

# Immunization in HCWS

## Background

The report of the WHO SAGE Vaccine Hesitancy Working Group defined vaccine hesitancy as “a behaviour, influenced by a number of factors including issues of confidence (e.g. low level of trust in vaccine or provider), complacency (e.g. negative perceptions of the need for, or value of, vaccines], and convenience (e.g. lack of easy access)”.

Multiple studies show that in all European Union countries, healthcare workers (HCWs) are identified as the most important and trusted source of information on how to be protected from vaccine-preventable diseases (VPDs), above all for parents with the most questions and concerns.

However, more and more studies are now showing that healthcare workers themselves, including those who provide vaccination to patients, can be vaccine-hesitant, whether considering vaccination for themselves, their children, or their patients.

In 2015 a qualitative [study](#) on hesitancy, commissioned by ECDC, in fact, shows that there are HCWs who themselves are hesitant and have concerns about vaccination.

In 2016 another ECDC [document](#) concerns how to address vaccine

hesitancy among healthcare providers. Besides, in September 2016 [Vaccine](#) published a qualitative study concerns vaccine hesitancy among healthcare workers in Europe and on [BMJ](#) another study has analyzed the reasons for the low adherence to flu vaccination among healthcare workers from an Italian region. Despite the [European Directive on the protection of workers from risks related to exposure to biological agents at work](#) states that “Effective vaccines must be made available for those workers who are not already immune to the biological agent to which they are exposed or are likely to be exposed” and it has been transposed into national legislation in most of European countries, vaccination coverage in HCWs does not increase significantly. In front of low rates of coverage, and the claim for compulsory vaccination, HCWs have a [moral duty](#) not to hurt people they have to take care of, even more when immunocompromised or frail patients, vulnerable to infections, are involved. Experts from the ASSET project performed a qualitative study on this issue, performing data visualizations based on results of the HProImmune on line survey.

[HProImmune](#) is a 3-year project co-funded by the DG SANCO Public Health Program 2008-2013 aiming to promote immunizations among HCWs in Europe and to identify barriers concerning HCW immunizations. Thirty-eight countries participated to on line survey.

The VPDs (vaccine-preventable diseases) examined in the survey are the following: Influenza, Tuberculosis, Measles, Mumps, Rubella, Meningitis, Varicella, Hepatitis A, Hepatitis B, Pneumococcal disease, Tetanus, Diphtheria, Pertussis.

Asset focused on five questions of the on line survey regarding the behavior towards immunizations of the HCWs:

1. Which of the following diseases do you believe that HCWs are more at risk of transmitting to patients and family?
2. Percentage of HCWs who have received vaccination against VPDs in the last 10 years (by disease).
3. Percentage of HCWs who have not received vaccination against VPDs in the last 10 years (by country and disease and by profession and disease).
4. Reasons for not receiving flu vaccine during the last 10 years.
5. Do you think that it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs (by profession and country).

## Data Visualization

The following graphs show the results of the HProImmune on line survey related to the five questions listed above.

Graph 1 shows which of the listed diseases the interviewed that believe HCWs are more at risk of transmitting to patients and family. You can place the cursor on each green bar and read the percentage.

Graph 2 indicates the percentage of HCWs who have received vaccination against VPDs in the last 10 years (by disease). You can place the cursor on each blue bar and read the percentage.

Graph 3 indicates the percentage of HCWs who have not received vaccination against VPDs in the last 10 years (by country and disease). The greater or lesser intensity of colored areas is related to higher or lower vaccination rates for each disease and country. You can place the cursor on each blue bar and read the percentage by country and disease.

Graph 4 indicates the percentage of HCWs who have not received vaccination against VPDs in the last 10 years (by profession and disease). The three colored bars are related to different HCWs. You can place the cursor on each colored bar and read the percentage by profession and disease.

Graph 5 shows the reasons for not receiving flu vaccine during the last 10 years. You can place the cursor on each blue bar and read the percentage.

