vaccinated in infancy n (%)	Vaccinated in adolescence n (%)	p-value
N° of subjects	535	182	
Age (mean, SD)	23.2 (1.6)	29.7 (6.8)	< 0.001
Gender, Female	367 (68.6)	114 (62.6)	0.14
Years since vaccination	22.8 (1.7)	17.2 (5.2)	< 0.001
Attending medical school	132 (24.7)	57 (31.3)	0.08
HBs titer ≥ 10 mIU/mL	358 (66.9)	149 (81.9)	< 0.001

Anamnestic response to HBV vaccine given as a booster in subjects with a non-protective titer at baseline

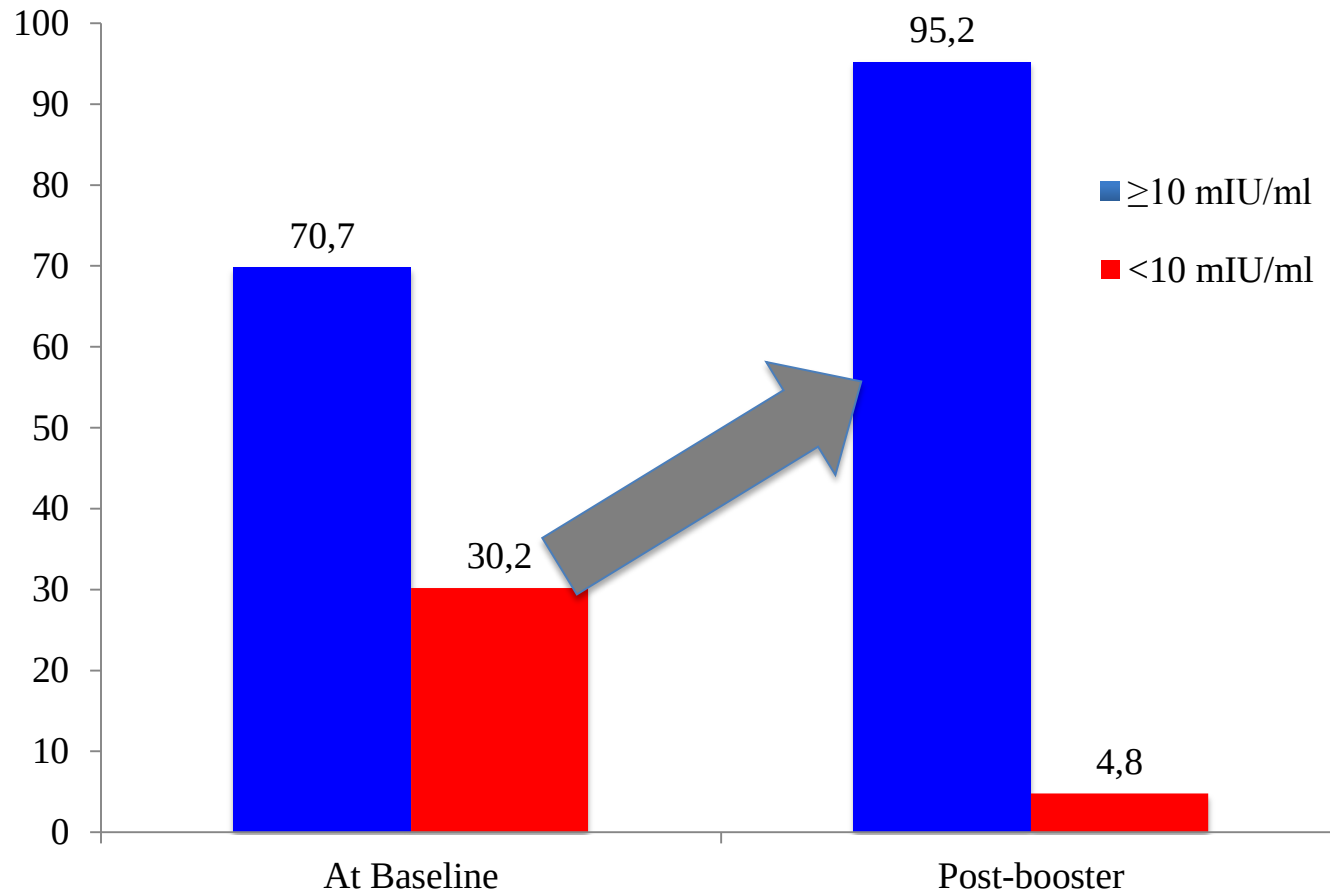


Table 3. Characteristics of vaccinated Health Care Students attending the Medical and Pharmaceutical School of the University of Genoa, Italy, stratified by anti-HBs titer.

