Likely impact of school and childcare closures on public health workforce during an influenza pandemic: a survey

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Abstract

During an influenza pandemic, public health staff may not report to work due to illness, transport disruptions or care responsibilities, including care of children if school closures occur. A survey was conducted in a population health unit to estimate the impact of closure of schools and day care facilities on staff ability to work at their usual workplace or at home, and determine their access to the Internet for communication. Staff were also asked about concerns associated with working from home. Eighty-seven staff completed a paper based survey. Thirty-eight per cent (33/87) of staff may be absent from work due to the impact of childcare and school closure, however 24 (73%) of these staff would be able to work from home with most having access to dial-up (87%) and broadband Internet access (71%). Staff reported concerns about potential exposure to pandemic influenza, the need for personal protection and clearly defined roles and training, availability of adequate equipment and technology to work from home, and sick leave provisions during a pandemic. While school and childcare closures will have a significant impact on public health agency staff, they have the capacity and willingness to work from home. Their practical concerns should be addressed to optimise their participation. *Commun Dis Intell* 2008;32:261–262.

Keywords: disease outbreak, public health response, pandemic influenza

Background

Studies exploring the willingness of the clinical and public health workforce to report for duty during a pandemic suggest the need for public health agencies to plan for absenteeism and to develop methods for staff to work from home.[1,2] Staff may not report to work due to pandemic influenza or other illness, transport disruptions or care responsibilities, including care of children if school closures occur. Hunter New England Population Health is an integrated health protection and health promotion unit of NSW Health with 120 full time equivalent staff of which only 12 staff routinely perform health protection functions compatible with pandemic influenza response. All 120 staff may be called upon to provide support for case assessment, contact tracing and prophylaxis, and provision of public information during a pandemic.

A survey was conducted to estimate the impact of school and day care facility closures on staff ability to work at their usual workplace or at home and to determine their access to the Internet for communication. Staff were also asked to identify any concerns or questions associated with working from home.

Methods

Staff were provided with a standardised paper questionnaire in July 2006. They were asked to indicate whether they would be available to report to the workplace if schools or child care centres were closed due to a pandemic. Those unable to report to the workplace were asked if they would be available to work from home, how many hours per week they would be available and whether they had dial up or broadband Internet access. All responses were anonymous.

Results

Eighty-seven of 120 (72%) staff completed the survey. Up to 38% (33/72) of staff may be absent from work due to the impact of combined childcare and school closure, however 73% of these (24/33) would be able to work from home. Of these 24, most had access to dial-up (87%) or broadband (71%) Internet connections and 15 who estimated the amount of hours they could work from home, estimated 6 to 40 hours with a median of 30 hours per week.

Of 18 concerns reported by staff, 6 related to potential exposure to pandemic influenza or the need for personal protection, 4 to the requirement to have clear roles and training in a pandemic, 3 to the availability of adequate equipment and technology to work from home, and 3 to workers compensation or sick leave provisions during a pandemic.

Discussion

This survey of population health staff suggests that school and childcare closures will have a marked impact on absenteeism among workers responsible for public health disease control and surveillance functions. However, their ability and willingness to work from home would compensate, at least in part, for likely absenteeism.

The UK Influenza Contingency Plan used modelling to predict that 25% of employees would take between 5 and 8 days off in the 3 to 4 months of a pandemic.[3] At least 5% to 7% would be absent in the peak week of impact, with the proportion rising to 15% if the attack rate were to increase from 25% to 50%. The Australian Health Management Plan for Pandemic Influenza predicts peak workforce absenteeism rates of up to 50%.[4] It is likely that absenteeism to provide child care will be a significant contribution to total absenteeism if child care facilities and schools close. Arrangements that produce alternate child care-like facilities will be discouraged by authorities and may be resisted by parents and relatives due to concerns about the transmission of influenza if children are grouped in informal child care arrangements.

Public health disease control responses rely on access to and dissemination of information via email and shared access to databases. During the Australian National Cumpston Pandemic Exercise, NSW Health's NetEpi program was used via an online interface to manage all case assessment and contact tracing information, and surveillance reporting was conducted using an online interface. It may be difficult to procure new broadband connections once a pandemic has occurred, however, staff in many locations may be able to access broadband wireless Internet services through the use of plug-in wireless cards.

In addition to delays in gaining broadband Internet access, significant lead time may be required to establish secure methods for accessing internal network resources, such as virtual private networks, to ensure security of confidential patient information. Scenario modelling exercises performed within the financial sector in the United States of America suggested that the increased use of the Internet for distance-learning and recreation will result in decreased online performance in areas where schools were closed. By the peak of the pandemic, broad impacts across access networks, and residential Internet service throughput was reduced to 50% of normal due to congestion at the end, or 'last mile' of the network nodes.[5]

As might be expected, workers in a high technology environment, such as a health department, have higher rates of home Internet access (86%) compared to the general community (60%) and much higher rates of broadband access, 82% versus 31%.[6] Australia has similar household access to Internet and broadband to the United Kingdom, the United States of America and Germany.[6]

During the initial consultation with staff on the rationale for this survey, some employees without children responded that the survey was too narrow and that employees might be unable to work during a pandemic due to care for disabled or aged relatives as well. This survey specifically sought to estimate the impact of school and childcare closure, as this is predictable and described in the National Pandemic Plan.[4] It is recognised that absenteeism would rise above these levels due to illness among staff and due to their care role for family and friends and this should be acknowledged by planners.

Conclusions

Methods for rapidly connecting key public health staff to the Internet from home, such as wireless access, should be explored. Education and policy development for pandemic preparedness should transparently address personal protective equipment and workplace infection control, define specific roles for specific staff, and clarify workers compensation and sick leave provisions during a pandemic.

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