Author's response to reviews

Title: The comparative Burden of Salmonellosis in the European Union Member States, Associated and Candidate Countries

Authors:

Birgitta de Jong (birgitta.de.jong@smi.ki.se)
Karl Ekdahl (karl.ekdahl@ecdc.eu.int)

Version: 2 Date: 12 December 2005

Author's response to reviews: see over
Dear Editorial team,
This is our response to reviewer's report:

We hereby respond to the comments given by Peter Gerner-Smidt and Henriette de Valk on our manuscript with the title: The comparative Burden of Salmonellosis in the European Union Member States, Associated and Candidate Countries, version 1.

**Reviewer:** Peter Gerner-Smidt

1. I miss comments on the observed differences in the burden detected in the different countries. The difference between Norway and Bulgaria is almost 800-fold. Is this a reliable estimate of the difference? How big is the uncertainty of the estimates and is it possible to make an estimate of it (confidence intervals or similar)? **Answer:** According to the statistician we consulted a calculation a confidence interval on the burden of disease will include an estimation of how reliable the notification system is in each country. Therefore no confidence intervals are included on disease burden but we have included confidence interval on the risk per 100,000 traveller.

2. p. 3 Selection of patients. What is the definition of travel related salmonellosis? How were travellers with more than one travel destination handled in the study? **Answer:** As written under Methods, notification data on salmonellosis, the country of infection is stated by the Physician treating the patient in the clinical notification and it is this Physician's judgement on which country a patient with several destinations has contracted the infection we has used in this study. This has now been explained more in detail.

3. p. 4 Travel patterns. How were the “controls” in the TDB selected? All travellers to European destinations? A random sample? **Answer:** As written under Methods, travel patterns, in the TDB 14,171 persons had a history of travelling with an overnight stay in Europe. All records from these persons were used for analysis which now is stated in the text.

4. p. 7 Conclusion and the figure. I don’t understand how a direct correlation between the overall incidence of salmonellosis and the proportion of S. Enteritidis will tell anything about the relative contribution of eggs and poultry as sources of infection. The proportion of S. Enteritidis infections alone will tell that. Please elaborate. **Answer:** We fully agree that the proportion of S. Enteritidis will show the burden of egg and poultry associated disease, but since there was no correlation with having a high incidence of salmonellosis and the proportion of S. Enteritidis also other measures should be taken to lower the burden of disease.

A couple of suggestion for analyses it could be interesting to include:

1. The authors have data on the proportion of Swedes travelling as tourists and for business to the different destinations. Could these data be used to estimate the risk of acquiring salmonellosis as a tourist and as a business traveller although the authors may not have specific data about the purpose of the infected travellers? **Answer:** This kind of information is just available from the TBD and not from the notifications of cases with salmonellosis. Therefore it requires a different study to answer this question.
2. What does a comparison of the distribution of serotypes and phage types in the travellers with the national data in each country where that information is available show? Answer: We don’t understand the suggestion.

Reviewer: Henriette de Valk
1. The risk is expressed as the number of cases, by country, per 100 000 travellers to that country. The duration of travel is not taken into account. However, it is likely that travel to southern countries (Spain, Greece) are mostly leisure trips and of longer duration as compared to nearby countries. If this is so, the risk for these southern countries will be overestimated. If the information on duration of stay is available in the travel database, it would be interesting to at least give the information whether duration of stay is similar in the different countries and if they differ substantially, to give the exact information (average duration of stay by country), or to correct for this, or to discuss this as a possible source of error in the discussion. Answer: This is now included in the article, in text and figure 4.

2. The IID study carried out in England (Wheeler et al, 1999, BMJ 318: 1046-1050) provides data on the incidence of salmonellosis in the community and the incidence of Salmonellosis presenting to a general practice, in 1995. These data are within a same order of magnitude (220 per 100 000 person years at community level, 157 per 100 000 person years presenting to a GP, and 80 per 100 000 confirmed by laboratory test) as the incidence estimated by this study for 2000 (119 per 100 000 confirmed cases). There are of course differences (the proportion of cases consulting a GP and getting a stool culture is likely to differ between Sweden and England, and the incidence in 2000 is expected to be lower than in 1995) but the fact that the estimates are within the same order of magnitude, is an argument in favour of the validity of the method used. Answer: We have included this reference.

3. The authors argue that better surveillance systems are necessary to provide comparable data between countries. This is of course true. However, this is not sufficient. Surveillance systems will concern laboratory confirmed cases only. The probability that a case consults a physician, and gets a stool culture, is likely to differ between countries. It will be difficult to harmonise these practices between countries because they depend on the health system and facilities in each country. Better reporting of confirmed cases only will therefore not be sufficient to ensure that data are comparable. No answer

4. This study has the advantage that all cases have consulted and have been confirmed in Sweden, and have therefore probably been equally likely to consult and get a stool culture, independant from the country where they were infected. No answer

Solna 12 Dec. 2005

Birgitta de Jong