Reviewer's report

Title: A Markov Chain Model for Studying Suicide Dynamics

Version: 1 Date: 14 April 2014

Reviewer: Thomas Niederkrotenthaler

Reviewer's report:

Major Compulsory Revisions:
1. Please dedicate more space to the discussion of the potential issue that reducing suicide deaths in vulnerable vs less vulnerable populations may be more or less difficult to achieve than in the other group. The current model identifies that theoretically, a reduction of suicide incidence in the healthy population would be more "effective", but in practice, this would only be true if it is at least as practicable to reduce the incidence in the healthy population as compared to the vulnerable population. The authors should explicitly mention this distinction. In this context, the author briefly note the issue of costs (to reduce suicide) in the limitations section, however, the issue is not only costs but also the general feasibility / evidence-base of interventions targeting vulnerable vs non-vulnerable population. There is little evaluation about interventions that reduce suicide risk in the general population, and the authors should discuss the implications of this lack of studies more thoroughly. Also, the authors should not report about the actual effectiveness (e.g., first sentence in discussion”) but should highlight that it is the theoretical potential under the assumption that practical approaches to risk reduction among healthy individuals are practicable in a similar way as are interventions for vulnerable individuals. Also, the usefulness of the ms would be improved if the authors provide examples of interventions that have shown promising results with regard to reducing suicide risk in the general population / "universal" approaches, e.g. media reporting.

II. Minor Revisions
1. Abstract:
   --The first two sentences are hard to read and follow. Please explain "its" effectiveness (effectiveness of what?) in the first sentence, and briefly note what "replacement" is in the second sentence. Please also consider rephrasing this section because it is unclear what the study aims and objective were -- currently, this becomes clearer only when reading later sections of the abstract.

2. Intro: "Results are somewhat mixed". Please provide a more detailed summary of the results mentioned here.

3. Countries that suggest a public health approach to suicide prevention: Please consider adding Austria here, as an example from middle Europe.

5. p.3. "certain parameters" I think it is necessary to provide a brief explanation regarding which types of parameters are considered already here.

6. p.11. "would not be affected": by what?

7. p.11 values of p...: please restate the meaning of these parameters here.

8. Figure 3: Please use a figure legend to describe all essential aspects of this figure.

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

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests: