

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

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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 submitted elsewhere 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. Roccetti, 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. 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 (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 submitting a formal *Letter to the Editor* to *Biomarker Research*, 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 (review report). Nevertheless, it is clear that the issues raised, first through the *Preprints.org* critical note and subsequently through the *Preprints.org* addendum, contributed materially to the journal's awareness of the underlying methodological inconsistencies that have now prompted the Expression of Concern.

Following the 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 was formally submitted on October 23 2025 to another peer-reviewed scientific journal for consideration. It expands on the quantitative arguments, clarifies the methodological reasoning, and offers a structured evaluation consistent with scientific publication standards.

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.

To uphold scientific integrity, the following steps are recommended:

1. Full Transparency:

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

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, **should be cited or acknowledged** in subsequent corrections or editorials.

4. Strengthening Open Review:

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

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). *Challenging the External Validity of the 22% Cancer Incidence Paradox and the Role of Hypothesized PSM Inversion in the 3 Kim et al. COVID-19 Vaccine Study (Biomark Res 13:114, 2025) – Submitted for publication to an International Journal. It is pending DOI assignment through a preprint server.*

Author's Note

Although the rejection of the original critical note by *Biomarker Research* was regrettable, 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 now 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.