Reviewer's report

Title: Prevalence of Chlamydia suis in pigs and zoonotic risk assessment in a pig slaughterhouse

Version: 1 Date: 3 June 2014

Reviewer: Dan Rockey

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This paper addresses a very significant issue - the ability of C. suis to grow in humans, leading to the possible intracellular interaction between tetracycline-sensitive C. trachomatis and tet resistant C. suis. This has significant public health ramifications, as this could lead easily to Tet-resistant C. trachomatis, which would be a real problem.

The experiments are set up clearly and are straightforward. There are two main issues of concern.

Major compulsory revisions

First and foremost: The ability of viable C. suis to occupy both the environment in the slaughterhouse and most importantly - the ability of the pathogen to be routinely cultured (2 patients of 12) from the eyes of workers - is of high significance. This is a really fascinating and important finding. Because of that, the readers should be given more evidence for the data. Can a micrograph be provided showing inclusions formed by the C. suis cultured from the eyes of the workers? There are statements of tetC positivity or negativity, without any subsequent evidence for the results. While I think most of this was conducted using a quantitative PCR, it is suggested that a well-controlled standard PCR be included (i.e. gel electrophoresis) of resistant and sensitive strains from the pigs, plus the sensitive strains from the humans. This is a significant result and there might be some skepticism as to its accuracy. It is suggested that the authors prove it to the readers in as many ways as possible.

Last line of page 8: It is an assumption that the PCR II assay was more sensitive that PCR I. PCR II could also simply generate more false positives. What are the data showing that PCR II actually identified more positives?

Minor essential revisions:

The abstract is too long and is speculative in places. For example, to the best of my knowledge, there is no data defending their statement that “horizontal transfer of tet resistance to C.t. makes treatment of humans ineffective”. It is suggested that the abstract be cut about in half.

Sixth line of introduction: Symptoms are no treated with antibiotics.

Middle of page 4: The sentence starting with “Furthermore…” should be
eliminated. The next sentence is challenging as well, as it reads as if they are stating that transposition is promoted by treatment with Tet, but the Tet would not drive the events, just select for resistance.

Last sentence of page 5: This should be moved to just after the sentence ending (“…for PCR and culture.”), about 6 lines above.

Page 6, middle: The term “Formerly designed” is incorrect. The term “the latter” in the next sentence is also phrased incorrectly.

Page 9, First line of second paragraph: The expectation of participation is irrelevant.

Page 10, first paragraph: There are a few typos in this paragraph.

Last line of page 11: the phrase “as a routine means of growth promotion” is redundant vs the second sentence of the paragraph. Instead, put the phrase “low levels of” before “antibiotics” in the same sentence.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no competing interests.