	HBs titer <10 mIU/mL	HBs titer 10–100 mIU/mL	HBs titer > 100 mIU/mL	p-value
No of subjects	210	254	253	
Age (mean, SD)	24.4 (5.3)	24.5 (4.1)	25.6 (4.3)	< 0.001
Gender, Female	140 (66.7)	173 (68.1)	168 (66.4)	0.9
Years since vaccination (mean, SD)	22.1(2.9)	21.8 (3.2)	20.3 (4.7)	0.02
Attending medical school	49 (23.3)	58 (22.8)	82 (32.4)	0.02
Vaccinated in infancy	177 (84.3)	201(79.1)	157(62.1)	< 0.001
Vaccinated in adolescence	33 (15.7)	53 (20.9)	96 (37.9)	

Table 4. Variables independently associated with seroprotection against HBV among Healthcare Students attending the Medical and Pharmaceutical School of the University of Genoa, Italy.

Variable	Univariate Analysis			Multivariate Analysis	
	< 10 IU/L (n = 210) n (%)	≥ 10 IU/L (n = 507) n (%)	P-value	OR (95% CI) ≥ 10 IU/L vs < 10 IU/L	P-value
Age (mean, SD)	24.4 (5.3)	25.1 (4.3)	0.09	0.98 (0.94 – 1.03)	0.4
Gender, Female	140 (66.7)	341 (67.3)	0.88		
Years since vaccination (mean, SD)	22.1 (2.9)	21 (4.1)	0.09		
Attending medical school	49 (23.3)	140 (27.6)	0.24		
Vaccinated in adolescence	33 (15.7)	149 (29.4)	< 0.001	2.57 (1.53 – 4.46)	< 0.001

Systematic search in Medline literature databases for papers published from January 1995 to March 2010

Evolution of occupational exposure in France (2004–2008), in Belgium (2003–2009) and in United States (2004–2006).

	France ^a			Belgium ^a	USA ^a	
	2004	2006	2008	2003–2009	2004	2006
Number of health facilities participating	385	518	709	73	41	33
Number of extrapolated blood and body fluid exposures occurring in all hospitals	41,276	35,418	32,176	11,210	n.a.	n.a.
Incidence rate per 100 beds	8.9	8.0	7.4	8.4	26.7 ^b	27.9 ^b
Type of exposure (%)						
PI	81.7%	81.5%	80.6%	87.0%	n.a.	n.a.
Projections	15.8%	16.1%	16.7%	13.0%	n.a.	n.a.
Other, unknown	2.5%	2.5%	2.7%		n.a.	n.a.
Main material involved (%)						
Needle	37.1%	36.9%	37.0%	56.0%	36.1%	37.6%
Syringe	18.7%	16.8%	17.5%		39.1%	33.3%
Catheter	12.8%	11.3%	9.8%	10.8%	6.2%	4.5%
Surgical equipment	11.5%	11.8%	12.0%	n.a.	n.a.	n.a.
Patient source status (%)						
HIV-positive	2.3%	1.8%	2.7%	2.1%	n.a.	n.a.
HCV-positive	5.0%	3.5%	4.4%	4.4%	n.a.	n.a.
HBV-positive	1.5%	1.2%	1.4%	1.6%	n.a.	n.a.
Unknown	23.0%	24.6%	20.8%	47.7%	n.a.	n.a.
PIs that could have been prevented by taking standard precautions (%)	52.5%	48.6%	45.8%	36.0%	n.a.	n.a.
PIs in people not wearing gloves	37.5%	33.9%	31.2%	17.4% ^b	14.8% ^b	11.9% ^b
PIs occurring while recapping or disposing of needles	12.8%	13.0%	12.5%	7.3% ^c	2.9% ^c	2.6% ^c
PIs occurring among HCWs not having specific containers for device disposal	32.6%	31.0%	29.1%	24.4%	n.a.	n.a.

n.a., non available.

^a Estimates are from the French national surveillance network (Réseau d'Investigation et de Surveillance des Infections Nosocomiales, RAISIN; Groupe d'Etude sur le Risque d'Exposition des Soignants aux agents infectieux, GERES; Institut de Veille Sanitaire, InVS),^{17–19} from the Belgian Institute of Public Health,²⁰ and from the EPINet network for USA.^{21,22}

^b Among percutaneous injuries only.

