

Using Generative AI to Facilitate Strategic Publication Planning

Project Insights

AI serves as a tool to augment rather than replace human expertise.

Medical writers and clinical experts remain essential to validate outputs, correct errors, interpret clinical significance, and ensure strategic relevance of findings.

Medical communications project teams are essential to transforming and packaging useful AI outputs into deliverables that meet expectations.

Poster No.
17

The PDF can be accessed by
scanning the QR code.



Valerie Moss^a, Wing Yan Yeung^b, Shweta Rane^c, Moamen Hammad^a, Helene Wellington^a, and Zoe Bolton^a

^aPrime, London, UK; ^bBayer Inc., Mississauga, CA, USA; ^cBridgeBio Pharma Inc., San Francisco, CA, USA

Conclusions

- GenAI can support expedited production of literature analyses for publication teams by rapidly identifying and extracting outcomes of interest.
- Human oversight remains essential to ensure quality of outputs, and for interpreting strategic relevance of findings.
- This approach enabled rapid identification of variations in clinical outcome definitions and analytical methods used to assess treatment effects in a rare disease, informing literature gaps and publication planning strategies.

Introduction

- Successful gap analyses inform strategic publication and integrated evidence planning activities and guide medical education initiatives.¹
- Despite their importance, gap analyses can be difficult to perform, often requiring the processing of large amounts of information. There may also be challenges related to identifying and framing initial questions.
- We explored the utility of generative artificial intelligence (GenAI) to identify and retrieve outcomes of interest as part of literature gap analysis and strategic publication planning.

