

Commentary of Record on the Expression of Concern Regarding Kim et al. (2025)

Author: Marco Roccetti (Department of Computer Science and Engineering, University of Bologna, Italy, marco.roccetti@unibo.it)

Version Dates: First Draft (October 23, 2025); Final Version (October 30, 2025); Appendix (February 11, 2026)

Abstract: This commentary serves to document and contextualize the ongoing debate surrounding Kim et al. (2025), whose cancer incidence study is now under an Expression of Concern by *Biomarker Research*. It summarizes the author's prior critiques, identifying an epidemiological paradox and a possible inversion in propensity score matching, and notes that, following the journal's rejection of the original note, a unified scientific paper combining both analyses has been **shared with** the scientific community to ensure continued scholarly review and transparency.

1. Background

On October 22, 2025, *Biomarker Research* issued an official Expression of Concern (EoC) concerning the article “1-year risks of cancers associated with COVID-19 vaccination: a large population-based cohort study in South Korea” by Kim HJ et al. (*Biomark Res* 13:114, 2025).

The notice states:

“Readers are alerted that concerns with this article have been raised with the Editors. Editorial action will be taken as appropriate once the concerns have been fully investigated.”

This statement confirms that serious methodological and data validity issues have been raised and are under active editorial investigation.

2. Chronology of Critical Analyses

Prior to the Expression of Concern, the present author published two open-access analytical notes that examined internal inconsistencies in the *Kim HJ et al.* dataset and methods:

1. Rocchetti, M. (2025). *A Critical Note on Contradictions in South Korean Cancer Incidence Rates: The Paradox of Crude Rates Derived from the Kim HJ et al. Cohort (Biomark Res, 13:114, 2025) Showing Concurrent Increases in the Vaccinated and Overall Decrease.*
Preprints.org (DOI: 10.20944/preprints202510.0883.v1).

This note identified a major 22% downward deviation between the crude cancer incidence rate (CR) reported for the total matched cohort in *Kim et al.* (40.78 per 10,000) and the official South Korean national average (52.46 per 10,000 for 2020–2022). Such a gap indicates that the study cohort is not representative of the general population, suggesting serious sampling bias.

2. Rocchetti, M. (2025). *Addendum to “A Critical Note on Contradictions in South Korean Cancer Incidence Rates: The Paradox of Crude Rates Derived from the Kim HJ et al. Cohort (Biomark Res, 13:114, 2025)” - On Possible Sampling Bias and Inverted Propensity Score Matching*
Preprints.org (DOI: 10.20944/preprints202510.0883.v1).

The addendum developed a methodological hypothesis to explain the paradox. It proposed that the reported 1:4 Propensity Score Matching (PSM) might have been inverted or misapplied, with the smaller unvaccinated group used as the base instead of the vaccinated one. This inversion could have generated an artificial downward bias in the total cancer incidence rate by distorting cohort representativeness.

Together, these two analyses provide a coherent framework that identifies the *epidemiological paradox* in the *Kim HJ et al.* dataset and formulates a plausible methodological hypothesis to explain it.

3. Context and Scientific Implications

The *Kim HJ et al.* paper received international attention for its claim of higher one-year cancer incidence among COVID-19 vaccinated individuals. Yet, when examined

against national epidemiological data, the same cohort paradoxically exhibited a substantially lower overall cancer rate than expected.

Such a pattern is inconsistent with national cancer surveillance trends in South Korea and likely reflects errors in cohort construction or matching rather than true biological effects.

The critical analyses authored by the present researcher argued that this paradox may stem from a sampling bias or a procedural inversion in the matching algorithm, rather than from any genuine vaccine related signal. Importantly, this interpretation remains a scientific hypothesis, not a definitive accusation, pending direct verification of the underlying data.

4. Editorial and Scientific Developments

Despite the author submitting a formal Letter to the Editor to *Biomarker Research* on October 10, 2025, detailing the major critique concerning the epidemiological paradox of the cohort data, the author's critique was not accepted for publication. The editorial decision was issued on October 23, 2025, to reject the manuscript without providing a review report or any detailed substantiation. Nevertheless, it is clear that the issues raised, first through the author's *Preprints.org* critical note (**which constituted the basis of the Correspondence submitted to Biomarker Research**), and subsequently through the author's *Preprints.org* addendum, contributed materially to the journal's awareness of the underlying methodological inconsistencies that have now prompted the Expression of Concern (EoC). Significantly, following the initial submission of the author's complaints to both the *Biomarker Research* Editorial Office and the Springer Nature Editorial Office regarding this unacknowledged use of the author's work and the unjustified rejection, the only responses received were two identical copies of the October 23rd rejection letter, re-sent on October 28th and 30th. This replicated letter, again lacking any explanation or review, appeared to the author to be a deliberate, gratuitous attempt to irritate and frustrate the author's legitimate claims for scientific recognition, ethical conduct, and respect for research integrity, especially given that the author's work was the clear, yet uncredited, inspiration for the journal's official Expression of Concern.

Nonetheless, following this inexplicably reiterated rejection, and in order to consolidate the analytical and methodological threads of both documents into a single,

coherent study, the author prepared a unified research paper that integrates the two critical perspectives:

- the Epidemiological Paradox (incoherence between cohort and national crude rates), and
- the Hypothesis of Inverted Propensity Score Matching.

