

## **Assessing the Utility of the Nominal Group Technique as a Consensus-Building Tool in Extension-Led Avian Influenza Response Planning**

### **Abstract**

The intent of the project described was to apply the Nominal Group Technique (NGT) to achieve a consensus on Avian Influenza (AI) planning in Northeastern Ohio. Nominal Group Technique is a process first developed by Delbecq, Vande Ven, and Gustafsen (1975) to allow all participants to have an equal say in an open forum setting. A very diverse group of experts were gathered to determine direction for regional AI response planning. The findings of the study indicate that the NGT is an appropriate technique for planning for the emergency management of an AI outbreak in a defined geographical area.

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**Terence R. Kline**  
Veterinarian  
Orrville, Ohio  
[docs2kids2@yahoo.com](mailto:docs2kids2@yahoo.com)  
[m](#)

## **Introduction**

### **Background**

Wayne County, Ohio has a population of 113,000, with approximately 65% located in rural areas and, with neighboring Holmes and Tuscarawas counties, is home to the largest Amish population in the country. The poultry industry in Wayne County contributes \$23 million/year to the economy. Poultry production is also important in the surrounding counties. The program described here followed the example of the state of Pennsylvania, which has recognized that disaster preparedness should not be defined by individual county borders (Potter, Burns, Barron, Grofebert, & Bednarz, 2005). An outbreak of Highly Pathogenic Influenza would be a disaster economically and, quite possibly from a human-health standpoint, would not be confined by the borders of Wayne County. Roundtable participants were drawn from Wayne County as well as five surrounding counties. The program objective was to present the participants with the latest knowledge on Highly Pathogenic Avian Influenza H5N1 and evaluate the utility of the Nominal Group Technique as a consensus building tool in planning a response to it.

### **Nominal Group Technique**

Nominal Group Technique is "a structured variation of a small-group discussion to reach consensus" ("Gaining Consensus", 2006). The guidelines for using the Nominal Group Technique (1998) say that "more ideas are expressed by individuals working alone but in a group environment than by individuals engaged in a formal group discussion." Van de Ven and Delbecq (1972) describe a nominal group as a group in name only. The participants do not interact with each other. This technique is especially effective in groups whose members come from a variety of occupations and backgrounds. Nominal Group Technique works best with group sizes of 10 or fewer participants.

Van de Ven and Delbecq (1974) noted that as the size of a group increases, the participation of the members decreases. The appropriate size for a group is open to debate. Groups of five-six (Sample 1984), four-eight (Delong 2004), and more have been recommended. Large groups are divided into smaller groups, each led by a facilitator. The facilitator describes the process to the participants and leads the discussion but does not try to influence the process or the answers. He or she makes sure that everyone in the group has something to write with and "states the issue or problem as one question" (Rebore & Haverkamp, 2006). Each individual is asked to write down a certain number of responses. The facilitator asks each individual to give one response, which he writes on a chalkboard, white board or flip chart etc. This is repeated until all have stated all of their responses.

After all of the responses are recorded, the group holds a short discussion about them. Duplicate responses are eliminated (Rebore & Haverkamp, 2006). The group members are each given five adhesive dots. They are asked to use the dots to make their choice of the most important responses listed on the board. They may put one dot next to each of five different responses or all five next to one that they feel is important enough to rate all of their votes. The 10 responses that receive the most votes are recorded as the highest priorities of the group. If there is more than one group, the priorities of each group are combined, and all participants vote to determine the 10 highest priorities from the combined responses.

## **Highly Pathogenic Avian Influenza**

Highly Pathogenic Avian Influenza (AI) H5N1 first appeared in Quangdong Province in China in 1996. In 1997 it was found in poultry farms in Hong Kong (World Health Organization, 2007). This strain of AI was found to have direct transmission from birds to humans. Since that time, the virus has spread across Asia and is now found in Europe and Africa. A total of 566 people have contracted the disease, and of them, 322 have died, for a mortality rate of 57% (WHO, 2011). Avian influenza is carried by many types of birds, including migratory waterfowl ("Spread of Avian Influenza", 2005). Thomas Van't Hof, an ornithologist at Wright State University, predicted in 2005 that AI would reach Africa by 2006 (Britt, 2005). He was correct. He has said that the patterns of migratory waterfowl mean it is a matter of time before it reaches North America.

