

# Seasonal and pandemic influenza: the role of communication and preventive strategies

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## Key words

Seasonal influenza • Pandemic influenza • Crisis communication • Preventive strategies

## Summary

*Appropriate, timely, and data-driven health information is a very important issue in preventive strategies against influenza. Intuitively, a link between willingness to be vaccinated against seasonal influenza and against pandemic influenza exists, given the similarities in decision-making for this vaccine. International and national literature reviews suggest that progress has been made in order to incorporate and disseminate crisis risk communication principles into public health practice, as such investments in public health*

*could be important for building capacity and practice which aid in the realization of countermeasures in response to a future pandemic and epidemic situation. This study emphasizes the lack of perception by Health Care Workers (HCWs) of the importance of being immunized against seasonal and pandemic influenza and the doubts concerning safety. In the future, particular efforts are needed during vaccination campaigns, to provide more information to HCWs and the general population regarding role and safety of such vaccines.*

The role of communication and the enactment of preventive strategies represent the main concerns in health alert conditions like the H1N1 pandemic influenza.

As previously reported, Influenza A viruses have the potential to cause pandemic at random intervals [1], and in order to continuously update preparedness and response plans [2], it will be more and more fundamental to apply lessons learned from previous influenza pandemics.

Communication on these issues should consider and evaluate in the view regarding giving advice on the necessity of get vaccinated, also for ethical aspects, both in Health Care Workers (HCWs) and in the general population. The risk communication during a health alert must be quick, clear and rigorous.

On the other hand one needs to keep in mind that while the 2009–2010 influenza pandemic justifiably attracted considerable media attention, seasonal influenza causes annual epidemics that are estimated to kill approximately 500,000 people worldwide each year [3].

The practice of crisis risk communication needs to be strictly linked with health communication basics to create emergent norms of practice, reflecting the redefined role that public health finds itself in during the twenty-first century: emergency responder. As this role is claimed by public health, crisis risk communication will play an increasing part in helping populations cope with situations that have health impacts. It is only natural that public health will be called on to parley medical, epidemiological, behavioral, and statistical knowledge into messages and concepts that audiences can understand, including periods in which these audiences experience hardship or stress [4].

## Worldwide experiences

As shown in the work by Ringel et al. [5], since 2001 the US Government has invested heavily to help state and local health departments improve the risk communication by providing accurate, credible, actionable, and timely information to the public to inform decision making and reduce uncertainty before, during, and after a public health emergency. They assessed how effectively state and local health departments communicated information concerning H1N1 emergency via the Web to their constituents within 24 hours of the declaration of public health emergency. The assessment focused on three criteria:

**Timeliness:** Was the information posted within 24 hours of the nationwide alert issued by the federal government?

**Accessibility:** Was the information easy to locate and understand?

**Thoroughness:** Did the information cover key topics, such as what was happening, how government was responding, how individuals could protect themselves and their families, when to seek medical care, and how to get additional information?

Forty-seven state-level public health department sites provided at least some information specific to the H1N1 outbreak within 24 hours of the alert, and in nearly every case it was accessible with only a single Web page selection; forty-three state-level sites informed individuals about how to protect themselves and their families; slightly fewer provided treatment-related information, such as when to seek treatment or take antiviral drugs.

On the other hand, only 34 percent of local public health department Web sites (52 out of 153) provided specific information about the H1N1 virus within 24 hours of the emergency alert. More than half out of 52 accomplished this with a link either to the Centers for Disease Control and Prevention Web site or to their respective state public health sites rather than providing information tailored to local jurisdictions.

The researchers drew implications for policy, sharable in our country: public health departments need to ensure the ability to communicate with limited-language-proficiency populations, suggesting the need for standards dictating when multilingual information is called for. Moreover, one concern of the authors was that funding for public health emergency preparedness activities has declined in recent years. Coupled with the economic downturn, this reduction erases much of the work on the responses to the H1N1 alert. [5]

A survey in Korea, repeated after an interval of 4 years (2000-2004) and a big campaign on influenza vaccination for HCW, showed an increment in vaccination rate in all categories of HCW and especially in nurses: from 21% to 92% for more than 400 nurses (Tab. I). They found that HCW were noncompliant and refused vaccination because of unwarranted strong confidence in their health, doubt about efficacy, and/or fear of injection. [6]

In France, a cross sectional study during phase 5A of the 2009 H1N1 influenza showed a lower percentage of vaccination rate for seasonal influenza. Out of 532 HCWs, 119 (22.4%) had received a seasonal vaccine and 194 (36.5%) the H1N1 pandemic vaccine. Coverage rate was significantly higher among physicians (45% for the seasonal vaccine, 61% for the H1N1 vaccine). The main reasons given for acceptance of the seasonal vaccine were "protection of the patient" and "self-protection", while the main arguments against vaccination were "low risk of being infected" and "doubts about vaccine safety". For the H1N1 vaccine, reasons for vaccination were "protect the patient" and "protect the family". The main arguments against were "fear of side effects" and "doubts about vaccine safety". This study emphasizes the lack of perception by HCWs of the importance of being immunized against seasonal and pandemic A (H1N1) 2009 Influenza. In the future, authors concluded, particular efforts are needed during vaccination campaigns, to provide more information to HCWs regarding development process and safety of such vaccines [7].

