# University students and Pandemic (H1N1) 2009

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## Introduction

In April 2009, severe cases of pneumonia preceded by influenza-like illness (ILI) were noted to occur in Mexico and then North America. A novel influenza A (H1N1) virus was identified as the cause and it rapidly evolved into a pandemic. In Ireland, the median age of confirmed cases is 18 years, with 80.0% less than 35 years.

Universities therefore have the potential to become unstable, central outbreak centres with their large young adult population, high levels of close social contact and permeable boundaries. During a pandemic or disease outbreak, the proportion affected may exceed the seasonal norm of one-third of the student population.

Understanding of outbreak management in such institutions is essential to minimise the impact of pandemic influenza in both the institution and its surrounds.
We aimed to examine the level of [illegible] 2009, compliance with non-pharmaceutical interventions and health communication preferences amongst students at University College Cork, Ireland.

## Background

The Health Service Executive (HSE) issued guidelines to help universities in responding to the pandemic. In response to the approaching pandemic UCC began to work on its own pandemic influenza plan during the alert phase and during the pandemic phase an Influenza Response Team (IRT) was tasked with implementing the HSE guidelines and developing a UCC Pandemic Flu Plan.

Many actions were taken to increase awareness and educate the university population included the sending of multiple "all-user" emails, articles for university publications, information posters and the creation of a dedicated web-page linked from the university's home page.

Actions were also taken to stem the spread of the infection within the university environment. They included posters promoting strong adherence to the recommended infection control measures (hand-washing, good cough and respiratory etiquette) and an audit and upgrade of existing hand washing facilities was carried out, along with the installation of alcohol hand wash dispenser units.

In order to monitor the outbreak amongst the university population, an online self-reporting system was set-up and students were encouraged to report any diagnosis of an influenza-like illness meeting the diagnostic criteria for H1N1.

## Methods

In a cross-sectional study, a survey was designed to assess the level of knowledge of pandemic (H1N1) 2009 ,compliance with infection control measures and preferred Health Information sources among students in University College Cork. The survey was piloted on March 3 with five students, representative of the members of the study population, and modified accordingly. The final version of the survey recorded: (1) demographic information; (2) knowledge and awareness of pandemic flu; (3) compliance with prevention measures; and (4) health communication preferences.
The survey was administered through an online anonymous survey and, in person, on the university campus. Some of the knowledge questions were adapted from a study undertaken by Eastwood et al. Data were collected between April 7 and April 14 2010.

The sample comprised of students of UCC in Cork, Ireland. Participants accessed the online questionnaire through advertisements on online chat forums for UCC students. Participants were surveyed in person at four different points on the University campus – outside two academic buildings (both multi-faculty), outside the main library and outside the student centre. Students were stopped randomly and asked to take part in the survey.

## Results

### Context

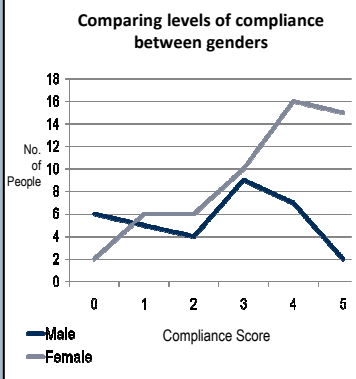
On February 18 2010, the HSE announced that the rate of Influenza Like Illnesses had fallen below the "influenza threshold", indicating that influenza could be considered to no longer be circulating widely in the community. With this in mind, normal procedure for dealing with people presenting with respiratory symptoms resumed and it was recommended that public information posters re H1N1 be removed. It is following this "end of the pandemic", that our survey took place.