This integrated paper, currently deposited on a major preprint repository, has been available since October 23, 2025. It expands on the quantitative arguments, clarifies the methodological reasoning, and offers a structured evaluation consistent with scientific publication standards. This author's integrated critique will form the fundamental part of a paper soon to be submitted to an appropriate scientific journal.

This development ensures that the entire critique remains part of the formal scientific dialogue, while maintaining transparency and traceability in the evolution of the discussion surrounding the *Kim HJ et al.* study.

5. Broader Lessons and Open Science Perspective

This episode exemplifies the value and necessity of post-publication peer review. In the absence of data transparency, rigorous independent critiques can help uncover methodological inconsistencies that traditional peer review may overlook.

The timeline, from the publication of the *Kim HJ et al.* article, through the preprint and addendum critiques, to the official Expression of Concern, demonstrates the capacity of open-access commentary to prompt editorial accountability.

It also highlights the need for journals to formally recognize external scientific contributions that lead to the correction or reassessment of published research.

6. Conclusions and Recommendations

The *Expression of Concern* issued by *Biomarker Research* validates that legitimate methodological questions we have raised regarding the *Kim HJ et al.* study. The author's prior analyses documented both the epidemiological paradox in crude cancer incidence and the potential inversion in the matching process, offering a plausible explanation for the inconsistencies now under editorial review.

Given the serious methodological concerns and the subsequent editorial conduct, upholding the integrity of the scientific record and respecting authors' contributions is paramount. The following recommendations are necessary steps to meet the fundamental standards of research ethics:

1. Full Transparency:

Kim HJ et al. and Biomarker Research should release the precise algorithmic specifications of their Propensity Score Matching procedure to allow proper scrutiny.

2. Independent Validation:

The Korean National Health Insurance dataset used in the study should be made accessible to qualified researchers for replication and cross-verification.

3. Acknowledgment of External Contributions:

Open critical analyses that materially **influence editorial actions**, such as the EoC issued by *Biomarker Research*, must be **cited or explicitly acknowledged** in subsequent corrections or editorials. Failure to do so constitutes a direct breach of the most elementary principles of scientific fairness and professional integrity.

4. Strengthening Open Review:

Journals should institutionalize mechanisms for integrating and responding to responsible, data-driven public critiques.

Adherence to these obligations is essential to restore public trust in the published research and would demonstrate that *Biomarker Research* and Springer Nature are consciously and respectfully committed to maintaining the highest standards of research integrity and accountability toward contributing authors.

7. References

1. Kim HJ, Kim M-H, Choi MG, Chun EM. *1-year risks of cancers associated with COVID-19 vaccination: a large population-based cohort study in South Korea*. Biomark Res. 2025;13:114. doi:10.1186/s40364-025-00831-w

2. Roccetti, M. *A Critical Note on Contradictions in South Korean Cancer Incidence Rates: The Paradox of Crude Rates Derived from the Kim HJ et al. Cohort (Biomark Res, 13:114, 2025) Showing Concurrent Increases in the Vaccinated and Overall Decrease*. Preprints.org, October 2025. doi:10.20944/preprints202510.0883.v1
3. Roccetti, M. (2025). *Addendum to "A Critical Note on Contradictions in South Korean Cancer Incidence Rates: The Paradox of Crude Rates Derived from the Kim HJ et al. Cohort (Biomark Res, 13:114, 2025)" - On Possible Sampling Bias and Inverted Propensity Score Matching* Preprints.org, October 2025. doi: 10.20944/preprints202510.0883.v1
4. Biomarker Research Editorial Office. *Expression of Concern regarding Kim HJ et al. (2025, Biomark Res 13:114)*. Issued 22 October 2025.
5. Roccetti, M. (2025). *Methodological Considerations on the External Validity of the Kim HJ et al. COVID- 19 Vaccination Study (Biomark Res 13:114, 2025): A Quantitative Analysis*. October 2025. doi: 10.5281/zenodo.17434738.

Author's Note

Although the rejection of the original critical note by *Biomarker Research* was both regrettable and still not explained, the subsequent issuance of an Expression of Concern demonstrates the scientific relevance of the concerns initially raised. By integrating both critiques into a comprehensive article which will be soon under peer review elsewhere, the author reaffirms the principle that scientific discourse must remain open, transparent, and methodologically rigorous, particularly when addressing results with significant public health implications.

Appendix A – Philosophy and Approach to Science

The author wishes to reiterate that the purpose of this analysis is not to seek recognition, retractions, or editorial approval, but to contribute to the accuracy of scientific data and methodological transparency.

This work is based on documented, replicable statistical evidence and aims to:

1. Identify methodological inconsistencies without attributing personal intentions or passing judgment on the researchers or journals involved.

2. Ensure clarity and traceability of the data, so that scientific discourse focuses on numbers, methods, and coherence rather than editorial or personal dynamics.
3. Promote a culture of post-publication review, demonstrating that rigorous commentary and analysis can inform understanding of published results, independent of formal acknowledgment from journals.

In this context, any delays or absence of updates from journals do not diminish the validity of the analyses presented. The author positions themselves solely as a witness to the statistical reality, documenting what the data show, without interest in prestige or editorial *victories*.

Ultimately, science is defined by data, methodology, and transparency of analysis and conduct, not by ephemeral recognition or editorial narratives.