^c While recapping needles only.

TENTH WORLD CONGRESS ON VACCINES, IMMUNISATION AND IMMUNOTHERAPY

1-2 June 2016, Bern, Switzerland

INFECTIONS CONTROL WORLD ORGANIZATION

PERSISTENCE OF PROTECTION AGAINST HBV AND ANAMNESTIC RESPONSE TO BOOSTER VACCINATION AMONG HEALTHCARE STUDENTS IN ITALY

Dini Guglielmo ^{1*}, Barberis Ilaria ², Paganino Chiara ², Toletone Alessandra ¹, Bersi Francesca ¹, Massa Emanuela ¹, De Barbieri Nicoletta¹, Perria Mauro ¹, Albanese Erika ¹, Copello Francesco ¹, Durando Paolo ¹

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²Department of Health Sciences, University of Genoa and Hygiene Unit, I.R.C.C.S. University Hospital San Martino - IST National Institute for Cancer Research, Genoa, Italy.

Selected lectures published in
a Special Issue of

HUMAN VACCINES & IMMUNOTHERAPEUTICS





RESEARCH PAPER

Susceptibility to vaccine-preventable diseases and vaccination adherence among healthcare workers in Italy: A cross-sectional survey at a regional acute-care university hospital and a systematic review

Umberto Leone Roberti Maggiore^a, Carolina Scala^a, Alessandra Toletone^b, Nicoletta Debarbieri^c, Mauro Perria^c, Beatrice D'Amico^b, Alfredo Montecucco^b, Mariano Martini^d, Guglielmo Dini^b, and Paolo Durando^b

^aAcademic Unit of Obstetrics and Gynaecology, IRCCS AOU San Martino – IST and Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health, University of Genoa, Italy; ^bDepartment of Health Sciences, Postgraduate School in Occupational Medicine and Occupational Medicine Unit, IRCCS AOU San Martino – IST, University of Genoa, Italy; ^cOccupational Medicine Unit, IRCCS AOU San Martino – IST, Genoa, Italy; ^dDepartment of Health Sciences, Section of History of Medicine and Ethics, University of Genoa, Italy

Table 1. Characteristics of the study population (n = 171).

Professional categories	Subjects n (%)	Female n (%)	Age (years) mean $\pm$ SD
Obstetricians and gynaecologists	19 (11.1)	5 (16.3)	59.3 $\pm$ 5.8
Residents in Obstetrics and Gynecology	23 (13.5)	22 (95.7)	28.7 $\pm$ 1.3
Anaesthesiologists	10 (5.8)	6 (60.0)	50.5 $\pm$ 4.5
Neonatologists	11 (6.4)	6 (54.5)	53.0 $\pm$ 10.9
General nurses	38 (22.2)	37 (97.4)	48.7 $\pm$ 6.3
Midwives	28 (16.4)	28 (100)	48.3 $\pm$ 7.8
Health care assistants	10 (5.8)	7 (70.0)	52.3 $\pm$ 7.8
Neonatal nurses	32 (18.7)	30 (37.5)	49.0 $\pm$ 6.7

SD: Standard Deviation

Table 2. Previous history of Vaccine Preventable Diseases and immunization status among Healthcare Workers of the Obstetric Unit of the referral adult acute-care University hospital of Genoa, Liguria Region, Italy, according to professional category.