## **Methods and Procedures**

### **Thesis Statement**

The purpose of the described study was to assess the efficacy of the Nominal Group Technique (NGT) in achieving consensus in regional planning for an animal disease outbreak, in this case Highly

Pathogenic Avian Influenza (HPAI). Ohio State University Extension planned and moderated a pandemic-response planning roundtable because they interacted on a regular basis with all of the interested parties.

## Roundtable Participants

Agencies elected to send participants to the program were identified based on their potential involvement in a disaster response. The identified agencies were invited to send representatives to a roundtable and discussion to address the problem. Agencies included emergency management agencies, health departments, police and fire departments from the participating counties, four local hospitals, and the six major poultry companies in the area. Many of the workers in the local processing plants were Hispanic immigrants, so the local Hispanic advocacy group was asked to send representatives. Many of the poultry farmers in the area are Amish, and they sent representatives to the meeting. The meeting participants covered a spectrum from Amish poultry growers to physicians.

In groups with differences in social and educational background, one person or group might dominate the discussion. The NGT was used in the meeting to address this concern. Van de Ven and Delbecq (1971) felt that a group made up of individuals with similar backgrounds tended to work together well but found that a more heterogeneous group developed higher quality answers with a higher level of acceptance by the group. Nutt (1976) found that a planning group made up of subject matter experts produced higher quality results. The members of this group (Table 1.) were selected because they were representative of the segments of society that would be affected by an outbreak of HPAI and could be considered subject matter experts within these (potentially) affected groups. Participants came from a total of nine counties.

**Table 1.**  
 Occupation of All Meeting Attendees

<b>Occupation</b>	<b>Number Attending</b>
Poultry and Egg Processors	8 (6 different Companies)
Fire	8 (6 different fire departments)
Medical	8 (4 hospitals)
Health Department	7 (5 counties)
Ohio Department of Agriculture	4
Emergency Management Agency	5 (3 Counties)
US Department of Agriculture	3
Police	2
Federal Bureau of Investigation	2
Schools	2

Veterinarians	3
Media	1
* Counted in more than one category	

## Facilitator Selection and Training

Five facilitators were trained for this program. They were selected from Ohio State University Extension and Wayne County Emergency Management personnel that had previous experience facilitating in NGT exercises. They were provided with a script that detailed the entire NGT exercise, including the exact question to be asked, the time to allow for silent generation of ideas, how to record the ideas, leading the discussion, and voting for the most important ideas. The meeting moderator was a county Extension Educator.

## Meeting Preparation

Participants were contacted through a combination of letters and telephone calls. More than 80 people (including the speakers) were contacted and committed to attending the meeting. Adverse weather conditions on the day of the event resulted in a total of 60 people actually attending. The number of people who participated in the NGT exercise was 28.

Each participant was asked to sign-in to the meeting and provide name, address, county, gender, race, organization, position, and email address. The responses in each of the NGT exercise groups were also recorded, including the responses eliminated in the voting process.

## Dissemination of Information

Participants received background information on the topic to be discussed (The Health Canada Policy Toolkit, 2000). A comprehensive overview and update on HPAI H5N1 was provided for the meeting participants. Speakers with high professional credibility were used. Two speakers with partial Extension appointments were drawn from the Ohio Agricultural Research and Development Center. Others included the State Veterinarian, The USDA-APHIS Area Veterinarian-in charge, a representative of the state health department, the CEO of the Ohio Poultry Association, and the head of the Wayne County Emergency Management Agency (Table 2).

**Table 2.**  
 Parent Organizations and Topics of Speakers for the Pandemic Influenza Roundtable

Organizations of Speakers	Topic
Ohio Agricultural Research and Development Center	Avian Influenza – History and Current Situation
Ohio Department of Agriculture	Avian Influenza Response and Recovery

US Department of Agriculture	Response Plans
Ohio Poultry Association	Avian Influenza – Ohio’s Poultry Industry Prepared
Ohio Agricultural Research and Development Center	Composting Livestock and Poultry Mortality
Ohio State Health Department	The Public Health Response to Avian Influenza
Ohio Emergency Management Agency	Continuity Planning

## Nominal Group Technique Exercise

With 28 participants remaining at the time of the NGT exercise, it was decided to have eight-10 in each group. Three facilitators were used. The participants were asked to go to one of three rooms of their choice. Two groups of 10 and one group of eight resulted.

