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## Seasonal flu vaccination in Dutch at-risk populations was not affected by A(H1N1) 2009 pandemic vaccination

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### ARTICLE OUTLINE

We read with interest the recent paper by Maurer and colleagues describing the attitudes toward seasonal and H1N1 vaccination and vaccination uptake among US adults (Maurer et al., 2010). They found the 2009 influenza A(H1N1) vaccine uptake as considerably lower than seasonal vaccine uptake, which is not consistent with vaccination rates of patients at-risk we found in the Netherlands.

We studied the effect of pandemic influenza A(H1N1) on the relatively high vaccination rate for seasonal influenza of the Dutch National Influenza Prevention Programme (NIPP) (see Box 1) in the past years ([Kroneman et al., 2003] and [Blank et al., 2009]), and identified the relationships between vaccination rates for seasonal and A(H1N1) influenza in at-risk groups and staff in general practices. In a retrospective cohort study of at-risk groups (2009–2010) data were extracted on age, gender, diagnoses (based on medical history and medication), and vaccines from electronic medical records in 72 general practices (262,958 listed patients). The practices belong to a representative Dutch network of general practices, LINH, ([www.linh.nl](http://www.linh.nl), Tacke n et al., 2004). Practice staff was questioned by a written survey about their own vaccination; their vaccination rate was calculated separately for doctors and nurses. By sharing our data, we want to show that it is possible to reach relatively high uptake rates for pandemic as well as seasonal vaccinations using a combined strategy.

### [BOX 1]

Having satisfied themselves to the vaccines safety and effectiveness, the Dutch government decided to augment the regular seasonal 2009–2010 NIPP with vaccination for influenza A(H1N1). Both types of vaccinations were made available free-of-charge to general practices for the at-risk groups and for practice staff. Two doses –at least two weeks apart– were scheduled, with the pandemic A(H1N1) vaccination started two weeks after the seasonal influenza vaccine. (Gezondheidsraad, 2009).

In our study, 83,524 patients were identified as at-risk of developing serious complications from influenza (31.8%). Offering the separate vaccinations in general practice against seasonal and A(H1N1) influenza for groups at-risk resulted in a vaccination rate of 70.4% and 71.9% respectively. We found 63.5% of the groups at-risk were vaccinated using both vaccines. The vaccination rates for A(H1N1) and seasonal influenza were very similar in the different indication groups.

Information on vaccination status of practice staff was received from 64 practices (88.9%) with 189 general practitioners and 299 practice nurses. The vaccination rate among general practitioners was 88.9% for A(H1N1) vaccinations and 74.1% for seasonal influenza, but surprisingly, among the practice nurses the rates were significantly lower ( $p < .001$ ): 73.6% and 54.2% respectively. The vaccination rate of practice

staff as well as of the patients at-risk was quite high that could explain why we did not find any significant correlation between them.

Because of the stable results of the seasonal vaccination rate, we concluded that overall, the A(H1N1) vaccination did not affect the high vaccination rate for seasonal influenza. The uptake in the groups at-risk was comparable for A(H1N1) and seasonal influenza. The Dutch combined campaign was successful in terms of achieving high immunization rates on at-risk patients. Limiting the A(H1N1) vaccination rate to the at-risk groups probably contributed to higher Dutch vaccination rates in comparison to other countries.

Adherence to future (pandemic) vaccine recommendations issued in the vaccine campaigns, will be dependent on the current view of the influenza pandemic in the at-risk groups as well as healthcare workers, in which the probability of the number of people that will die plays a devastating role (Paget, 2009). A campaign in which an extra vaccination is introduced in a structural prevention programme seems to facilitate its implementation and stimulates the vaccination rate.

#### **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

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## **BOX**

Seasonal flu vaccination and A(H1N1) pandemic vaccination in the Netherlands in 2009.

### **Dutch National Influenza Prevention Program (NIPP)**

The Dutch influenza campaign is coordinated by the Dutch National Influenza Prevention Program (NIPP). Based on an advise of the Dutch Health Council the at-risk groups are defined as people  $\geq 60$  years, with cardiovascular diseases, lung diseases, diabetes, kidney conditions or with a poor immune system due to other illnesses or medical treatment such as chemotherapy (Gezondheidsraad, 2007). In October the mass media is called in to inform the public ([www.RIVM.nl](http://www.RIVM.nl)), especially the main target groups.

The at-risk groups are being vaccinated within the general practice. Nearly all Dutch inhabitants are listed in a general practice. The GP staff keeps record of their patients, including demographic and medical information. About 90% of the practices send a personal invitation to their patients at-risk. Influenza vaccination is free of charge for all patients at-risk. The general practice gets fee-for-service.

The NIPP enlarged their campaign due to the influenza A(H1N1) virus. An extra vaccine came available and it was decided that the at-risk group should also include pregnant women, children from 6 months- 4 years old and family members of babies from 0-6 months. Except for pregnant women, these patients were not vaccinated in general practice, but in a community setting. The vaccination campaign was also directed at health care workers.