### The Sample (n=88)

| Characteristics: | |
|---|---|
| Female | 55 (62.5%) |
| Mean Age | 21.65 years |
| *College of Study* | |
| Arts, Celtic Studies and Soc Sci. | 25 (29.5%) |
| Business and Law | 27 (30.7%) |
| Medicine and Health | 21 (23.9%) |
| Science and Engineering | 14 (15.9%) |
| *Student Category* | |
| Undergraduate | 73 (83.0%) |
| Postgraduate | 15 (17.0%) |

### Compliance with Prevention

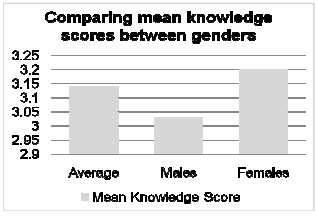
In our study 90.8% (80/88) of respondents reported changing at least one habit in order to comply with non-pharmaceutical prevention measures (such as hand-washing , good cough etiquette). Our study also showed that there was a statistically significant difference between males and females in levels of compliance (p=0.002). A person is therefore more likely to be compliant if they are female.



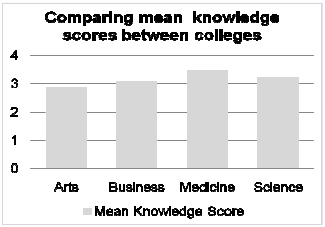

### Knowledge of Pandemic Influenza

92% of this sample of university students reported having knowledge of the term "pandemic influenza" this compares very favourably to two previous studies in Australia and the USA prior to the recent pandemic in which only 44% and 41% respectively, of the national population samples were aware of the term.

Further investigation revealed that only 27.9% of respondents were able to correctly answer all four basic knowledge questions. When comparing average knowledge scores; females had a greater mean score than males.



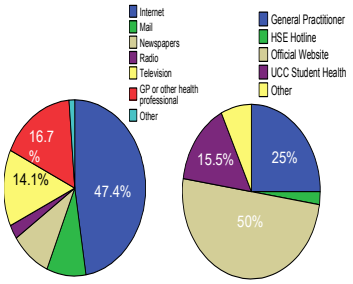

Average knowledge was also different between the four university colleges: Medicine and Health scored highest with 3.48, followed by Science and Engineering with 3.23, Business and Law with 3.07 and finally Arts, Celtic Studies and Social Science with 2.88.




### Health Communications

Participants were asked about their most preferred method for *receiving* detailed health information:

Participants were asked about their most preferred method when *seeking* more information about pandemic flu:




## Conclusion

Our findings suggest that, women are more likely than men to comply with recommended infection control measures designed to reduce the spread of pandemic (H1N1). We encourage further measures to disseminate information at times of such outbreaks that these campaigns be designed to specifically target male students. This may lead to to increased compliance with prevention measures during any future pandemic.

It is important that any communications plan takes into account student's preferred methods of receiving and seeking health information. A strong communications policy should be treated with equal importance to other non-pharmaceutical interventions in any institution's response plan.

## References

•Health Protection Surveillance Centre, Ireland: **Influenza Weekly Surveillance Report**, Week 23 2009.
•Nichol KL, D'Heilly S, Ehlinger E: **Colds and influenza-like illnesses in University students: impact on health, academic and work performance, and health care use**. *Clin Infect Dis* 2005, 40:1263-1270.
•Iuliano AD et al.: **Notes from the field: outbreak of 2009 pandemic influenza A (H1N1) virus at a large public university in Delaware, April-May 2009.** *Clin Infect Dis.* 2009 Dec 15;49(12):1811-20.
•Health Service Executive, Ireland: **Guidance for Third Level Institutions in preparing for Pandemic (H1N1) 2009** (Swine Flu).
•Health Protection Surveillance Centre, Ireland: **Infection Prevention and Control Precautions for Suspected and Confirmed Pandemic (H1N1) and Seasonal Influenza v1.0,** 11/02/10.
•Health Protection Surveillance Centre, Ireland: **Influenza Weekly Surveillance Report**, Week 7 2010.
•Eastwood et al.: **Knowledge about pandemic influenza and compliance with containment measures among Australians**. *Bull World Health Organ*. 2009 Aug;87(8):588-94.
•Blendon RJ, Koonin LM, Benson JM, Cetron MS, Pollard WE, Mitchell EW, et al. **Public response to community mitigation measures for pandemic influenza.** *Emerg Infect Dis* 2008, 14:778-786.

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