

Review of: "Hospital's Thermo-neutral Zone for Patient Safety and Climate Change Sustainability"

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Potential competing interests: No potential competing interests to declare.

In general, the paper needs significant redactions of the text, and changes in content. Sections without contributions from the authors must be removed. The section about the prediction model (3.1) should be expanded with details of the model (measurements, equations, prediction values). The introduction section must reflect the actual content of the work presented.

If the authors wish to maintain the wide scope of the current version, writing an separate review paper is advised, and separating it from the model and measurements work here presented.

More specific comments are shown next.

Multiple language errors or poorly redacted sentences across the text. A thorough review of the draft is advised. The inadequate use of periods signs makes it difficult to understand certain sections of the text.

Oral expressions are used throughout the draft. The use of more formal and objective language is advised.

Not clear what the authors mean with the sentence "by using variables as little as 5 percent". Please revise.

In the abstract, it is indicated that the established method is "more advantageous". It is not clear which method the authors are referring to (prediction model or use of fans for temperature control), nor what is the comparison benchmark.

The content of the introduction first 4 paragraphs of the introduction does not relate to the contents of the abstract nor the following sections.

The objectives declared in the introduction section (paragraphs 3 and 4) do not relate with the rest of the article.

More details about the temperature control devices and measurement equipment are required (brand, model, operation ranges, uncertainty, etc).

The equations used in the prediction models are not included in the draft, it is difficult to assess the characteristics of the proposed method without this information.

The content of Table 1 is not clear. Are these maximum measured values for a single day? Average values? A single hour values? The meaning of the word "predictor" in this context is not clear.

The format and links to references is not consistent throughout the text (Kruger and Givont). Please revise.

The meaning of figure 2 is not clear. The figure and the paragraphs citing it must be revised. The sensitivity analysis indicated is not detailed enough. The model being used, the input variables considered and their ranges, and the output variables analyzed must be explicitly indicated.

The content of Table 2 is not clear. The text does not indicate what are the variables shown here. The columns headed “N” and “alpha” contain empty cells.

Figure 2 is a parity plot between predicted and measured values. It does not explicitly shows the model used for prediction, nor the variables measured. Also, using X and Y axis of the same length for parity plots is advised.

In section 3.2, it is not clear the meaning of “the variables are the ones that change directions”

Section 3.3

Section 3.3 starts with a literature review section. I suggest moving this content to the introduction section. Also, several imprecisions and poorly written sections make it difficult to understand the takeaways from each reference. Please rewrite.

The content of Table 3 is not clear. How was well being measured or predicted? Where is the data used for these regressions?

No references for the relationship between higher temperatures and happier people indicated are provided.

What does the word “orange” mean in this context?

Above figure 4, new study objectives are declared. All objectives and contributions should be declared in the Introduction section, and consistency should be maintained throughout the text.

The images in Figure 4 are pixelated, please replace. Also, it is not clear what the data in these images represent. Are these measurements or predicted values? Additionally, the axes on each image are different.

Below Figure 4, the impacts of dust storms and air pollution are discussed, but certain claims are made without references backing those claims. As commented on before, the literature review section could be revised and included in the Introduction section. Additionally, new additional objectives are presented here. Also, certain phrases with claims regarding desertification and use of renewable energy are included, which appear to be completely out of the scope of the work shown here. I suggest removing them and limiting the discussion to the scope of the work shown.

Section 3.4

As in section 3.3, a literature review section is shown here. Improving this review section both in content and redaction is advised, along with including it in the main Introduction section.

Figure 5 and 6 should be removed. The authors do not indicate the sources of these values, nor provide analyses based on them.

In general, no analysis is provided in section 3.4. Unless the authors include their own work here, I suggest removing it.

Section 3.5

The equilibrium between indoor and outdoor temperatures indicated in the text is not clear from figure 7. The content of Figure 7 and the sources for the data plotted is not declared.

It is mentioned that the heat flowing outdoors through the building envelope can lead to overheating. Please revise. The language in this section is too informal, and not clear enough for scientific communication.

As in section 3.4, it is not clear the purpose of this section, nor the author's contribution. In its current form, I suggest removing it.

Section 4.

The conclusions section must be rewritten based on the changes to be done in the main content of the draft.