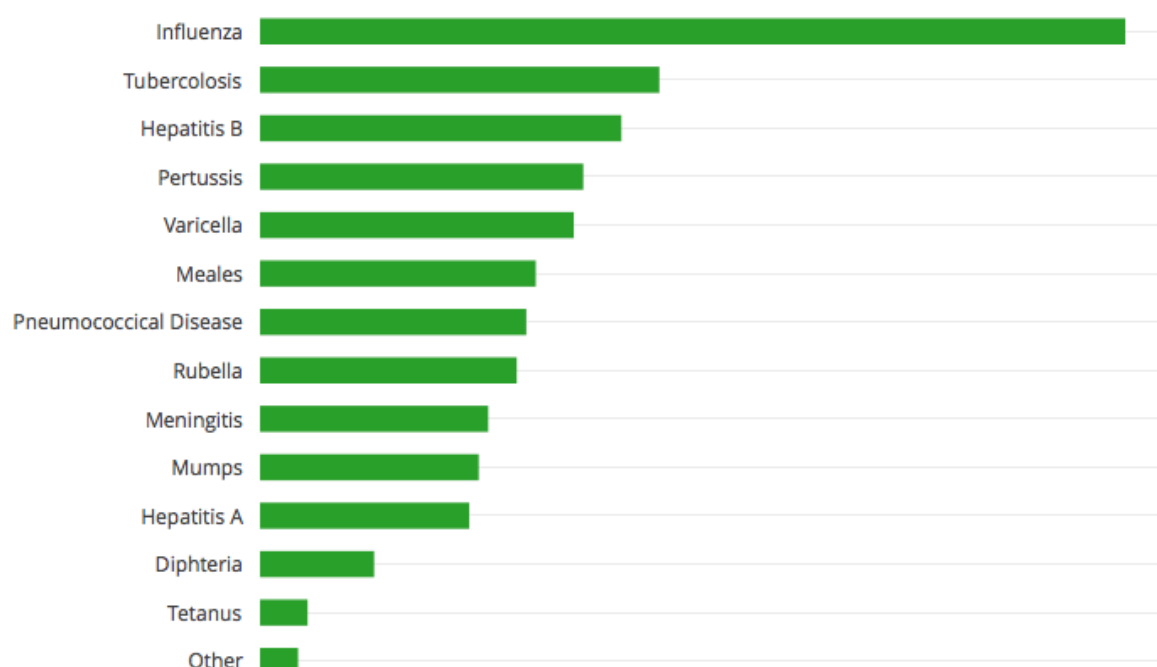
Graph 6 indicates the percentage of interviewed that think it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs. You can place the cursor on each green bar and read the percentage.

Graph 7 indicates the percentage of interviewed that think it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs by profession. The three colored bars are related to different HCWs. You can place the cursor on each colored bar and read the percentage by profession.

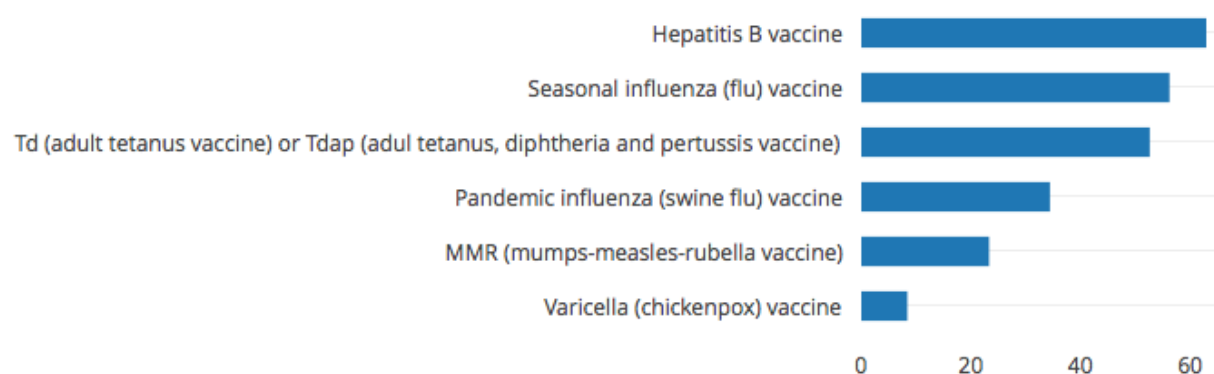
Graph 8 indicates the percentage of interviewed that think it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs by country. The greater or lesser intensity of colored areas is related to higher or lower agreement rates for the mandatory vaccination for each country. You can place the cursor on each colored bar and read the percentage by country.

Here below you can find all the graphs.

