

An Update on the Use of Interactive Data Visualization in Oncology Publishing: Learnings From Additional Real-world Experiences

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Introduction

Interactive data visualization enhancements are valuable options to drive readership of peer-reviewed publications and provide novel ways to enhance the understanding and communication of complex scientific data. In 2023, we reported experiences with three artificial intelligence-based data visualization dashboards.¹

Our objective was to update experiences with three additional dashboards beyond our initial learnings by describing variations in the execution of interactive data visualization tools with peer-reviewed articles and effect on metrics.



Results

TALAPRO-2

The TALAPRO-2 study was simultaneously published in *Lancet*, with the URL link to its associated dashboard,² together with the congress presentation in June of 2023.

- The dashboard was embedded as a direct link in two prominent spots in the manuscript; in the Data Sharing statement that followed the body of the paper and in the margin of both the proof and in the final published manuscript (**Figure 1**)
- Since June 2023, the data visualization dashboard garnered 1078 views, which included 336 total users, and an average of 1.6 sessions/user (**Figure 2**)



Scan this quick response (QR) code with your smartphone app to view the dashboard.

Figure 1. (A) The links to the dashboard highlighted in the Data Sharing statement that followed the body of the paper and (B) in the margin of the article. (C) Overview page of the dashboard

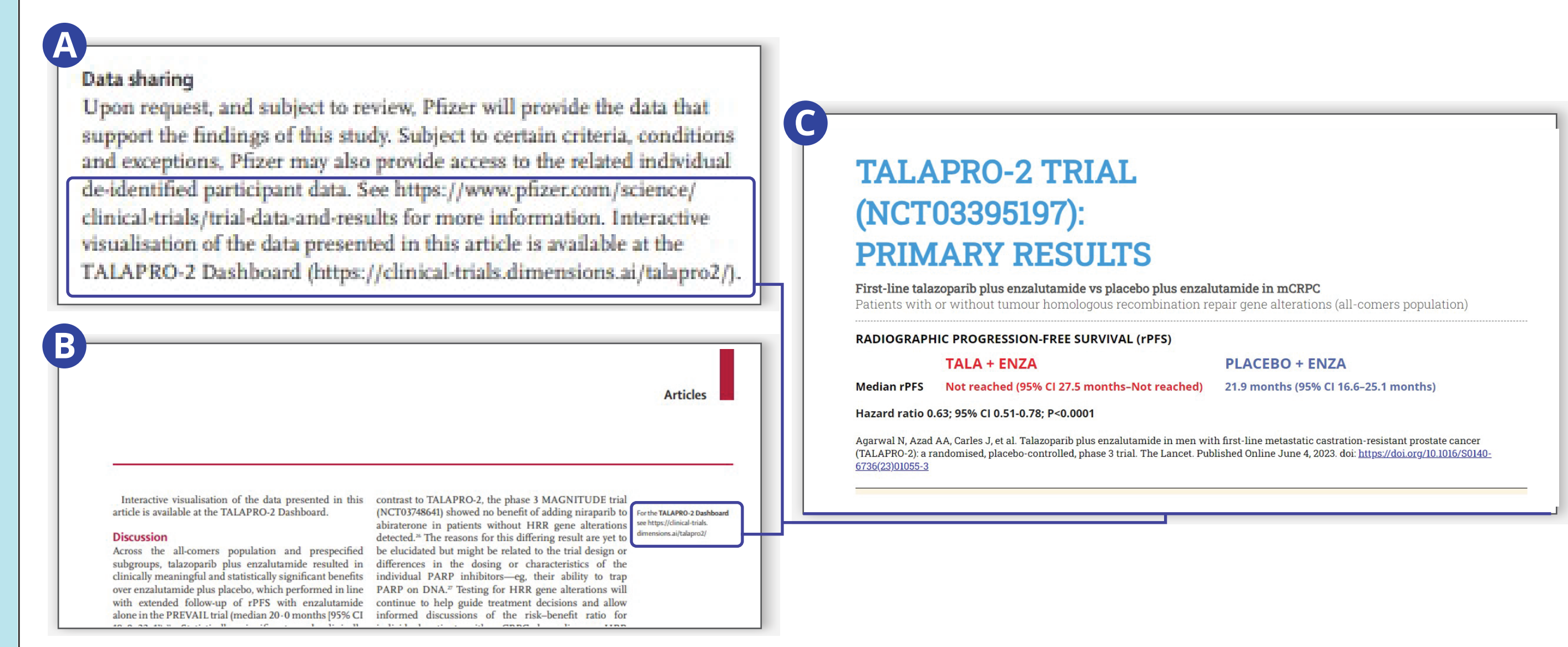
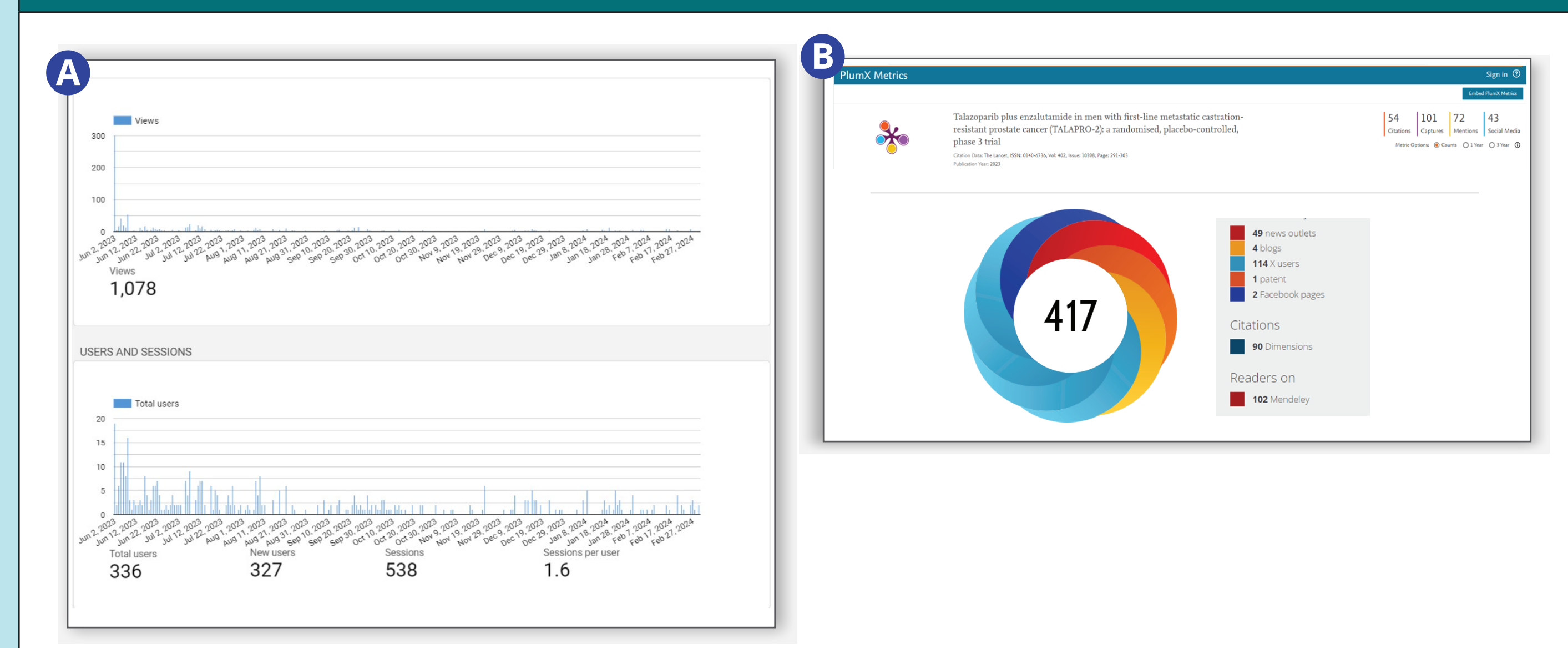


Figure 2. (A) Page views of the dashboard as of March 1, 2024, and (B) overview of audience attention for the article published in *Lancet*



PHAROS

The PHAROS study was simultaneously published in *Journal of Clinical Oncology*, with its associated dashboard,³ together with the congress presentation in June of 2023.

