



Distribution and importance of meat inspection tasks in Finnish high-capacity slaughterhouses



Jenni Luukkanen^{*}, Niina Kotisalo, Maria Fredriksson-Ahomaa, Janne Lundén

Department of Food Hygiene and Environmental Health, Faculty of Veterinary Medicine, P.O. Box 66, FI-00014 Helsinki University, Finland

ARTICLE INFO

Article history:

Received 13 December 2014

Received in revised form

16 March 2015

Accepted 25 March 2015

Available online 28 April 2015

Keywords:

Meat inspection

Distribution of tasks

Official food control

Slaughterhouse

Food chain information

Survey

ABSTRACT

Transferring meat inspection tasks from food safety authorities to slaughterhouses has sparked interest worldwide in the pursuit of cost-efficiency. In Finland, two main organizational models for meat inspection are used: official auxiliaries are employed 1) by the authority or 2) by the slaughterhouse (possible only in poultry slaughterhouses). Here, we examined the functionality of these two different organizational models by issuing a questionnaire to the official veterinarians, official auxiliaries, slaughterhouse representatives and authorities responsible for organizing and guiding meat inspection in Finland. The questionnaire enquired how the distribution of food chain information (FCI), ante mortem and post mortem inspection tasks function in red meat and poultry slaughterhouses, and whether changes in the distribution should be made. Views on the importance of these meat inspection tasks were also evaluated. Our results showed that meat inspection personnel, slaughterhouse representatives and the officials guiding and organizing meat inspection considered ante and post mortem inspections important or very important. Both in red meat and poultry slaughterhouses, the meat inspection organizational model functioned well in relation to ante and post mortem inspections, which is essential for effective and precise inspection. FCI inspection was considered less important than ante and post mortem inspections, and respondents observed serious problems in receiving accurate FCI, which should be promptly resolved. It is also of concern that official red meat veterinarians considered FCI inspection significantly less important in relation to animal welfare than the officials organizing and guiding meat inspection. Authorities should have a mutual understanding of the importance of the tasks to ensure uniformity of official control. In the red meat slaughterhouses, most of the official veterinarians, official auxiliaries and slaughterhouse representatives considered it essential for consumer confidence that official auxiliaries employed by the authority perform post mortem inspection. The role of the official veterinarian in ante mortem inspection and whole carcass-condemnation (in red meat slaughterhouses) was also highly valued by the respondents.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

The main purpose of meat inspection is to ensure safe meat for human consumption. In meat inspection, attention is also paid to animal welfare and occurrence of transmissible animal diseases. Meat inspection in the European Union (EU) consists of the inspection of food chain information (FCI), ante mortem inspection, post mortem inspection and feedback to farmers (EC No 854/2004). In all slaughterhouses, official veterinarians have the responsibility for meat inspection (EC No 854/2004). Official auxiliaries are

allowed to assist in post mortem inspection and in purely practical tasks of ante mortem inspection under supervision of the official veterinarian (EC No 854/2004). In the EU, two different possible meat inspection organizational models are used: official auxiliaries can be employed by the poultry slaughterhouses, but in red meat slaughterhouses (slaughtering bovines, pigs, horses, sheep and goats) official auxiliaries are employed by the authority or by an independent control body (EC No 854/2004, 882/2004). In Finland, official red meat auxiliaries are employed by the authority and official poultry auxiliaries by the slaughterhouse. The functionality of these two organizational models has not previously been examined in Finland.

In the EU, the distribution of meat inspection tasks has been widely discussed (Alban, Steenberg, Stephensen, Olsen, & Petersen,

^{*} Corresponding author. Tel.: +358 504487039.

E-mail address: jenni.luukkanen@helsinki.fi (J. Luukkanen).

2011; Anonymous, 2006, 2008, 2013b). The approach towards allowing red meat slaughterhouses' own staffs to perform meat inspection procedures, as in poultry slaughterhouses, has sparked interest worldwide in the pursuit of cost-efficiency (Anonymous, 2006; Webber, Dobrenov, Lloyd, & Jordan, 2012). The distribution of tasks between official auxiliaries and official veterinarians has also been discussed. Regulation EC No 854/2004 enables member states to conduct pilot projects for trying out new approaches in meat inspection, without compromising meat safety. For example, the effects of assigning ante mortem inspection under certain circumstances from official veterinarians to official auxiliaries have been evaluated (Anonymous, 2011a, 2013c). In addition to these pilot projects, it is important to explore the views of the various parties involved in meat inspection on the functionality of the task distribution in the two models. Shifting tasks from the official control to slaughterhouses is a major change that should be well justified.

The aims of this study were to investigate the functionality of the two meat inspection organizational models in Finland and the importance of the various meat inspection tasks according to official veterinarians, official auxiliaries, slaughterhouse representatives and the Finnish Food Safety Authority (Evira). The purpose was also to explore the opinions of these parties on whether the distribution of meat inspection tasks should be changed and why, to develop meat inspection and its organizational models.

