
Coates' Canons Blog: Controlling H1N1 Flu in North Carolina

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UPDATE February 28, 2017: This post has been updated to delete links to resources that are no longer available online. The post itself has been retained to provide historical information about the 2009 H1N1 flu outbreak, and to serve as an example of how North Carolina communicable disease control law provides for disease control measures during an emerging illness event.

You're no doubt aware that there has been an outbreak of H1N1 flu (formerly called "swine flu") in North Carolina this summer. To date, 175 state residents have been hospitalized and nine have died from this new strain of flu. Of the 660 cases that were reported to the state's flu surveillance system between May and August, 587 (nearly 90%) were H1N1. However, because the vast majority of cases are *not* reported, state health officials estimate that there actually have been between 30,000 and 50,000 cases of H1N1 in North Carolina already.

In North Carolina, state and local public health agencies are responsible for detecting and controlling outbreaks of communicable diseases such as H1N1 flu. To that end, G.S. 130A-144(g) requires the state Commission for Public Health to prescribe communicable disease control measures. Subsection (f) of the same statute requires all persons to comply with the control measures prescribed by the Commission, and subsection (e) makes the local health director responsible for ensuring that the prescribed control measures are "given"—which in practice generally means ensuring that people who may spread the disease are informed about the required control measures. The health director also has authority to pursue legal remedies against individuals who do not comply with required control measures.

Thus, North Carolina residents and public health agencies alike have an interest in this question: Exactly what are the required control measures for H1N1? The answer is a moving target, because H1N1 is an *emerging illness*. An emerging illness can be a disease that is entirely new to a population, as HIV was in the early 1980s, or it can be a known disease that begins to rapidly increase in frequency or geographic spread. Influenza is an old public health foe, but this season's H1N1 is a novel type—meaning we haven't seen anything precisely like *this* flu before—and it has spread rapidly, to the point of being declared a pandemic by the World Health Organization.

When a disease is brand-new, there may be many unknowns: In what ways does the disease spread, and how readily? How severe is it? Are existing treatments effective, or is something new required? Are certain people more susceptible than others? The answers to all these questions are relevant to developing appropriate disease control measures, and it takes some time to work out the answers with emerging illnesses. Plus, as knowledge about a disease evolves the measures for dealing with it need to evolve as well.

How can this happen within a legal framework that requires a state rule-making body to prescribe disease control measures, and all persons to comply with them? It would be silly to attempt to spell out control measures for diseases that are not yet known or well-understood. On the other hand, once a new disease appears and knowledge about it begins to develop, the rule-making process can't move fast enough to ensure that any control measures that the Commission prescribes are—and remain—the best measures for controlling it.

North Carolina's solution to this problem is simple in theory but less so in practice. The Commission for Public Health has adopted a rule that states that, when control measures for a disease have not otherwise been specified by the Commission, the required control measures will be the measures published as guidelines or recommended actions by the U.S. Centers for Disease Control and Prevention (CDC). Such publications, including amendments and later editions, are incorporated by reference into the rule. 10A NCAC 41A.0201(a).

The virtue of this approach is that it allows the required control measures to evolve along with understanding of the disease. In the case of H1N1, it means North Carolina's approach to control has changed as the outbreak has unfolded. For example:

- *School closure.* When H1N1 first appeared in the US in late April, CDC guidelines and recommended actions called for schools to be closed if a student became infected, and we had school closures in North Carolina. But by mid-May, school closure was no longer a required control measure. (You may have heard that there has been a recent school closure in NC—but that closure was a decision made by school officials in response to a large number of student absences. It was not a required disease control measure.) **[UPDATE: The news story about the 2009 school closure is no longer available.]**
- *Isolation of infected individuals.* Isolation of sick individuals has been a control measure from the beginning of the outbreak and it remains so now. However, the period of isolation has changed. In the early days of the outbreak, individuals were instructed to isolate themselves (usually at home) for seven days or until 24 hours after all symptoms subsided, whichever was longer. Today, the period of isolation is 24 hours after the person's fever subsides without the use of fever-reducing medicines—a period that is likely to be less than seven days for most individuals.

North Carolina's approach presents some challenges in practice. The most compelling challenge for local health directors is to keep abreast of the most recent CDC guidelines, to ensure that they are communicating the correct control measures to sick residents and the public. Explaining why the control measures are different today than they were a few weeks ago is no doubt a challenge in itself! Also, the CDC documents are characterized as "guidance" and control measures are presented as "recommendations," not mandates. This can create some confusion about which statements in the documents are the required-by-law control measures in North Carolina. (To make this more clear, the NC Division of Public Health has issued several memos—directed to health care providers, schools, and others—that specify some of the required control measures for H1N1.) **[UPDATE: The 2009 memos are no longer available. Current information about influenza in North Carolina is available at flu.nc.gov.]** Finally, local health departments must maintain careful records of the CDC guidelines that were in effect on particular dates. This will be of vital importance if a health director needs to pursue legal remedies against an individual who violates the required control measures—the director will need evidence of the control measures that were in effect on the date the individual was instructed to comply. So far, the 2009 H1N1 outbreak has been mild and to my knowledge no local health director has had to do this (but if you know of a case where this has happened, please give me a call.) However, flu viruses are notorious for evolving and there is always the potential for them to become more virulent. If that occurs with H1N1, this may become an issue.

The SOG will host a webinar on H1N1 flu on Thursday, September 10. **[UPDATE: The archived webinar is no longer available. The webinar materials are on file with the author.]**

Links

- www.ncleg.net/EnactedLegislation/Statutes/HTML/BySection/Chapter_130A/GS_130A-144.html
- reports.oah.state.nc.us/ncac/title%2010a%20-%20health%20and%20human%20services/chapter%2041%20-%20epidemiology%20health/subchapter%20a/10a%20ncac%2041a%20.0201.html
- www.cdc.gov/h1n1flu/guidance/
- flu.nc.gov/