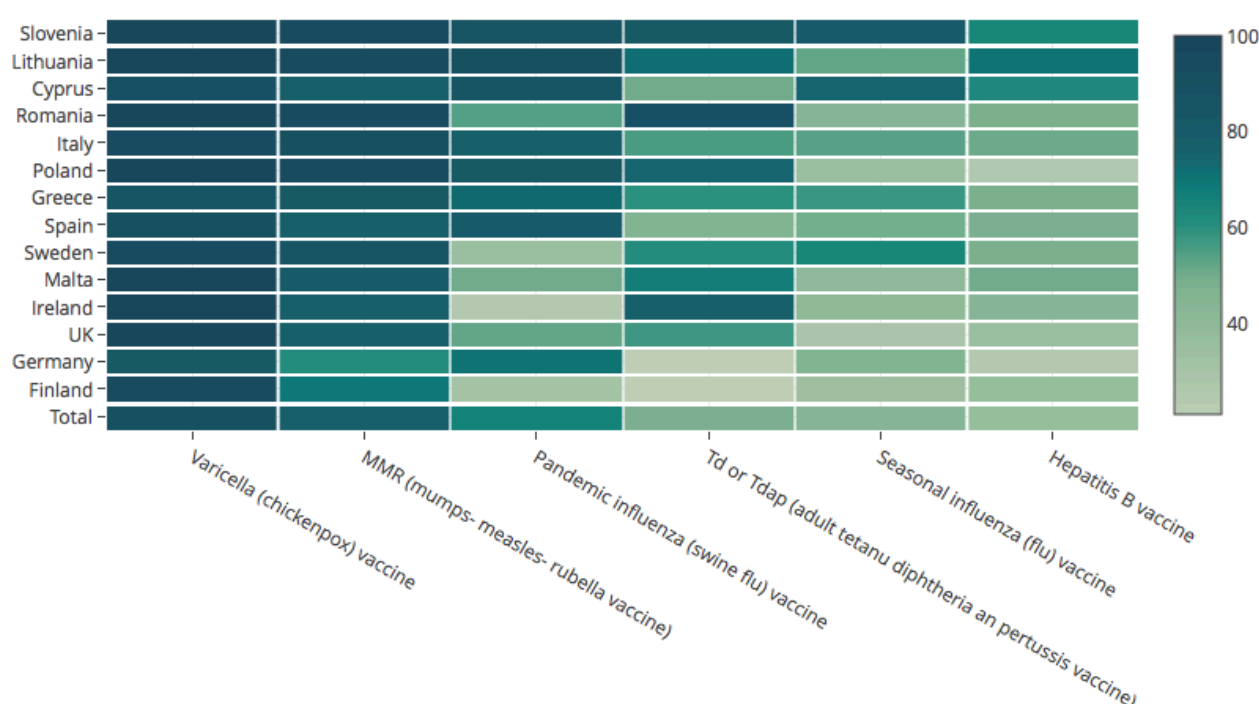
Graph 1. Which of the following diseases do you believe that HCWs are more at risk of transmitting to patients and family?



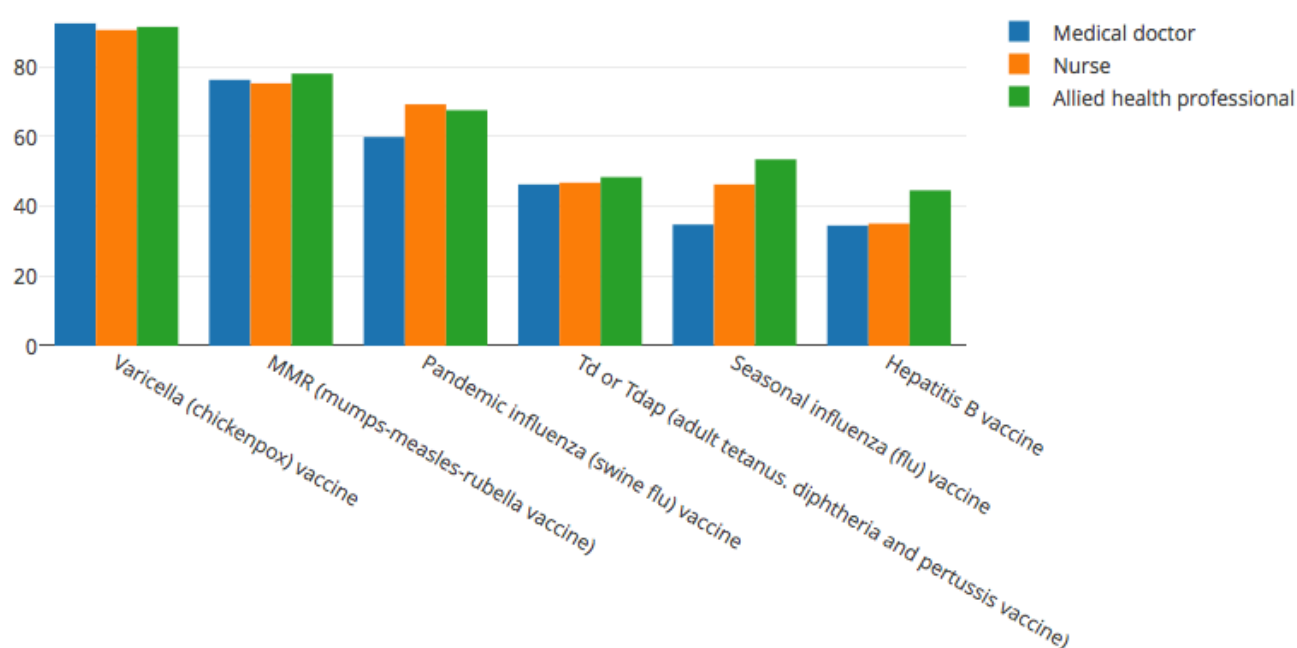
Graph 2. Percentage of HCWs who have received vaccination against VPDs in the last 10 years (by disease)



