

# Pairing masks and hand washing could drastically slow spread of pandemic flu

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Allison Aiello with study participants

(Medical Xpress) -- Masks and hand hygiene could cut the spread of flu-like symptoms up to 75 percent, a University of Michigan study found.

A new report shows the second-year results (2007-2008) of the groundbreaking U-M M-Flu study found up to a 75 percent reduction in flu-like illness over the study period when using [hand hygiene](#) and wearing [surgical masks](#) in residence halls, said Allison Aiello, associate professor of epidemiology in the U-M School of Public Health. Aiello and Dr. Arnold Monto, SPH professor of epidemiology, are co-principal investigators of the M-Flu study.

While the study also showed a 43 percent reduction in the rate of flu, it wasn't statistically significant. Students were more likely to report

influenza-like symptoms than to provide laboratory samples for [confirmed cases](#), Aiello said. "This might have impacted our power for detecting significant differences in confirmed flu," she said.

The results from both years found no significant reduction in symptoms in mask use alone, which suggests masks and hand hygiene should be used together, she said.

At the beginning of a pandemic, vaccines probably won't be available immediately so one of the first lines of defense to stop the spread of illness will be non-pharmaceutical interventions like hand hygiene and [face masks](#). The M-Flu results bode well for these types of non-pharmaceutical interventions in the community setting for [pandemic preparedness](#), Aiello said.

"This means masks and hand hygiene may be a good measure for preventing transmissions in crowded living quarters," said Aiello. "In a pandemic situation where compliance may be significantly higher than in controlled studies, masks and hand hygiene together may have even higher preventative implications."

The M-Flu study was the first of its kind and received international exposure when launched in 2006. The team of M-Flu researchers recruited more than 1,000 students in U-M residence halls. The students were assigned to groups who wore masks, wore masks and practiced hand hygiene, or did neither. They were monitored for the presence of flu symptoms or the flu.

The study was the first to test the effectiveness of these measures for primary prevention before people become sick or exhibited symptoms in the university setting, Monto said.

"Ultimately, this research could help the development of national

policies for pandemic preparedness," Monto said.

The goal of M-Flu was to estimate the reduction in rate of flu infection and illness attributed to masks and hand sanitizers, and masks alone during two flu seasons. The results in year two were similar to year one with substantial reductions in flu-like symptoms. Students in both studies were asked to wear [masks](#) in the residence halls for six hours per day and clean their hands with an alcohol based hand sanitizer in addition to soap and water hand washing.

The group is planning another study involving campus residence halls, this time to evaluate the effect of voluntary sequestration on the [flu](#) in residence halls. Details and a timeline for that study are not available yet.

The M-Flu study was a collaboration among the School of Public Health, University of Michigan Housing and the University Health Service. In addition to Aiello and Monto, authors include current students or graduates of the U-M SPH: Rebecca Coulborn, Brian Davis, and Vanessa Perez; and a colleague at Wayne State University, Monica Uddin. The paper, "Facemasks hand hygiene and [influenza](#) among young adults: A randomized intervention trial" is scheduled to appear in *PLoS ONE* on Jan. 25

**More information:** [dx.plos.org/10.1371/journal.pone.0029744](https://dx.plos.org/10.1371/journal.pone.0029744)

Provided by University of Michigan

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