



Influenza can impact health systems, patients and staff. Consequently, a number of studies have examined the potential benefits healthcare worker vaccination may offer these different groups. The findings from this research offer important insights that can help inform local immunization policies for healthcare professionals.

Executive Summary

- **Healthcare workers may be at increased risk of contracting influenza.**
Staff can be exposed to influenza in the workplace as well as the community, and studies have reported attack rates of 11–59% in workers caring for infected patients.
- **Healthcare professionals risk passing influenza to their patients.**
Research shows influenza can be asymptomatic (in one study 59% of infected workers did not recall having influenza), and studies suggest dedicated professionals may be reluctant to take sick leave when ill.
- **Influenza can impact healthcare services.** Influenza infections can lead to staff absences and disrupt services. In one study, an outbreak impacted both emergency and scheduled admissions to an internal medicine unit, and also increased costs.
- **WHO considers immunization the most effective measure to prevent influenza.** WHO estimates vaccination can prevent 70–90% of influenza illness in healthy adults.
- **Vaccination of workers has been linked to improved patient outcomes.** Research has associated staff immunization with lower levels of patient deaths, hospitalizations with influenza-like illness and the proportion of influenza cases nosocomially acquired in hospitalized patients.
- **Immunization can help protect workers and reduce workplace absences.** Although health professionals may be reluctant to take sick leave, a number of studies have reported fewer lost working days amongst vaccinated workers.
- **Health worker vaccination can offer economic benefits.** A number of studies suggest staff immunization may be economically beneficial. In a Thai study, investigating influenza outbreaks in three intensive care units cost over 10-times more than vaccinating all the healthcare workers.

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Benefits of Healthcare Worker Immunization

Seasonal Influenza Vaccination Series: Paper 4



IFPMA

**Influenza Vaccine Supply
International Task Force**

Many health authorities recommend seasonal influenza vaccination for healthcare professionals, and studies conducted in a number of countries have examined the potential benefits of immunization for workers, their patients and health organizations^{1,2,3,4,5}. The results of this research can provide policy makers with valuable insights that can help inform their approach to healthcare worker vaccination.

Health workers can be at greater risk from influenza

Healthcare professionals may be at increased risk of contracting influenza, due to exposure in the community and via infected patients. Quantifying the risk can be complex, but WHO estimates annual influenza attack rates are 5–10% in adults, while rates of 11–59% have been reported in healthcare workers caring for infected patients^{5,6}.

Workers risk transmitting influenza to their patients

Healthcare professionals can unknowingly act as vectors for influenza viruses. Research shows a proportion of infected workers can remain asymptomatic, and dedicated professionals may avoid taking sick leave, thereby presenting a risk of influenza transmission to patients^{7,8,9}. In one study, many influenza infections appeared asymptomatic. While 23% of healthcare staff tested positive for infection following a mild season, 59% of these workers did not remember having influenza and 28% did not recall any respiratory illness^{8,9}. A study in Canada suggests workers may also continue to work when ill. During an influenza outbreak in a neonatal intensive care unit, 19 patients (35%) were infected and one died. Only 15% of the staff included in the study were vaccinated, and although 33% of the workers had influenza-like illness in the preceding four months, only 14% took time off work because of sickness⁷.

Influenza can impact health services and drive up costs

Influenza outbreaks can result in workplace absences, disrupt services and increase costs^{8,9,10}. In one study, 8% of healthcare staff had laboratory-confirmed influenza and took sick leave (for a median duration of four days) during a mild epidemic season⁸. In another study, an influenza outbreak in a 19-bed internal medicine unit prevented emergency admissions for 11 days, led to the postponement of eight scheduled admissions and cost on average an extra \$3,798 per infected patient¹⁰.

Vaccination is the most effective way to prevent influenza

The World Health Organization (WHO) considers immunization to be the most effective approach for preventing influenza¹¹. WHO estimates immunization can prevent 70–90% of influenza illness in healthy adults, and considers 'safe and effective vaccines have been available and used for more than 60 years'¹¹.

Healthcare worker vaccination has been linked to improved patient safety and reduced mortality

Several studies have associated staff immunization with enhanced patient outcomes^{9,10,12,13}. In a UK study, residents in care homes where workers were offered vaccination (coverage 48.2%) had significantly lower levels of deaths, and influenza-like illnesses and related medical consultations and hospitalizations, compared with homes that did not provide staff with vaccines (coverage 5.9%). The following year influenza rates were substantially lower than average and no significant differences were found between the care homes¹³. In the US, a study found increases in healthcare worker vaccination (from 4% to 67%) corresponded with significant reductions in both the relative frequency of influenza cases in staff and the proportion of cases that were nosocomially acquired in hospitalized patients. Nosocomial influenza represented 32% of cases amongst patients at the beginning of the study period, and subsequently fell to 0%^{9,12}.

Immunizing healthcare professionals can help protect workers and reduce staff absences

Healthcare worker vaccination can reduce the level of staff illness and workplace absence^{9,14}. In an Italian study, researchers found unvaccinated healthcare workers had significantly higher levels of influenza-like illness than those who were immunized (24% vs 15%); they also lost 64% more working days due to influenza-like illness¹⁴. Another study found vaccinated workers had significantly fewer days off work due to respiratory infections as well as days when they felt unable to work (28% fewer in both cases), although vaccination did not significantly reduce the number of episodes or days of infection⁹. In another study, immunized healthcare workers reported significantly fewer influenza-like illnesses, as well as days of illness, compared with those who were unvaccinated (23% and 27% fewer respectively). However, absenteeism due to influenza-like illness was not significantly different. The US health authorities suggest this type of result may be due to staff tending to work despite being ill⁹.

Healthcare worker immunization can provide economic benefits

Research suggests staff vaccination may be economically beneficial. In Thailand, a study found the cost of investigating a separate influenza outbreak in each of three intensive care units was over 10-times that of vaccinating all the healthcare workers¹⁵. In an Italian study of healthcare worker vaccination, researchers found the economic benefits outweighed the costs by a factor of 4.5¹⁴.

Conclusions

Healthcare workers can be at increased risk from influenza, through exposure in the community and via infected patients. Workers also risk transmitting influenza to their patients, as infection can be asymptomatic and dedicated professionals may be reluctant to take sick leave when ill. Influenza outbreaks can impact workers, disrupt health services and drive up costs. Vaccination is regarded as the most effective measure to protect against influenza, and can help protect workers from illness, improve patient safety, reduce workplace absence and provide economic benefits. Many health authorities around the world support influenza vaccination for healthcare workers, and recommend routine immunization for this important professional group.

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About the Influenza Vaccine Supply (IVS) Task Force

The IVS Task Force includes 16 vaccine manufacturing companies that are involved in research, development and production of influenza vaccines, representing more than 95% of world production. The IVS member companies are, Abbott, Adimmune Corporation, Baxter, Biken, CSL Limited, Crucell, Denka Seiken, GlaxoSmithKline Biologicals, Green Cross Corporation, Hualan Biologicals, Kaketsuken, Kitasato Institute, MedImmune, Novartis Vaccines & Diagnostics, Sanofi Pasteur, Sanofi Pasteur MSD, and Sinovac.



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