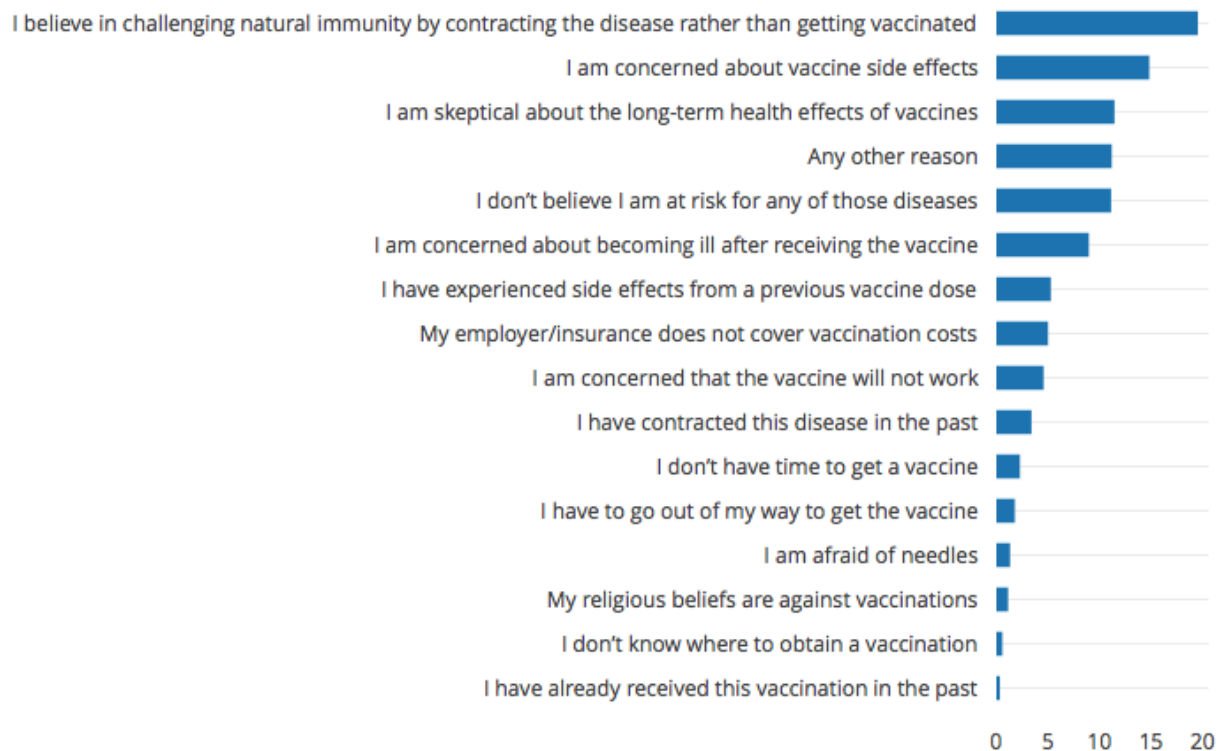
Graph 3. Percentage of HCWs who have not received vaccination against VPDs in the last 10 years (by country and disease)