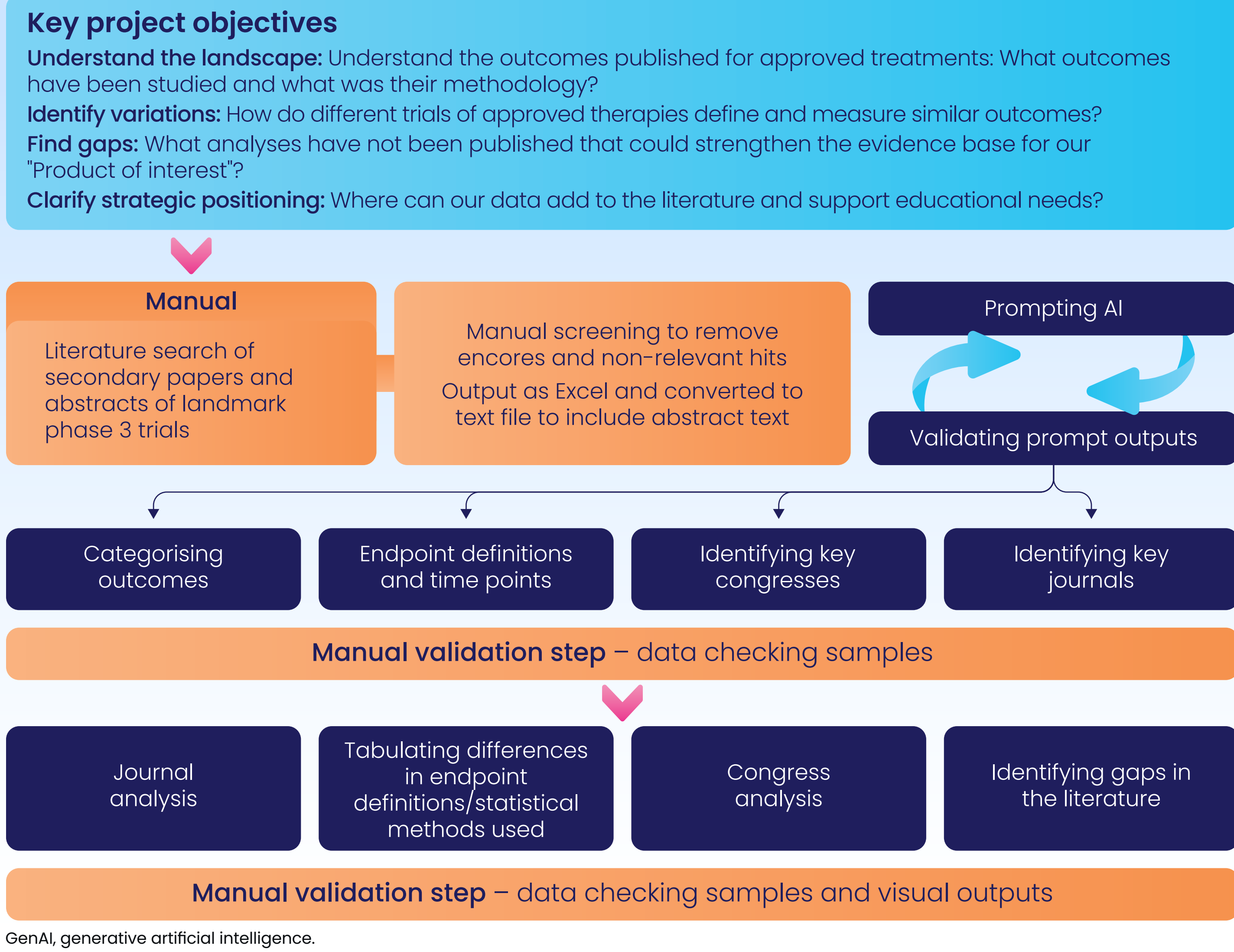
Methods

- Publications (manuscripts and congress abstracts) of phase 3 trials evaluating the clinical impact of approved therapies for rare heart failure were identified in Embase using broad search terms.
- Search results were exported and the title and abstract were manually reviewed for relevance.
- ChatGPT-4o was prompted to reformat each shortlisted record into a simplified, structured output.
- Then, using a closed-system approach, ChatGPT-4o-mini was instructed to analyse the formatted dataset (collated abstracts) to identify key outcome categories and extract detailed outcome definitions and analysis methods.
- A medical writer reviewed the ChatGPT outputs for quality and accuracy.
- The synthesised report was reviewed, and outputs were used to support identification of data generation gaps for publication planning (**Figure 1**).

Results

- Approximately 50 publications of interest were identified.
- ChatGPT processed the publications nearly instantaneously and generated a list of study outcome categories in seconds (**Box 1**).
- ChatGPT extracted clinical outcome definitions and analyses rapidly.
- Outputs were further optimised using structured, iterative prompting.
- ChatGPT reliably reported straightforward information such as the key trial outcomes assessed and specific definitions of outcomes;
 - for example, capturing detailed descriptions of composite endpoints including hierarchical statistical assessment approaches, to enable human users to understand intricacies between different trials and properly assess endpoint and data comparability.
- Advantages and limitations of using GenAI for a strategic gap analysis are summarised in **Table 2**.
- Given ChatGPT was unable to produce useful visual outputs, all informative visuals were created manually to complement the qualitative extraction tables created by ChatGPT (**Figure 2**).

