

Protecting health care workers

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(Medical Xpress)—Health care workers who consistently wear special fitted face masks while on duty are much less likely to get clinical respiratory and bacterial infections, according to new research led by University of New South Wales (UNSW) academics.

The results, published in *The American Journal of [Critical Care Medicine](#)*, are particularly significant with the threat of possible [pandemics](#) and severe flu seasons, such as the current outbreak in the United States.

"When there are no drugs and vaccines available, sometimes for months at a time, then all you have is masks," says the paper's first author,

Professor Raina MacIntyre, an [infectious diseases](#) expert at UNSW Medicine.

"Our health care workers, particularly those who work in emergency and respiratory departments, are at the front line of risk, and these special masks, or respirators, can protect them," she says. "They need to be wearing these regularly when they work in high risk settings or during a pandemic, not just when they think they are at risk."

The high filtration fitted face masks (known as N95 in the US, or P2 in Australia) are more expensive, and not as readily available as regular surgical face masks. Health care workers in Western countries do not regularly use any face masks, except when in theatre.

The study was conducted in China where face masks are commonplace in all health settings. Close to 1700 doctors and nurses in 19 Beijing hospitals were recruited for the study. Staff in respiratory and emergency departments, who are more likely to come across these sorts of infections, took part.

In a surprise finding, those who continuously used the N95 [face masks](#) had a protective effect not only against clinical respiratory infections, but bacterial ones too.

"Outbreaks in hospitals tend to be viral. No-one has thought of [bacterial diseases](#) as being responsible for outbreaks," Professor MacIntyre says. "In addition, bacterial co-infections commonly occur during [influenza outbreaks](#). We suspect that if you have one infection it predisposes you to the other. There is a complex synergy between bacteria and viruses in the respiratory tract."

Those who wore the N95 mask consistently were more than twice as likely to be protected from infection, compared with those who wore a

surgical mask all the time.

But the result is only significant for those who wear the masks continuously.

"This is a particularly important point," says Professor MacIntyre, the head of the School of Public Health and Community Medicine. "Many health professionals only put on a mask when they feel that they are at risk, such as if influenza has been diagnosed in their patient. But patients are often asymptomatic, and health workers may not identify all situations of risk, especially in a busy ward with high patient flow."

Professor MacIntyre has called for more awareness among health professionals and policy makers about the benefits of continuous use of N95 masks.

"You can't change a culture overnight. Practice and policy changes over time as scientific evidence changes," she says. "We need to get our [health care workers](#) used to wearing these masks, so that we are ready for any pandemic. This research is relevant for occupational health and safety policy for health workers."

Currently N95 masks are only recommended for use only in a targeted, intermittent way for some infections.

More information: The [full paper](#) is published in *The American Journal of Critical Care Medicine*.

Provided by University of New South Wales

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