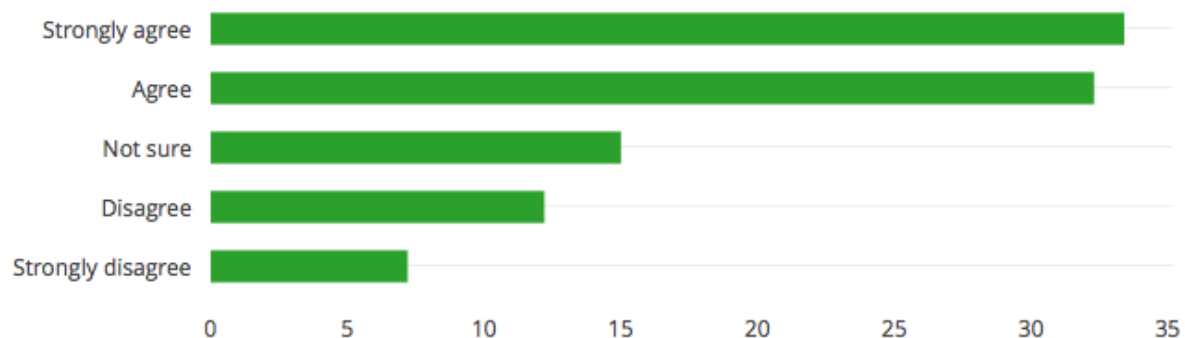
Graph 4. Percentage of HCWs who have not received vaccination against VPDs in the last 10 years (by profession and disease)



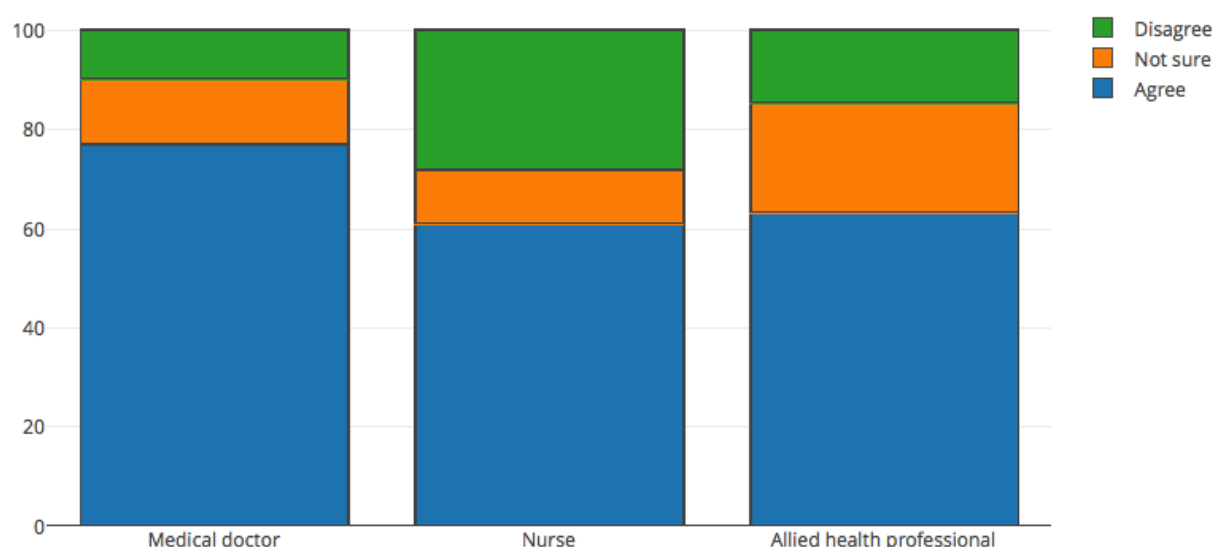
Graph 5. Reasons for not receiving flu vaccine during the last 10 years



