

## Take Home Messages

- ✓ ChatGPT release was **associated with accelerated retraction trends** in computer-aided content.
- ✓ This association remained after accounting for **pandemic effects and publisher crackdowns**.
- ✓ These findings underscore **the need for continuous monitoring** and AI-aware research integrity policies.

## Why this study?

- Generative AI has raised concerns about research integrity.
- Quantitative evidence on retractions by GAI remains limited.
- Time-series approaches allow population-level monitoring.

## Data

**Data source:** Retraction Watch Database (downloaded from GitLab)

### Study population:

- Biomedical papers published: Jan 2012 - Jul 2023
- Retracted: identified as of Aug 2025
- Observation period: At least 2 years

### Outcome:

Monthly proportion of retracted papers that included *Computer-Aided Content* as a reason.

## AIM.

To evaluate the association between ChatGPT release and retraction trends while accounting for other significant events\*.

\* COVID-19 pandemic and Hindawi's mass retraction

## Design & Statistical model

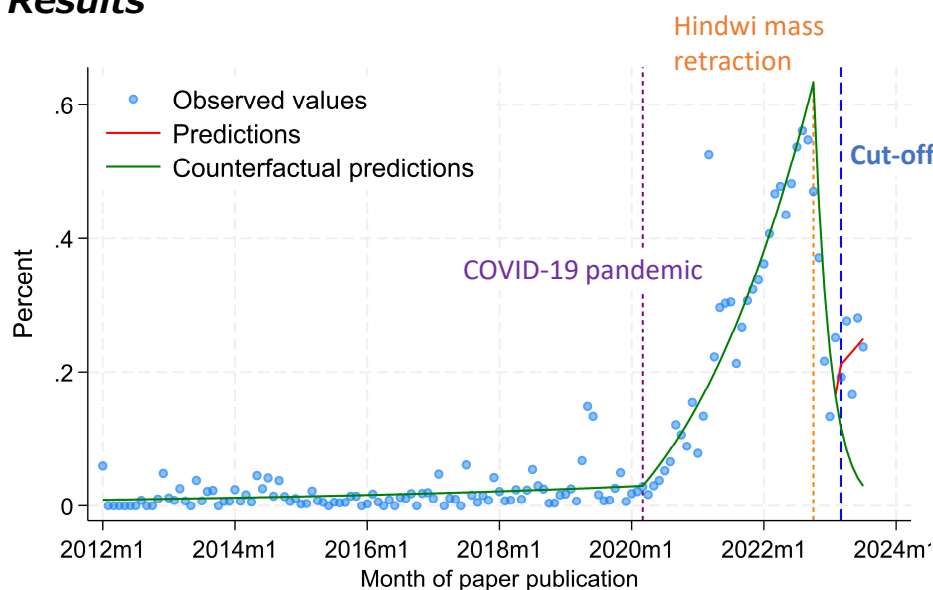
### Interrupted Time Series (ITS):

- Intervention: ChatGPT launch (Nov.-2022 modeled with a 3-month lag)
- Sensitivity analysis: Lag=0 & 6-months

### Negative binomial regression:

- Monthly counts (offset for total retracted papers)
- Level and Trend changes were estimated.
- Adjusted for COVID-19 pandemic & Hindawi's mass retraction

## Results



|              | Lag     | IRR (95%CI), p-value       |
|--------------|---------|----------------------------|
| Level change | 3 month | 1.81 (0.80, 4.09), p=0.151 |
| Trend change |         | 1.47 (1.23, 1.75), p<0.001 |
| Level change | 0 month | 0.92 (0.67, 1.25), p=0.583 |
| Trend change |         | 1.87 (1.60, 2.18), p<0.001 |
| Level change | 6 month | 2.31 (1.56, 3.43), p<0.001 |
| Trend change |         | 1.03 (0.98, 1.09), p=0.219 |

## Discussion & Conclusion

- Although the immediate level change in retraction was not statistically significant (IRR: 1.81, 95%CI: 0.80, 4.09), the trend increased by 47% per month (IRR1.47, 95%CI: 1.23-1.75).
- The observed increase is distinct from pandemic-related disruptions and publisher crackdowns, suggesting a broader systemic change.
- Although causal attribution to ChatGPT at the individual-paper level is not possible, the findings highlight the need for continuous monitoring and AI-aware research integrity policies.

## Additional information is available here.

Analyzing trends of research based on the Retraction Watch Database.  
[https://github.com/sankyoh/retraction\\_watch\\_analysis](https://github.com/sankyoh/retraction_watch_analysis)



## Conflict of Interest

The presenter has no conflict of interest with any corporate organizations relating to this presentation.