



<b>Title</b>	<b>School closure to reduce influenza transmission</b>
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primers they developed themselves. In addition, Southern hybridization was done. The results showed that *SCCmec* III ST398 MRSA isolates should be typed as *SCCmec* type V. In this conclusion we agree with the authors. It seems clear that Zhang's method incorrectly identified 4 of the animal-related ST398 isolates as *SCCmec* type III instead of *SCCmec* type V. Whether all ST398 MRSA are *SCCmec* type IV or V remains unclear. Recently, an article by Nemati et al. was published in which ST398 MRSA was also typed as *SCCmec* III (3). However, in that study the *SCCmec* typing method of Zhang was also used.

In conclusion, the choice of *SCCmec* typing method is directly related to obtaining accurate *SCCmec* results for ST398 isolates. To date, almost all animal-related ST398 MRSA isolates are *SCCmec* types IV and V.

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## School Closure to Reduce Influenza Transmission

**To the Editor:** Cowling et al. reported on the effects of school closure in Hong Kong, People's Republic of China, during March 2008 in response to influenza-related deaths of children (1). The influenza epidemic started in January 2008 and peaked in late February, but the 2-week school closure did not begin until March 12. Consequently, the school-based epidemic was on the decline by the time officials closed schools. Other studies have suggested that early school closures can help reduce influenza illness in the community and among school children, especially during a pandemic (2–6). However, surveillance systems that rely on school absenteeism or deaths would likely provide information too late during the outbreak for school closure to effectively reduce influenza transmission.

The Centers for Disease Control and Prevention (CDC) has recommended early closure of schools as a community mitigation measure in the event of a severe pandemic (7). Specifically, CDC recommends rapidly initiating activities such as advising sick persons to stay home, dismissing children from schools, closing child-care facilities, and initiating further

social distancing measures within a state or a community at the beginning of the upslope of a pandemic wave (acceleration interval), i.e., when cases are initially identified and community transmission begins to occur (8). We concur with the authors that the 2007–08 influenza season was already waning by the time the decision was made to close schools (deceleration interval).

School closure used as a single pandemic control measure is predicted to be less effective than early, concurrent use of multiple measures. Socially disruptive measures like early school closure and keeping children from congregating in the community would likely reduce community transmission of pandemic disease, but would also create secondary challenges (9,10). Therefore, to ensure maximal benefit for reducing disease transmission, interventions should be implemented early and concomitantly with other nonpharmaceutical and pharmaceutical measures, accompanied by public education, and used judiciously based on pandemic severity.

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**In Response:** We agree with Koonin and Cetron (1) that early application of any intervention during an influenza epidemic or pandemic is critical in maximizing population health benefits. Further, the longer an

intervention is sustained, the greater the likely benefit.

Whether surveillance data can inform public health interventions may depend on the timeliness of the data as well as the length of the epidemic. In tropical and subtropical settings, influenza tends to circulate longer. Although duration of the epidemic could enable delayed interventions a chance of success, social distancing interventions may need to be sustained to ensure that the epidemic does not revive when the intervention period ends.

One important study not mentioned by Koonin and Cetron is a natural experiment in France where the staggering of school holiday periods in different regions enabled Cauchemez et al. to estimate that school holidays prevent 16%–18% of seasonal influenza cases (2). In contrast to our study of a single school closure event in response to 1 seasonal outbreak, the French study considered preplanned holiday periods spanning many years.

Although pandemic plans often describe action to be taken depending on features in the epidemic curve (e.g., the acceleration interval as the upslope of the epidemic curve), we would argue that more focus should be given to underlying transmission dynamics. In our analysis of the effect of school closures in Hong Kong, we used a simple statistical technique (3) to estimate the underlying reproductive number. Changes in the epidemic curve may lag behind changes in the underlying transmission dynamics by at least 1 serial interval, as has previously been shown for severe acute respiratory syndrome (3–5). Public health practitioners must be encouraged to use these methods routinely.

Finally, we concur that a multi-pronged, targeted, layered approach

will likely provide the best mitigation strategy in the event of a pandemic. However, we caution against conflating good public health practice of “pulling out all the stops” in the event of a pandemic with good scientific practice of evaluating the independent effect of school closures, which was the object of our article.

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