Reviewer's report

Title: Antimicrobial policies in animals and human health

Version: 0 Date: 27 Jul 2017

Reviewer: Damien Thiry

Reviewer's report:

General comments:

This paper is written by a well-known expert in the field of antimicrobial resistance and it is indeed very well understandable that he was invited to write this commentary.

The topic of this paper could be viewed as controversial. To be complete, this paper should include the other missing parts of the multidrug resistant bacteria emergences. Indeed, after the reading of this paper, the reader could understand that veterinary practices are the main cause of the appearance of resistant bacteria, which might not be true. Of course, it's not because of the author who was forced to summarize some points of this very large topic, due to the limited allowed space. I believe that the narrow spectrum depicted by the title could lead to a misunderstanding. With other words, I think that this paper is too short to really explain the topic delineated by the title. Moreover, I think that this paper could also contain the different positive measures taken by the veterinarian to fight the antimicrobial resistance worldwide. Another aspect should be also the economical aspect (for the famers) which should be discussed if some of the recommendations cited here should be adopted.

The author should be careful to give proves of his assertions by quoting scientific references and, when this is lacking, clearly explain the associated uncertainty. In particular, the causal relationship between veterinary medical practices and human diseases caused by resistant bacteria does not seem to be truly demonstrated in the article. Of course, this does not prevent to adopt a "prudent" attitude and recommend good practices aiming to reduce the appearance of these resistances in domestic animals; however, these recommendations need to be supported by evidence of efficacy in reducing resistance in animals.

Specific comments:

Page 3 (Background)

Lines 34-37: Even if, of course, the ban of AMGP is a good thing, this sentence should be completed by a clear statement about the absence of demonstrated causal relationship between AMGP use and rise of antimicrobial resistance.
Lines 6-7: It may be also better to repeat here the absence of demonstration of causal relationship.

Line 11: this sentence is quite understandable. What is the link with the previous statements?

Also the last part of this sentence (starting by "and therefor(e)..." should be clarified

Line 30: the selection of animal breeds more.. is sustained.

Line 31: What were the breed selection efforts put in force in Sweden? It appears to be extremely difficult to select animal breeds on an infectious disease resistance trait.

Line 37: a. What does mean: "a similar accommodation to the new environment"? Are there the bacteria or the animals that accommodate to the new environment? This needs also to be quoted by relevant references.

b. With what kind of effects? Total removal and replacements were carried out to eliminate the infectious agent and not animals that could be eventually more susceptible to these agents.

Line 54: I do not understand the relationship between the first part of the sentence and the second part, about "reserve drug" even when reading the following sentence. This sentence should be rephrased.

Page 5:

Line 18: Is this really true? It seems to be a very fast judgment of the behaviour of veterinarians. Evidence for that ?

Line 36-42: This statement presupposes the fact that antimicrobial therapy in animals has an effect in the rise on resistant bacteria in humans. I did not see any supportive evidence of that in this article. Please comment.

Page 6:

Line 43: Meaning of HGT?

Line 53: Please go to the consequences.
Line 15: could you precise the difference between cleaning and cleansing in term of biosecurity?

Line 27: this is very sensitive. Do you have evidence for that? It needs to be carefully supported by a reference...

Line 30: I do not understand

Line 35: these are guidelines although evidences of efficacy for all these items cannot be provided. Which are the following items best supported by scientific evidences?

Line 42: the term biosecurity has not been used before.

Line 48: the term "as always" is maybe too strong for this statement?

Line 54: it will help to lower … and the efficacy of the process should be established

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