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# **Expected and Unexpected adverse effects H1N1 vaccination for health care workers in a University Hospital**

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- (i) All authors declare that the answer **to the questions on your competing interest relating to the study are all no** and therefore have nothing to declare
- (ii) The paper and the data **have not previously been published**, either in whole or in part, and that no similar paper is in press or under review elsewhere. The manuscript has been read and approved by all the authors.
- (iii) All authors believe that manuscript is an honest work and **concur with the submitted version of the manuscript and with the listing of the authors.**
- (iv) **All authors have participated to the study, writing and corrections.**
- (v) Type: letter (or short communication), 373 words, 6 references

Sir,

We aimed at evaluating the potential adverse effects of a massive vaccination in a short period of time in order to inform correctly suspicious health care workers (HCW).

Taking into account the recommendations of Centers for Disease Control & Prevention,[1, 2] most of governments are starting vaccination programs for HCW. In France, it has started on October the 20<sup>th</sup>, 2009 in university hospitals. Vaccination team in our university hospital was gathered around infectiologists, hygienists, occupational physicians, nurses and managers (n=12). Subjects working in units with “high risk unit” of flu were asked to be vaccinated first (target units, such as infectious disease units, pediatric units, intensive care units, emergency units).

During the first week of vaccination, the vaccination team worked 22 hours in 8 target units around 10 sessions including night shift. The Pandemrix© vaccine was used (Influenza A H1N1 2009 Monovalent AS03-Adjuvanted Vaccine, GSK). Only 129 HCW were vaccinated this first week among 1870 HCW of the target population (6.9%). A self-administered questionnaire was filled out by this population about the vaccine adverse effects. We received 95 answers (73.6%). We observed an important local reaction (redness or important pain) in 50 cases (52.6%), 25 systemic reactions without fever (muscle or joint aches, 26.3%) and 6 with fever (>38°C, 6.3%). No severe allergic reaction has been observed. The mean and median was at 2 days [1;7]. Even though we observed more often adverse effects than the usual flu vaccine especially for systemic reaction [3, 4], reactions were short and not severe.

We also observed unexpected side effects among our vaccination team. Vaccination team had to face with suspicious HCW whom felt reticent about it. HCW not only feared long term side effects of a ‘new vaccine’[5, 6], but expressed doubt and irrational fear of long term effects.

However, taking into account the personal accomplishment associated with the importance of task, the consequence in our team was minimal (evaluate with a Malasch Burn out Inventory, adapted for vaccination).

In conclusion, all side effects of H1N1 vaccination should be anticipated including reactions to vaccine (immunological reaction and irrational behavior) and their consequences on vaccination team. We could also hope that better information based on these evaluations may decrease the fear of HCW and increase the vaccination cover.

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