The facilitators introduced themselves and explained the exercise to their group. The question that was decided upon prior to the exercise (Potter, Gordon & Hamer, 2004) was "What do we (as a region) need to address in the development of an Avian Influenza Response Plan?" The participants were instructed to take 5 minutes and write down three areas they felt needed to be addressed in response to the question. Each group discussed their answers to eliminate any duplicates, and then each individual in the group was given the opportunity to vote for the answers they felt addressed the most pressing issues. It was decided to narrow the answers from each group down to no more than 10. Two of the groups did not need to vote because they had no more than 10 answers left after duplicates were eliminated. The third group had 14 answers, which were reduced to 10.

The three groups were then reconvened as a whole, and the 27 responses were written on the board in front of the group. The facilitator told the group they would eliminate any duplicates and then vote again to get the list down to 10 responses. Eliminating duplicates left 11 responses (Figure 1). The group decided that all 11 responses should be kept, so the exercise was declared to be over.

**Figure 1.**

Final List of 11 Responses from Nominal Group Technique Exercise

Responses
1. Incident Command System – The establishment of a recognized chain of command with a common nomenclature.
2. Personal Protective Equipment – Training on the correct safety gear to use on an affected farm and its proper use.
3. Emergency Medical Services issues. Proper care of poultry workers from an affected farm

that report for medical

4. Educating the public and dispelling misconceptions on the difference between Avian Influenza and Pandemic Influenza.
5. Cooperation of the poultry industry on voluntary containment, and providing them with training on symptoms, who to notify etc.
6. Local (town hall) meetings for the Amish community providing information on Avian Influenza.
7. Resource Management – Need to address logistical issues such as security, decontamination, disposal of dead birds etc.
8. Training exercise education – Insuring that there are open lines of communication between the state and local authorities.
9. Assess the need for a state or local disaster declaration.
10. Disposal sites – Detailing where they are and what can be disposed of there.
11. Communications – Insuring that public information officers, responders and the media are receiving the same information.

## Summary and Conclusion

The described meeting showed the utility of the Nominal Group Technique as a tool in consensus building when dealing with a very diverse group. It also illustrated the ability of Extension to act as a facilitator between diverse groups. This group had individuals from at least three cultures and with educational backgrounds ranging from a middle school education to multiple college degrees. The initial 27 responses were narrowed down to 11 simply by eliminating duplicate responses. This shows an unexpected uniformity in responses. The reason for this was probably the slate of lectures that all respondents sat through together. The end result was an agenda of topics to be addressed by a steering committee tasked with developing an Avian Influenza Response Plan for the area.

This exercise demonstrated several issues to be addressed when using the NGT for emergency management planning. The question put to the participants was somewhat general. A more specific question might generate a broader variety of answers.

More than half of the meeting participants left before the NGT exercise. Although the targeted groups were all represented by those individuals who remained, the numbers of representatives from each group changed dramatically. This resulted in at least one exercise group that did not include a representative of each group. Lack of group uniformity may have affected the responses. Some type of incentive could be developed to encourage a larger percentage of the participants to stay till the

end of the program. This might generate more variety in responses.

The participants were allowed to choose which smaller group they joined for the NGT exercise. This resulted in smaller groups that showed a much higher degree of homogeneity than the larger group. In this case it did not seem to affect the responses, but random assignment to groups would probably be a better alternative. Another possibility would be assigning individuals to groups based on a quota system that ensured equal dispersion of specialties between groups.

If the attrition rate of the participants in the study reported here can be attributed to any one factor, it would probably be the length of the program. There were seven lecturers who together spoke for 4 1/2 hours. The information presented was considered necessary for a good exercise and was well received, but it might have been better to present the information on one day and have the exercise on another. Another possibility would be mailing literature to the participants that they could read prior to the exercise to decrease the length of the program.

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