Figure 1. Approach to performing a strategic gap analysis with GenAI



Box 1. Gap analyses categories^a

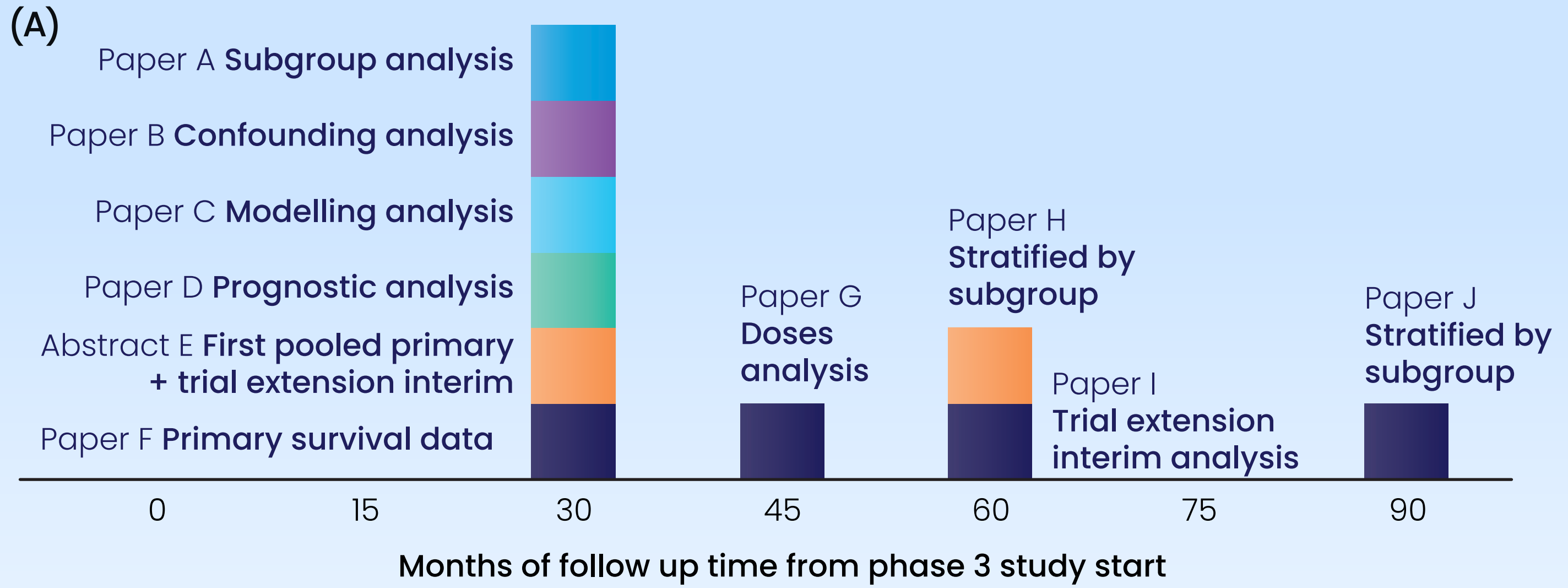
1. Mortality outcomes (all-cause, cardiovascular)	5. Echocardiographic parameters (LVEF, cardiac dimensions)
2. Hospitalisation outcomes (heart failure-related, all-cause)	6. Biomarkers (NT-proBNP, troponin)
3. Functional capacity (6-minute walk test, peak VO ₂)	7. Safety outcomes (adverse events, serious adverse events)
4. Quality of life measures (KCCQ, EQ-5D)	8. Composite endpoints

^aExample categories assessed by ChatGPT: EQ-5D, EuroQoL-5 dimensions; KCCQ, Kansas City Cardiomyopathy Questionnaire; LVEF, left ventricular ejection fraction; NT-proBNP, N-terminal pro-B-type natriuretic peptide; VO₂, volume of oxygen.

Table 2. Advantages and limitations of GenAI-supported strategic gap analysis

Advantages	Limitations
Extracted clinical outcome definitions and analyses rapidly and accurately	Analysis limited to published abstracts only, overinterpretation of findings and inaccurate quantification of results
Efficiently and accurately extracted information when given a dataset that was pre-focused by a human	Unable to produce useful visual outputs such as histograms and bar charts
Able to tabulate findings with a logical and coherent structure	Occasional hallucination, misclassification, and loss-of-context errors

Figure 2. Human outputs (A) and GenAI outputs (B) included in the analysis report



GenAI, generative artificial intelligence.

Reference

1. Focus Area Working Group: Medical Strategy and Launch Excellence. *Bridging the gap: Understanding and implementing gap analyses*. https://medicalaffairs.org/wp-content/uploads/2023/06/FINAL-SIDES-MAPS_Gap-Analysis-Webinar_FINAL_23Jun47.pdf. 2023. Accessed 15 December 2025.

Acknowledgements: The authors thank Richard McDonald for editorial support, as well as the Prime Digital and Production teams for their support with development of this poster. All opinions are the authors' own and do not necessarily reflect those of our employer.

Conflicts of interest: VM, MH, and ZB are employees of Prime. HW was an employee of Prime at the time of the analysis. WYY is an employee of Bayer Inc. SR is an employee and stockholder of BridgeBio Pharma, Inc. San Francisco, USA, and owns stocks of Pfizer, Takeda, Dianthus Inc., and Kalvista. She is also a member of the ISMPP Patient Engagement Taskforce and the ISMPP 2026 Annual meeting planning committee.

Presented at the International Society for Medical Publication Professionals (ISMPP) European Meeting, London, UK, 26–28 January 2026.