	Obstetricians and gynaecologistsn (%)	Residents in Obstetrics and Gynecologyn (%)	Anesthesiologistsn (%)	Neonatologistsn (%)	General nursesn (%)	Midwivesn (%)	Health care assistantsn (%)	Neonatal nursesn (%)	Total(%)
Subjects included	19	23	10	11	38	28	10	32	171
Rubella									
Positive history	14 (73.7)	16 (69.6)	7 (70.0)	6 (54.5)	29 (76.3)	17 (60.7)	6 (60.0)	17 (53.1)	112(65.5)
Previous vaccination	0 (0)	4 (17.4)	1 (10.0)	1 (9.1)	7 (18.4)	5 (17.9)	3 (30.0)	6 (18.7)	27(15.8)
Not known	5 (26.3)	3 (13.1)	2 (20.0)	4 (36.4)	2 (5.3)	6 (7.1)	1 (10.0)	9 (21.9)	32(18.7)
HBV									
Positive history	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0
Previous vaccination	16 (84.2)	18 (78.3)	7 (70.0)	8 (72.7)	34 (89.5)	25 (89.3)	5 (50.0)	23 (71.9)	136(79.5)
Not known	3 (15.8)	5 (21.7)	3 (30.0)	3 (27.3)	4 (10.5)	3 (10.7)	5 (50.0)	9 (28.1)	35(20.5)
Varicella									
Positive history	17 (89.4)	18 (78.3)	4 (40.0)	11 (100)	30 (78.9)	24 (85.7)	8 (80.0)	27 (84.4)	139(81.3)
Previous vaccination	1 (5.3)	2 (8.7)	0 (0)	0 (0)	1 (2.7)	1 (3.6)	0 (0)	3 (9.4)	8(4.7)
Not known	1 (5.3)	3 (13.0)	6 (60.0)	0 (0)	7 (18.4)	3 (10.7)	2 (20.0)	2 (6.2)	24(14)
Measles									
Positive history	10 (52.6)	9 (39.2)	5 (50.0)	7 (63.6)	25 (65.8)	15 (53.6)	7 (70.0)	16 (50.0)	94(54.9)
Previous vaccination	3 (15.8)	3 (13.0)	0 (0)	0 (0)	3 (7.9)	4 (14.3)	0 (0)	2 (6.3)	15(8.8)
Not known	6 (31.5)	11 (47.8)	5 (50.0)	4 (36.4)	10 (26.3)	9 (32.1)	3 (30.0)	14 (43.7)	62(36.3)
Influenza									
Performed	6 (31.6)	7 (30.4)	3 (30.0)	6 (54.5)	8 (21.1)	5 (17.9)	2 (20.0)	7 (21.9)	44(25.7)
Not performed	13 (68.4)	16 (69.6)	7 (70.0)	5 (45.5)	30 (78.9)	23 (82.1)	8 (80.0)	25 (78.1)	127(74.3)

HBV: Hepatitis B virus;

*During the previous year.

Main outcomes of the review of the literature including Italian studies assessing seropositivity with respect to Measles, Rubella and Varicella

- Measles: range from 71.4% to 98.2%
- Rubella: range from 89% to 97.6%
- Varicella: 91%

Guglielmo Dini



Ricercatore tempo determinato

Area scientifico-disciplinare MED/44

Dipartimento di Scienze della Salute (DISSAL)

Recapiti

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GRAZIE!

Gruppo di Lavoro

“Medici Competenti delle Aziende Sanitarie Liguri”

DGR n. 1514 del 29/12/2015



**Settore Prevenzione, Sanità Pubblica, Fasce Deboli, Sicurezza Alimentare e Sanità
Animale Dipartimento Salute e Servizi Sociali**

Dirigente: Dott. Sergio Schiaffino

Gruppo di Lavoro “Medici Competenti delle Aziende Sanitarie Liguri”

Referente: Dott. Massimo Serra

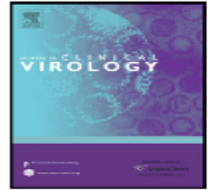
Linee d'indirizzo regionali

**“Gestione degli infortuni professionali legati al rischio biologico da
patogeni trasmissibili per via parenterale”**

Autori

(riportati in ordine alfabetico)

Copello F, Dagnino M, Debarbieri N, Durando P, Medico L, Montemanni M,
Moscolin M, Paita L, Pedretti MC, Perria M, Piccinini M, Plisco C, Russom T,
Simonini S, Traversa F, Vajra C



Case report

HIV-1 infection of a nurse from a newborn with an unknown HIV infection: A case report

Davide Gibellini^{a,*}, Marco Borderi^b, Isabella Bon^a, Carlo Biagetti^b, Elisa De Crignis^a, Maria Carla Re^{a,c}

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^b Section of Infectious Diseases, Department of Internal Medicine, Geriatric Medicine and Nephrology, University of Bologna, Italy

^c Interuniversity Consortium, National Institute Biostructure and Biosystem (INBB), Rome, Italy

Background

HIV infection of healthcare workers by injury is an important issue in the management and prophylaxis of HIV-related disease.

Objective

To describe a case where a nurse has been HIV-1 infected by needle-stick whilst taking blood from a newborn with an unknown HIV infection.

