patients above 5 years of age. The signs and symptoms of the disease were mild and rarely required more than 24 hours hospitalization. One case of fatality was reported.

**Conclusion:** H1N1 outbreak (>40%) among Sudanese children have been confirmed with predominance of incidence in school aged children (above 5 years).

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28.048

Assessing H1N1 (2009) mitigation strategies under epidemiologic and programmatic uncertainty

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**Background:** Decision-makers faced substantial uncertainties during the H1N1 (2009) pandemic. Uncertainties were both epidemiologic (e.g. unknowns about likely attack rate and severity) as well as programmatic (e.g., unknowns about when vaccines would be available). Simulation models can be used to assess the effectiveness of mitigation strategies, but model projections may change according to assumptions about epidemiologic and programmatic variables.

**Methods:** We developed a simulation model of a pandemic (H1N1) 2009 outbreak in a medium-sized Canadian city using demographic and epidemiologic influenza pandemic data. Simulated individuals were allocated into homes, schools, workplaces and communities, and the contact patterns and resulting spread of influenza were modeled. We projected the attack rate under different combinations of vaccination, school closure, antiviral drug strategies, and "trigger" thresholds and under various levels of pre-existing immunity. To assess the impact of epidemiologic and program uncertainty, we used combinatorial uncertainty analysis in which all possible scenarios combinations are simulated, and the results stratified according to questions of interest. This permitted us to identify the general features of public health response programs that resulted in the lowest attack rates.

**Results:** Delays in vaccination of 30 days or more reduced the effectiveness of vaccination in lowering the attack rate. However, pre-existing immunity in 15% or more of the population kept the attack rates low, even if the whole population was not vaccinated or vaccination was delayed. School closure was effective in reducing the attack rate, especially if applied early in the outbreak, but this is not necessary if vaccine is available early or if pre-existing immunity is strong. These results are robust under the combinatorial uncertainty analysis. For a baseline scenario of 5% pre-existing immunity and no school closure, the attack rates under scenarios of (i) no vaccination, vaccination of 30% beginning (ii) 30 days or (iii) 60 days after the outbreak were (i) 21.7%, (ii) 7.6%, and (iii) 12.5% respectively.

**Conclusion:** Early action, especially rapid vaccine deployment, is disproportionately effective in reducing the attack rate. Combinatorial uncertainty analysis can be useful for assessing the impacts of policies when decisions must be made in an environment of uncertainty.

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Providing guidance during the swine flu outbreak in 2009: An evaluation study of the National Resource for Infection Control (NRIC)

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**Background:** Over 40 000 professionals monthly access the evidence provided by the National Resource for Infection Control (NRIC, www.nric.org.uk) - a digital library for infection prevention and control, was launched in May 2005. The project funded by the Department of Health (UK) is endorsed by NeLi (www.neli.org.uk) and its success has been in its unique ability to provide the best available evidence published within the last 5 years (where possible) on investigation, management, prevention, control and treatment of, healthcare associated infection, and infectious diseases. The user base is coming from the UK, US and many other non-English speaking countries. The key added value is the quality appraisal of posted documents conducted in collaboration with major professional societies.

**Methods:** During the swine flu outbreak from April until August 2009, we conducted a wide evaluation of user searches and needs and access of key resources to better understand user concerns.

We conducted a number of evaluation searches that will be presented on at this conference. Most importantly, page views for resources related to swine flu peaked in late August, as illustrated on Figure 1. Further, important revelation was investigation of the swine flu searches along the timeline of the outbreak clearly demonstrating the raise and increase of the keyword "pandemic" (graph in red) after 11th June 2009 and the keyword "influenza" (graph in green) after 23rd July 2009 while the keyword "pandemic flu" (graph in blue) initially popular decreased. Figure 2 illustrates the popularity of the three most frequent keywords.

Direct access to influenza resources on NRIC was also encouraged by the placement of a dedicated link on the Home Page (green line on Figure 2). Further timelines, traffic and information needs analysis revealed an increase in interest in evidence around pandemic influenza.

**Conclusion:** Having learning these lessons we have updated the NRIC Home page in October 2009 and are in the process of collecting more results for the autumn second wave. A comparative study of this unique evaluation and user navigation behaviour, user demographics as well as searches from popular search engines will be presented at the conference.

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