2. Material and methods

2.1. Questionnaire

A questionnaire evaluating views on the importance of the various meat inspection tasks and the functionality of the distribution of these tasks was constructed. The questionnaire contained Likert-scale questions, other multiple-choice questions and open-ended questions. The Likert-scale used was from 1 to 7 (totally disagree/very unimportant/very poorly to totally agree/very important/very well), with the midpoint (neither agree nor disagree/neither unimportant nor important/neither poorly nor well). The questionnaire was tailored for the various respondent groups, but all questionnaires included the following parts: information on the respondent, statements of the distribution of meat inspection tasks and questions on the functionality of the distribution of tasks. The questionnaire also explored opinions on whether the distribution of meat inspection tasks should be altered, how and why. Respondents were also asked to assess the importance of FCI, ante mortem and post mortem inspections in relation to the following factors: meat quality and safety, animal welfare and prevention of transmissible animal diseases. In November and December 2013, the questionnaire was conducted electronically, with the exception of official auxiliaries who received a paper copy. One reminder was sent.

2.2. Respondent groups

The questionnaire was sent to seven different respondent groups (analytical unit). All full-time official veterinarians ($n = 41$) and official auxiliaries ($n = 105$) performing meat inspection in all of the 17 high-capacity red meat and poultry slaughterhouses in whole Finland received the questionnaire. In addition, the questionnaire was sent within these high-capacity slaughterhouses ($n = 17$) to one to four representatives per slaughterhouse. Slaughterhouse directors, quality and production managers, or foremen familiar with meat inspection issues in each slaughterhouse were included in the study. Officials ($n = 16$) in the control and guidance unit of the Finnish Food Safety Authority (Evira),

responsible for guiding and organizing meat inspection and official control in slaughterhouses, also received the questionnaire (Table 1). All respondents were asked to answer from their own standpoint. The limit for a high-capacity red meat slaughterhouse in Finland is defined as 20 livestock units (one livestock unit = one bovine or five pigs) per week or 1000 livestock units per year and for a poultry slaughterhouse 150 000 birds per year (Anonymous, 2011b).

2.3. Statistical analysis

Statistical analysis was performed with SPSS 21.0 (SPSS IBM, Armonk, NY, USA). The 'do not know' answers were converted to missing. To analyze respondents' opinions on the importance of meat inspection tasks, the means of the importance of FCI, ante-mortem and post-mortem inspections, respectively, in relation to quality and safety of the meat, animal welfare and prevention of transmissible animal diseases, were calculated. To evaluate correlations between the various answers, the non-parametric Spearman's rank correlation test, which does not assume a normal distribution, was used. Non-parametric Kruskal–Wallis test or Mann–Whitney U test were used to analyze the significance of difference between respondent groups. Two-tailed p -values less than 0.05 were considered statistically significant.

3. Results

3.1. Respondents

There were in total 162 responses to the questionnaire, and the response rate was 83% (Table 1). Official poultry veterinarians had the highest response rate and control and guidance unit the lowest.

3.2. Importance of meat inspection tasks

Respondents considered the importance of ante mortem inspection in total as highest (mean 6.5), post mortem inspection as second highest (mean 6.3) and FCI inspection as lowest (mean 5.4) (Fig. 1). Opinions on the importance of FCI inspection for animal welfare differed significantly between the official red meat veterinarians and the control and guidance unit ($p = 0.043$, Kruskal–Wallis test).

3.3. Functionality and distribution of meat inspection tasks

In poultry slaughterhouses, the official veterinarians received no assistance in ante mortem inspection from official auxiliaries or other slaughterhouse workers and ante mortem inspection functioned well or very well, according to all official veterinarians and representatives of poultry slaughterhouses. In red meat slaughterhouses, the distribution of tasks in ante mortem inspection functioned well or very well, according to 88% (22/25) of the official red meat veterinarians, and opinions did not differ between the respondents who received assistance from official auxiliaries (5/25) and those who did not (20/25) ($p > 0.05$, Mann–Whitney U test). Of the red meat slaughterhouse representatives, 95% (19/20) also considered that the distribution of ante mortem inspection tasks functioned well or very well. No significant differences existed between the respondent groups in opinions on the functionality of the distribution of ante mortem inspection tasks ($p > 0.05$, Kruskal–Wallis test).

The distribution of tasks in post mortem inspection functioned well or very well, according to 88% (22/25) of the official red meat and 89% (8/9) of the official poultry veterinarians, and 83% (30/36) of the official red meat and 90% (46/51) of the official poultry

Download English Version:

<https://daneshyari.com/en/article/6390726>

Download Persian Version:

<https://daneshyari.com/article/6390726>

[Daneshyari.com](https://daneshyari.com)