INAHTA Briefs

Issue 2010/155

Title **The Impact of Illness and the Impact of School Closure on Social Contact Patterns**

Agency **NETSCC, HTA, NIHR Evaluation and Trials Coordinating Centre**
Alpha House, University of Southampton Science Park, Southampton, SO16 7NS, United Kingdom;
Tel: +44 2380 595 586, Fax: +44 2380 595 639; hta@soton.ac.uk, www.hta.ac.uk

Reference Volume 14.34(4). ISSN 1366-5278. www.hta.ac.uk/project/2224.asp

Aim

To describe and quantify the changes in: 1) social contact behavior experienced by individuals when they are ill with pandemic H1N1 influenza (swine flu) and 2) mixing patterns of school children that take place as a result of swine flu-related school closures.

Conclusions and results

Evidence from this study suggests that ill individuals make substantial changes to their social contact patterns. Changes were strongly linked to absence from work and the severity of the reported illness. Hence, epidemiological modelers should consider the implications of illness-related behavioral changes on model predictions. Future studies to measure the extent of behavioral change in a broader cross-section of infected cases could be valuable, along with more detailed studies of the social contact patterns of school children, focusing on differences between school terms and school holidays. For the patient study, approximately 3800 surveys were distributed by 31 antiviral distribution centre (ADCs). Overall, 317 responses to the initial survey were received, and 179 participants returned the follow-up survey. For all types of contact, except contacts made at home, there were highly significant differences in contact behavior. Individuals made substantially fewer contacts (approximately one third as many) when they were ill than when they were well. Analysis showed that returning to work was the most significant predictor of increased numbers of contacts. Also, the greater the change in the number of symptoms reported, the greater the change in the number of contacts. For the school study, approximately 1100 questionnaire packs were distributed and 134 responses were received, with 119 paired contact diaries. Pupils reported on average 18.5 contacts each day during term time and 9.2 during the half-term holiday – a reduction of over 50% and a highly significant change.

Recommendations

See link www.hta.ac.uk/project/2224.asp.

Methods

A self-completed questionnaire-based study was designed and carried out in the autumn/winter of 2009-2010. The study population was individuals who had been diagnosed with swine flu and who received a swine flu antiviral prescription from an ADC. The study aimed to quantify changes in participants' social contact behavior. The study consisted of two parts: the initial survey was designed to be filled in when participants were symptomatic with swine flu; the follow-up survey was designed to be filled in once they had recovered. Each part was returned by post in a prepaid envelope. Each part of the questionnaire had two sections. The first section collected information about the participant (age, sex, household size and composition), their health status (symptoms list, a measure of their current health, date of symptom onset, antiviral use), their behavior (work/school/college attendance, public transport use), and the impact of their illness on their activities (time off work, receiving care from others). This section also asked for participants' name and address so the follow-up survey could be sent to them. The second section was a contact diary in which participants were asked to list everyone they met over the course of a day. A meeting was defined as either talking face-to-face or skin-to-skin contact (eg, handshake, kiss, contact sports). Participants were asked for information about each person whom they reported meeting: 1) age (or age range), 2) gender, 3) whether there was skin-to-skin contact, 4) how long the encounter lasted, 5) the social setting in which the encounter occurred, and 6) how often they normally met this person.

Further research/reviews required

See link www.hta.ac.uk/project/2224.asp.

Written by Dr Ken Eames, London School of Hygiene and Tropical Medicine, NETSCC, United Kingdom

ISSN 1654-501X