

Laboratory Influenza Vaccination for Healthcare Personnel

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**7th MENA Influenza Stakeholders Meeting
Riga, Latvia; September 9, 2017**



Topics

- 1. Rationale for influenza vaccination of healthcare personnel (HCP)**
- 2. Influenza vaccine uptake of HCP**
- 3. Attitudes and practices of HCP toward influenza vaccination**
- 4. Influenza vaccination policies for HCP**
- 5. Recommendations - Conclusions**

or influenza vaccination of HCP

**Fact No 1: HCP are at increased risk for occupational exposure
to influenza**

**(increased risk for acquisition of influenza infection compared with
adults working in non-healthcare settings)**



Influenza among HCP

- **18.7% in non-vaccinated HCP**
- **5.4% in non-vaccinated non-HCP**

* Meta-analysis of 58,245 influenza cases (diagnosed by serology, PCR or culture)

influenza vaccination of HCP (cont)

Fact No 2: HCP provide care to patients at high risk for serious morbidity, complications, death because of:

- **their age (neonates, elderly)**
- **underlying conditions (pregnancy, immunosuppression)**
- **chronic diseases (malignancy, COPD)**



Transmission of influenza from HCP to patients

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

J Infect. 2010 Sep;61(3):270-2. Epub 2010 Jun 30.

Outbreak of novel influenza A (H1N1) in an adult haematology department and haematopoietic cell transplantation unit: clinical presentation and outcome.

Lalayanni C, Sirigou A, Iskas M, Smias C, Sakellari I, Anagnostopoulos A.

J Hosp Infect. 2012 May;81(1):36-40. doi: 10.1016/j.jhin.2012.02.009. Epub 2012 Mar 30.

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

Tsagris V¹, Nika A, Kyriakou D, Kapetanakis I, Harahousou E, Stripeli F, Maltezou H, Tsolia M.

impact of influenza outbreaks in healthcare facilities

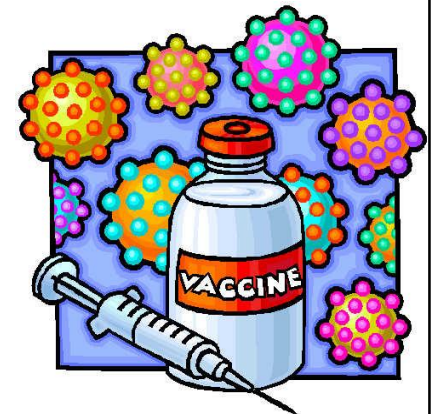
- extensive costs
- absenteeism among HCP
- disruption of healthcare services



Vaccination of HCP is justified in order to:

- ➔ directly protect them
- ➔ indirectly protect their patients, colleagues and families
- ➔ preserve health-care services

from nosocomial transmission of influenza



n coverage of HCP against influenza

“ **low vaccination rates worldwide (< 40%)**

“ **mandatory vaccination in US hospitals: > 98%**

1. Maltezou HC. Nosocomial influenza: new concepts and practice. *Current Opinion of Infectious Diseases* 2008;21: 337-43
2. Babcock et al. Mandatory influenza vaccination of health care workers: translating policy to practice. *Clinical Infectious Diseases* 2010;50:459-464

practices of HCP about influenza

Table 2. Barriers to increase influenza vaccine uptake among health-care workers

Insufficient knowledge about nosocomial influenza
Misconceptions that they are not at risk for contacting influenza
Misconceptions about vaccine effectiveness
Misconceptions about vaccine safety
Misconception that the vaccine can cause influenza
Unawareness of the recommendations for annual influenza vaccination
Unavailable vaccine
Fear of injections
Lack of leadership support
Reliance on homeopathic agents

Table 5. Strategies associated with increased influenza vaccine uptake in health-care workers

On-site vaccination
Vaccination free of charge
Lectures about influenza and influenza vaccine
Organization of campaigns
Mobile vaccination teams
Use of declination forms
Implementation of a mandatory vaccination policy
Use of reminding systems
Incentive programs
Leadership support

