



Infectious Disease Epidemiology Report

Health Education Intervention for Salmonellosis Associated with Poultry Contact – Maine, 2013



Introduction

In recent years, the unsafe handling of baby poultry has been linked to several outbreaks of salmonellosis across the nation that led to hospitalizations and deaths. The illness is more commonly spread through the consumption of contaminated foods, but the bacteria *Salmonella* is also found in the feces of farm and backyard animals and can be spread through contact with these animals. In 2012, there were 8 outbreaks in the United States linked to live poultry. Maine CDC reported 161 cases of salmonellosis in 2012, with 4 cases linked to the handling of baby poultry.

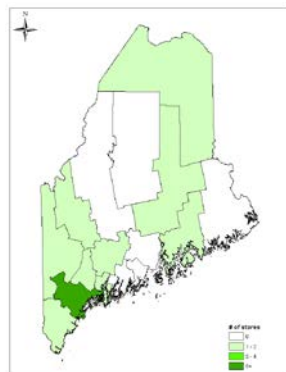
The main recommendation to avoid *Salmonella* infection for anyone handling baby poultry is to wash hands after handling the poultry. The Maine CDC Infectious Disease Epidemiology Program conducted an educational outreach campaign in March 2013 to feed stores across the state, encouraging the stores to help deliver this recommendation. Feed stores selling baby poultry have been linked to salmonellosis cases and they have direct contact with consumers purchasing baby poultry. An evaluation of whether or not the written materials were useful and effective to feed stores was conducted in June 2013.

Methods

The educational campaign was delivered via mail in March 2013 and consisted of a letter from the State Epidemiologist and State Veterinarian, a brochure titled “Stay Healthy” and a poster titled “Baby Chicks.” Using these materials and input from several stakeholders, survey questions were compiled for the evaluation. The final survey consisted of 37 questions.

Thirty-six feed stores were contacted by telephone for interviews. Each interview averaged 10 minutes in length. Stores were contacted 1-3 times. Microsoft Excel and Epi Info 7 were used for analysis.

Figure 1. Location of feed stores interviewed



Results

Eighteen interviews were successfully completed (Figure 1). Nine store managers were not able to be reached and 9 store managers declined to be interviewed.

All 18 (100%) stores interviewed received the materials. Sixteen (89%) stores shared materials with employees. Fifteen (83%) stores hung the poster and distributed the brochure (Table 1).

Table 1. Locations of materials used in stores

Placement of poster, n=15	Number of stores (%)	Distribution of brochure, n=15	Number of stores (%)
At or near baby poultry display	8 (53%)	Available at the baby poultry display	4 (27%)
Where feed was sold	1 (7%)	Available where feed was sold	0 (0%)
At checkout	6 (40%)	Available at checkout in a display	9 (60%)
Other	7 (47%)	Handed to customers at checkout	1 (7%)
<ul style="list-style-type: none"> • 2nd display area • Door leading to chicks • Wall • Front door • On table near order forms • On bulletin board 		Other	2 (13%)
		<ul style="list-style-type: none"> • Stapled to receipt • In back room near order forms 	

Sixteen (89%) stores responded that the materials were helpful. Fourteen (78%) stores reported that the materials were comprehensive and easy to read.

Stores reporting the materials were helpful stated the following reasons:

- Helpful for new employees
- Anything that explains no kissing birds and washing hands is helpful
- Good reminder for people to wash hands
- Easier than explaining
- Everyone wants to touch the chicks and materials show them they are not toys
- Don't want kids getting sick
- Free is a bonus and keeping people safe is important

Evaluation of Educational Materials for Prevention of Salmonella – Maine, 2013

Fourteen (78%) stores reported that they had hand sanitizer available at the bird display area. Eight stores (44%) reported that they had hand washing stations at the display area or bathrooms with sinks nearby. Seventeen (94%) stores said they recommend customers wash hands after leaving the display area.

Twelve (70%) stores reported that they use other educational materials in their stores, aside from the Maine CDC issued posters and brochures.

Examples of other materials used in stores:

- Pamphlet from grain company
- Brochure from hatchery
- Handmade signs
- Store-specific materials (from corporate offices)

All of the store managers were aware of how *Salmonella* infection is spread and responded that their employees were also aware of how *Salmonella* infection is spread. None of the stores remembered visiting any federal CDC websites for information about *Salmonella* infection. There were no comments about whether the materials or distribution could be improved. None of the stores thought customers were dissuaded from buying baby poultry because of the materials.

Recommendations and Limitations

The results of this evaluation show that most of the feed stores in Maine follow the recommended guidelines and make educational materials about *Salmonella* infection available to their consumers. Most are passively providing the materials and not actively hand materials to customers or answer questions for customers. Only one store mentioned that they staple the educational brochure to the back of each receipt ensuring each customer takes home a copy of the written material. This study found that all feed store managers were aware of how salmonellosis is spread, as were their employees. A high percentage (89%) of the stores in Maine would like to receive the materials again next season.

Overall, the feed store managers indicated that the materials were helpful and useful. Stores part of a large chain mentioned they have specific store-issued materials. Some managers only use the store-issued materials while others mentioned that

they use both the store-issued and Maine CDC materials. After visiting one location in person to review the store-issued materials, it is recommended that the Maine CDC continue to send their educational materials to emphasize disease prevention messages.

Three months passed between the mailing and the phone interviews. This delay may have made it difficult for managers to remember exactly what took place in the store during the selling season and when they received the materials. Another barrier was getting store managers' attention and time to complete the interview. Only half of the 36 feed stores completed interviews. Other store managers were very difficult to reach due to assisting customers, employees or completing other daily managerial responsibilities.

Another limitation is the lack of information about how consumers used the educational materials. Additional studies would be helpful to determine where consumers get their knowledge, if they read, understand, and use the materials, and whether or not there is a link between fewer cases of *Salmonella* infections due to educational outreach.

As a result of this evaluation, Maine CDC will partner with the Department of Agriculture and continue to send educational materials each spring to feed stores. Stores will be encouraged to include the brochures with each purchase. The brochure and poster are also available online at www.maine.gov/idepi.

For more information on salmonellosis:

- Maine CDC website:
<http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/disease/salmonellosis.shtml>
- Federal CDC website:
<http://www.cdc.gov/salmonella/>
- Federal CDC outbreaks:
<http://www.cdc.gov/salmonella/outbreaks.html>