### Italian experiences

A multicentre study was carried out in Italy to evaluate the efficacy of the institutional communication adopted during the pandemic influenza H1N1 on the general population and health care workers (460 participants). The additional aim of the study was to highlight the need of identifying the correct approach to the crisis communication issue.

**Tab. I.** Change in Vaccination Rate Among Healthcare Workers (HCWs) After a Hospital Vaccination Campaign Between 2000 and 2004 (modified by Song et al. 2006 [6]).

Occupation	% vaccinated	% vaccinated
Physician	20	59
Nurse	21	92
Technician	25	79
Other (a)	29	75
Total	23	78

(a) Includes pharmacists, kitchen staff, transport staff, and others.

Interestingly, it was found that the average knowledge on preventive measures is low, around 60%, with a significant difference among health care workers' (68%) and the general populations' (58%) answers. HCWs used institutional mass media in 65% of cases, much more than in the general population (49%). Moreover, the sample was satisfied by internet news (46.4%), television (36.3%) and the campaign "Topo Gigio" (36.1%).

Therefore, according to the answers given by HCWs, it has been highlighted that increased attention should be given to risk communication issues and a well marked request of refresher courses [8].

Another Italian study carried in 2009 with a study sample counting approximately 1500 health care workers, highlighted attitudes and behaviours regarding preventive measures against the pandemic influenza H1N1. Results show that the intention to get vaccinated against the pandemic influenza H1N1 is generally low (41.4%), especially in nurses (31%) [9].

During three consecutive influenza seasons (from 2005-2006 to 2007-2008), a cross-sectional study was carried out on all HCWs employed in the "Azienda Ospedaliera Universitaria Policlinico" (AOUP) of Palermo (Italy). A total of 7,848 HCW-years were observed and 881 vaccines were administered during the study period. Vaccination rates declined from 14.7% in 2005-2006 to 8.2% in 2007-2008. Coverage was generally higher among older and male HCWs, whereas nurses and workers in surgical areas had lower vaccination rates. In the 2007-2008 season, absenteeism due to illness in the vaccinated group was significantly less common than in the unvaccinated group (3.3% vs. 7.1%;  $p = 0.04$ ).

The researchers conclude that this experience encourages flu vaccination of HCWs and accentuates the importance of annual influenza vaccination programs for healthcare personnel [10]

In another publication, a cross sectional study was carried out between July and October 2003 within the five Hospitals of the LHS "Azienda Sanitaria Salerno 2", Salerno, Italy. During the 2003-2004 influenza season, 230 (81%) out of 280 employees answered the questionnaire. The vaccination rate among Health Care workers of this Local Health Service (LHS) unit was about 15.0%. The reasons most frequently cited by HCWs for noncompliance with vaccination were confidence in their own personal health, the fear of adverse reactions to the vaccine and the doubt they had about vaccine efficacy. The authors concluded

that those responsible for influenza vaccination programs might consider a specifically tailored intervention strategy aimed at improving coverage [11].

The question still remains: why don't people get vaccinated? The main reasons given for refusing the H1N1 vaccine or seasonal vaccine in these studies [6, 7, 9, 11] were mainly related to the vaccine's efficacy and safety: in the next years information should focus on vaccine safety. The fear of short-and long-term side effects of the vaccine and a lack of risk awareness remain the main barriers to optimal acceptance of the vaccine by health care workers [7].

Is it possible to change this situation with a correct risk communication? As shown in the paper by Song and colleagues in 2006 [6] (Tab. I), a big and appropriately carried out information campaign could change vaccination rates significantly. Efforts to obtain these gains will

be important in the coming years, both in health care workers and in the general population.

Finally, the relevant point with which we want to conclude is that mass vaccination is considered to be the most important instrument for reducing the impact of infection, yet pandemic plans do not provide concrete estimates of the benefits and burdens of vaccination to assure that the balance is highly favourable [12]. Maybe it is time to evaluate influenza vaccination by using the Health technology assessment approach.

In summary, in accordance with Santos-Preciado, Paget, Rambhia and colleagues [2, 13, 14], when dealing with seasonal influenza epidemics, the unavoidable threat of this pandemic needs to become engrained as a worldwide public health priority, which translates into a continuous process of updating pandemic influenza preparedness and response plans.

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