4. Influenza vaccination policies for HCP

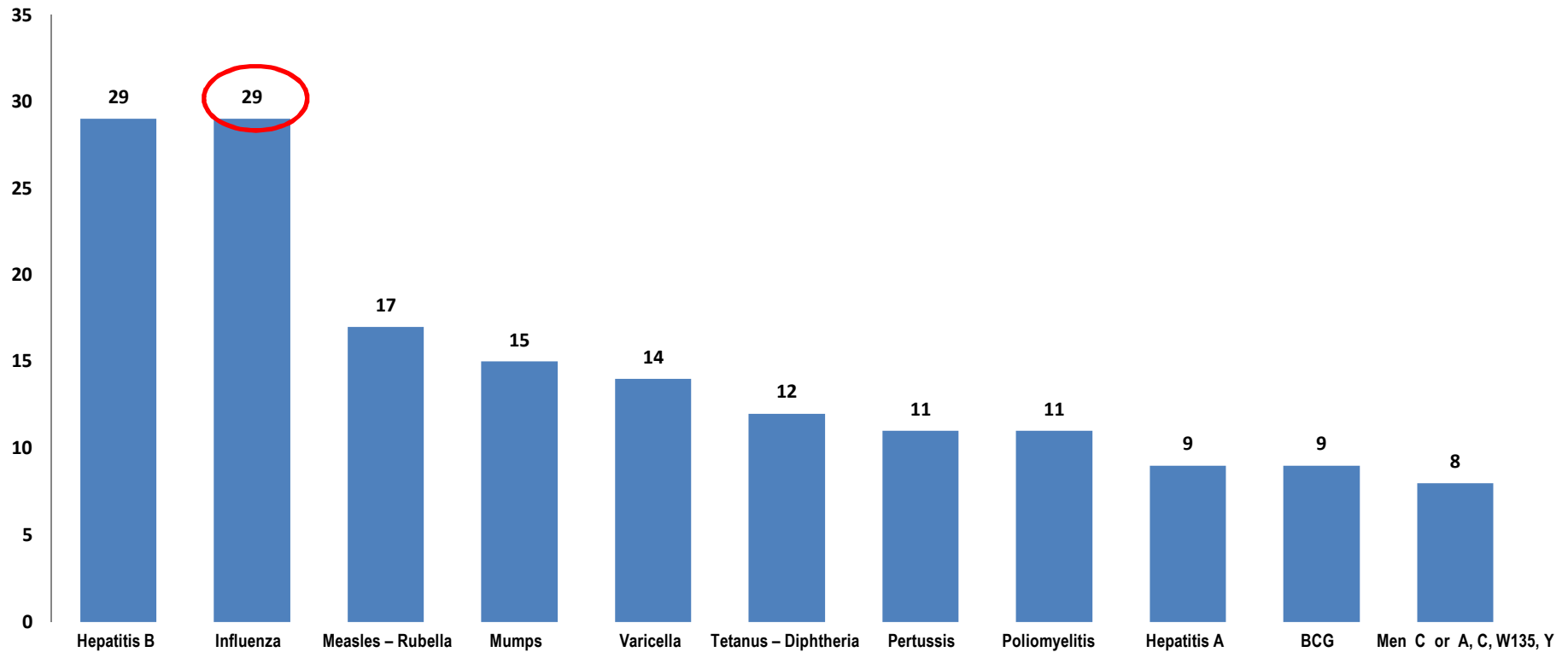
- almost universally recommended
- different implementation frames (mandatory or voluntary)

Maltezou HC, Poland GA: Immunization of health-care providers: necessity and public health policies. *Healthcare* 2016 1;4(3). pii: E47

for health-care workers in acute health-care facilities

Wicker^b, Michael Borg^c, Ulrich Heininger^d, Vincenzo Puro^e,
Poland^g

Vaccine 29 (2011) 9557–9562



* 27 countries in the European Union, Norway, Switzerland & Russia

Required vaccination of HCP in Europe against:

measles-mumps-rubella in Finland

hepatitis A in Slovakia

hepatitis B in France, Slovakia & Slovenia

BCG in France, Italy and Slovakia

poliomyelitis & tetanus-diphtheria in France

**In case of refusal the HCW is moved to a low-risk department or to a post
with no contact with patients**

andatory vaccination of HCP in Europe against:

measles-mumps-rubella in Finland

**No mandatory vaccination policies
for influenza in Europe**

BCG in France, Italy and Slovakia

poliomyelitis & tetanus-diphtheria in France

In case of refusal the HCW is moved to a low-risk department or to a post
with no contact with patients