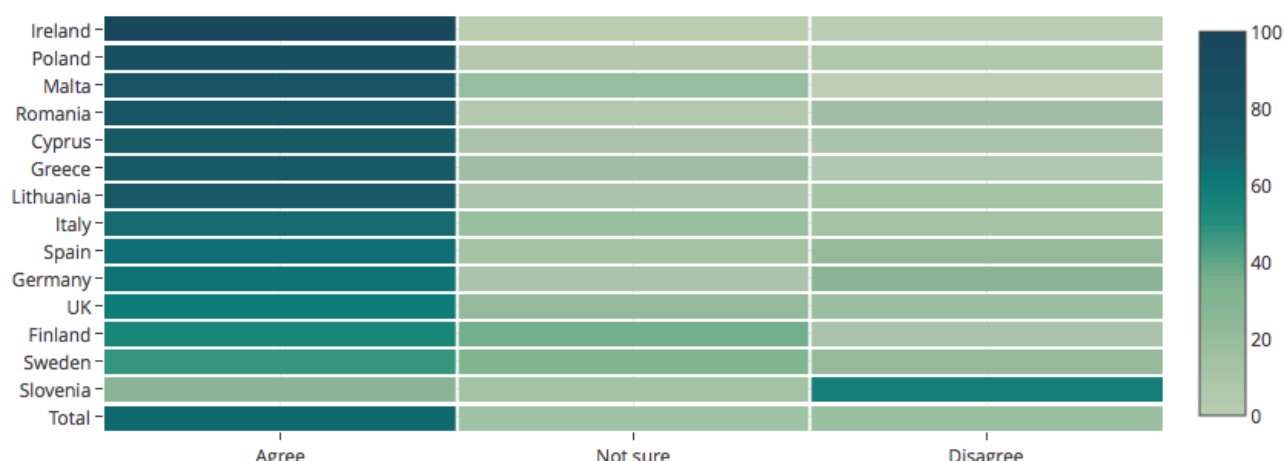
Graph 6. Do you think that it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs?



Graph 7. Do you think that it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs (by profession)?



Graph 8. Do you think that it should be mandatory for HCWs who come in regular contact with patients to be vaccinated against VPDs (by country)?



# Results

Based on available data from HProImmune on line survey, Asset data visualizations show that:

1. the majority of HCWs believe diseases at more risk of transmitting to patients and family are influenza (91%) and with lower percentages tuberculosis (42%), Hepatitis B (38%) and pertussis (34%) (Graph 1)
2. the majority of HCWs did not receive vaccination against MMR, varicella or pandemic flu during the last 10 years. While the percentages of HCWs that received vaccination for tetanus and seasonal flu were 52.6%, and for Hepatitis B 63% (Graphs 2, 3, 4).
3. the majority of HCWs did not receive flu vaccine during the last 10 years because they believe in challenging natural immunity by contracting the disease and a lower percentage of HCWs because they are concerned about vaccine side effects (Graph 5)
4. the majority of medical doctors (76.8%) believe that vaccination should be mandatory, whereas the corresponding percentages are lower for nurses and other allied categories (60.9% and 63.2%) (Graphs 6, 7, 8).
5. there are considerable differences among disease, countries and professions (sub-categories of HCWs). (Graphs 2, 3, 4, 7, 8).

**The data visualizations indicate that the awareness of importance to get vaccinated among the HCWs is still too low** and, despite the majority of medical doctors believe vaccination should be mandatory, a high percentage of them have not received vaccination against varicella (92.5%), MMR (76.3%) or pandemic flu (56.9%) for the last 10 years. Besides there are significant differences among sub-categories of HCWs such as nurses. In fact if the 60.3% of them believe vaccination should be mandatory, the corresponding percentages of those who have not received vaccination against MMR, varicella or pandemic flu for the last 10 years are higher. **Asset analysis, based on results of the HProImmune on line survey, shows clearly that HCWs themselves can be vaccine-hesitant and can have concerns and doubts regarding vaccines for lack of information or for incorrect information.**

This study has some limits: the number of questionnaires from countries participants to on line the survey is small (5,553) and at the same time a large number of questionnaires comes from one country, Sweden (2,945).

# Final Considerations

Despite these limits, however, this work is a first and important step to know the attitude of HCWs towards vaccines and to have some preliminary but significant data about vaccination coverage of HCWs. In fact, efforts to address determinants of hesitancy in the general population are doomed to fail if healthcare providers are not on board. Public health agencies and decision-makers should consider the development and implementation of information and training programmes to address their expressed needs and concerns.

Immunization protects HCWs and their patients, but uniform policies in Europe do not exist. This study could encourage stakeholders to strengthen surveillance and collection of vaccination coverage data for this subgroup of the population.

## CONTACTS

General inquiries: [info@asset-scienceinsociety.eu](mailto:info@asset-scienceinsociety.eu)

Main Website: [www.asset-scienceinsociety.eu](http://www.asset-scienceinsociety.eu)



Action plan on Science in Society related  
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