Results

The nurse has been infected by needle-stick injury whilst taking blood from a newborn with an unknown HIV infection: **(i) the delayed declaration of accident by nurse and (ii) the inaccurate medical management of pregnant woman determined the subsequent absence of correct prophylaxis measures and then the impossibility to tackle the HIV transmission.**

Stima della distribuzione delle 100.000 esposizioni percutanee/anno attese in Italia

<i>Stato paziente fonte</i>	<i>Numero esp/anno</i>
Da fonte negativa per HIV, HCV, HBV	46.200
da fonte non testata	18.200
da fonte non identificabile	15.100
da fonte positiva per almeno uno dei tre patogeni testati (HIV, HCV, HBV)	20.500
Totale esposizioni/anno attese	100.000

Tasso di sieroconversione per HIV (SC) per modalità di esposizione (SIROH, 1986-2009)

HIV 1986-1996 (era pre-HAART)

Tipo di esposizione	SC/esp	%	95% C.I.
<i>Percutanea</i>	3/2066	0.14	0.03-
0.42			
<i>Mucosa</i>	2/ 486	0.41	0.05-
1.48			

HIV 1997-2009 (era post-HAART)

0.47		0	-0.67
<i>Percutanea</i>	1/905	0.11	0.006-
0.62			
<i>Mucosa</i>	0/373	0	-0.98
<i>Cute lesa</i>	0/158	0	-2.31

Tassi di sieroconversione (SC) per modalità di esposizione (SIROH, 1992-2009)

HCV

Tipo di esposizione	SC/esp	Tasso %	I.C. 95%
Esp. Percutanea	30/7274	0.41	0.26-0.56
<i>Ago cavo con sangue residuo</i>	<i>26/2487</i>	<i>1.05</i>	<i>0.69-1.53</i>
<i>Ago cavo senza sangue</i>	<i>0/1878</i>	<i>0</i>	<i>-0.2</i>
<i>Ago/tagliente solido</i>	<i>4/2909</i>	<i>0.14</i>	<i>0.043-0.35</i>
Esp. Mucosa	2/2463	0.08	.006-0.30
<i>Esp. congiuntivale a sangue</i>	<i>2/1773</i>	<i>0.11</i>	<i>0.02-0.41</i>
<i>ad altri materiali biologici</i>	<i>0/520</i>	<i>0</i>	<i>-0.71</i>
<i>Esp. altre mucose a sangue</i>	<i>0/128</i>	<i>0</i>	<i>-2.84</i>
<i>ad altri materiali biologici</i>	<i>0/42</i>	<i>0</i>	<i>-8.41</i>
Esp. di cute lesa a sangue	0/1035	0	-0.36

HBV

Esp. Percutanea	1/219	0.46	.006-2.52
Soggetti non immuni né vaccinati (118 vaccinati post-esposizione)			



Ministero della Salute

DIREZIONE GENERALE DELLA PREVENZIONE SANITARIA
Ufficio 5 Prevenzione delle Malattie Trasmissibili e Profilassi Internazionale

**Prevenzione e controllo dell'influenza:
raccomandazioni per la stagione 2016-2017**

Priorità in tema di vaccinazione influenzale negli operatori sanitari

Si raccomanda, pertanto, di promuovere fortemente la vaccinazione antinfluenzale di tutti gli operatori sanitari, con particolare riguardo a quelli che prestano assistenza diretta nei reparti a più elevato rischio di acquisizione/trasmissione dell'infezione **e l'accurato monitoraggio da parte delle Aziende sanitarie delle relative coperture vaccinali raggiunte.**

In particolare, nei seguenti reparti:

**pronto soccorso
terapie intensive
oncologie
ematologie
cardiologie
chirurgie
residenze sanitarie assistenziali
(neonatalogie e ginecologie...)**



CONCLUSIONI

I dati di follow-up del nostro studio, condotto in 718 studenti di area sanitaria valutati a oltre 20 anni dalla vaccinazione primaria contro HBV, confermano un'ottimale immunogenicità e protezione clinica del vaccino HBV. In particolare:

- significativa prevalenza di soggetti con titolo protettivo al *baseline* (circa 70% nella *Total Vaccinated Cohort*)
- subottimale aderenza (30%) al richiamo vaccinale o al prelievo raccomandati nei tempi previsti dal protocollo di studio in soggetti risultati non sieroprotetti al *baseline* (n= 217)
- ottimale risposta anamnesticca alla dose di richiamo (“effetto *booster*”, osservata nel 95% dei soggetti per cui questa era indicata)