Vaccination for HCP in the United States

- **Mandatory vaccination policies were adopted by several healthcare institutions and professional societies the past years**
- **Vaccine uptake rate > 98%**
- **Use as an index of healthcare quality**

In case of vaccination refusal (after multiple attempts to persuade)

- “ termination of employment
- “ suspension of admitting privileges for noncompliant physicians
- “ mandatory surgical mask use while in patient care areas
- “ ineligibility for work

Honda et al. A successful strategy for increasing the influenza vaccination rate of healthcare workers without a mandatory policy outside of the United States: A multifaceted intervention in a Japanese tertiary care center. *Infect Control Hosp Epidemiol* 013;34:1194-1200

mandatory vaccination policies for HCP in healthcare facilities in Greece, 2010-2011 (n=1545)

Vaccinations should be mandatory

- for all HCP 52%
- for HCP caring for high-risk patients 71%

Maltezou et al. *American Journal of Infection Control* 2013;41:66-70

Maltezou et al. *Journal of Infection* 2012;64:319-324

Vaccination campaigns for HCP without a mandatory United States

- Australia: 56% to 2013, 80% to 2014
- Japan: 63% to 2006, 97% to 2013

- sustainability and/or further increase of vaccination coverage ?
- human resources utilization ?
- costs ?

-
1. Heinrich-Morrison et al. An effective strategy for influenza vaccination of healthcare workers in Australia: experience at a large health service without a mandatory policy. *BMC Infectious Diseases* 2015;15:42
 2. Honda et al. A successful strategy for increasing the influenza vaccination rate of healthcare workers without a mandatory policy outside of the United States: A multifaceted intervention in a Japanese tertiary care center. *Infect Control Hosp Epidemiol* 2013;34:1194-1200

the process of implementing a vaccination policy for HCWs.

Goal/actions to implement

Delivery of vaccine

Development of in-hospital platforms to vaccinate HCWs (be flexible, use already existing procedures and infrastructures, e.g. occupational department, vaccination clinic, mobile vaccination teams, delivery of vaccine free of charge and in all working shifts)

Estimate vaccine uptake

Establishment of in-hospital records for vaccination uptake, need to review and update information on regular intervals, use standardized definitions

Development of reminder systems

Approach all non-immune HCWs at regular intervals

Need to address concerns and mistrust about vaccines

Education of HCWs about VPDs and vaccines, communication, collaboration with medical schools and professional societies

VPD: vaccine-preventable disease; HCW: health-care worker.

Maltezou HC, Poland GA. Vaccination policies for healthcare workers in Europe.

***Vaccine* 2014;32:4876-4880**

Recommendations - Conclusions

Voluntary influenza vaccination policies for HCP have not achieved and sustained high immunization rates.

Healthcare commitment is required in order to eliminate HCP misconceptions about influenza and influenza vaccine and raise vaccination rates, especially if mandatory vaccination policies are widely implemented.

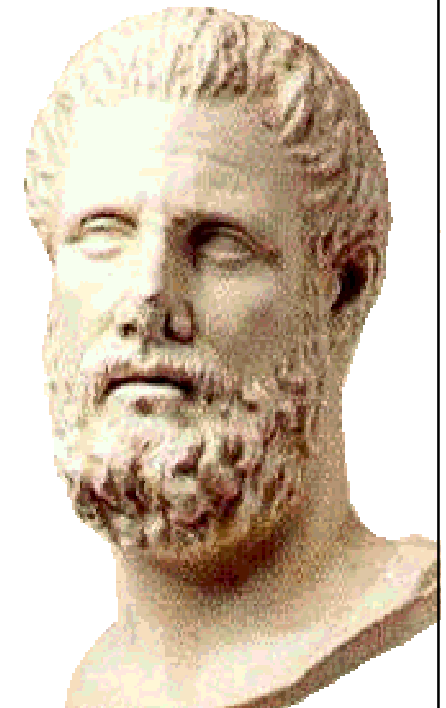
Mandatory vaccination policies should be considered for diseases that can cause significant morbidity and mortality to patients, in order to induce immunity and promote safety both at the level of HCP and at the level of healthcare facility (herd immunity).

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Í Prevention is better than cureÎ

Hippocrates, Greek physician (460-377 BC)





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