- After negotiating with the journal, the dashboard was embedded as a direct URL link in the results section of the manuscript (**Figure 3**)
- Since June 2023, the dashboard has been viewed 641 times, with 153 total users, and an average of 2.07 sessions/user (**Figure 4**)



Scan this quick response (QR) code with your smartphone app to view the dashboard.

Figure 3. (A) The links to the dashboard highlighted in the results section of the article, and (B) overview page of the dashboard

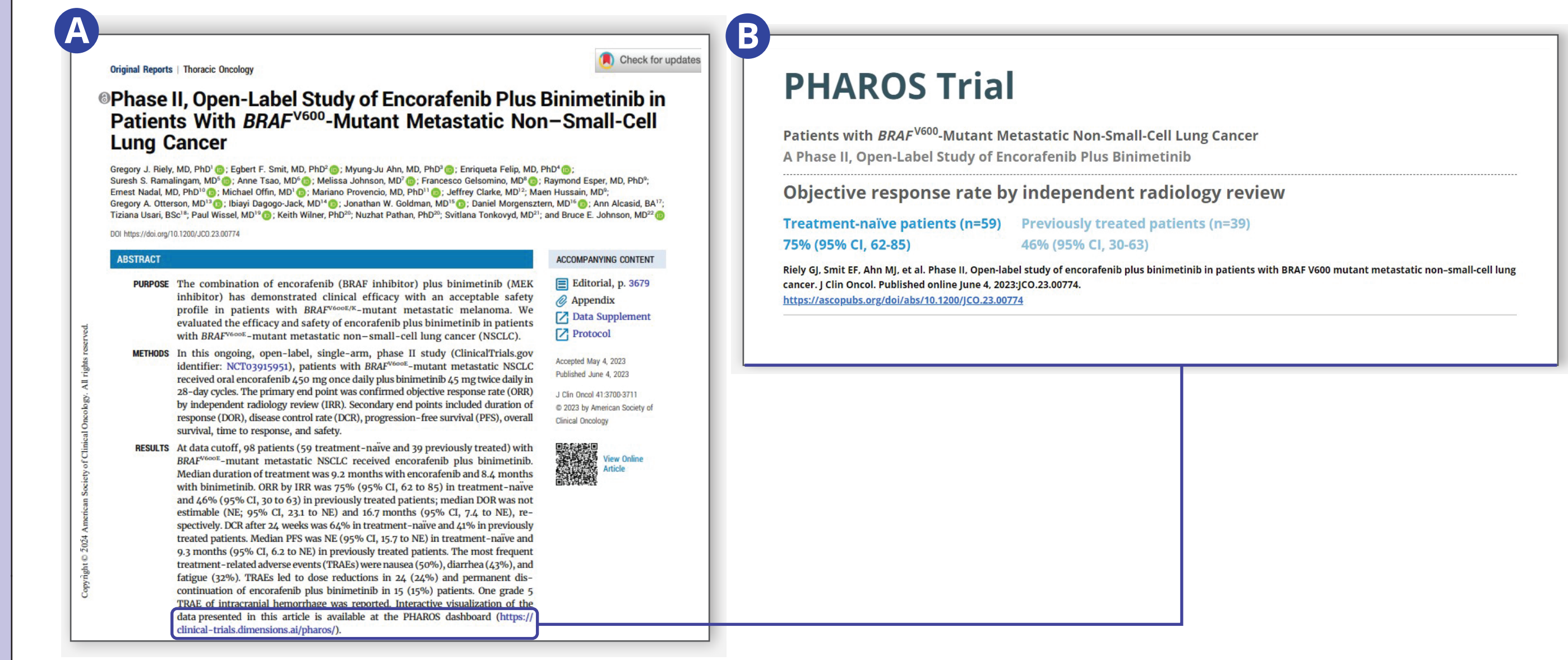
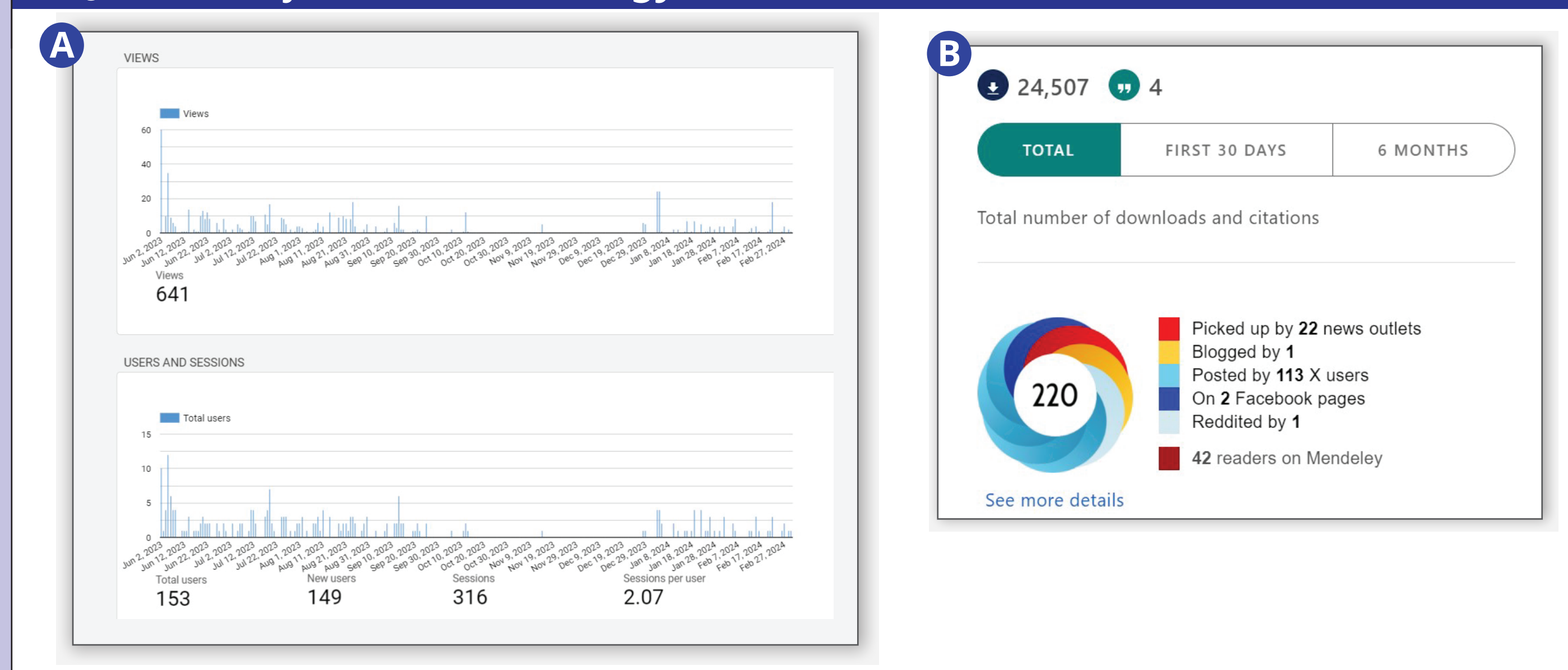


Figure 4. (A) Page views of the dashboard as of March 1, 2024, and (B) overview of audience attention for the article published in *Journal of Clinical Oncology*



PALOMA-2

The PALOMA-2 trial overall survival results were published in *Journal of Clinical Oncology* along with the associated dashboard in January of 2024.⁴

- The dashboard URL is embedded within the results section (**Figure 5A**), with the link found also as reference 9 (**Figure 5B**)
- Variation is noted in use/metrics between dashboards
- As of March 1, 2024, the dashboard has seen 61 views with 18 users, averaging 1.76 sessions/user (**Figure 6**)



Scan this quick response (QR) code with your smartphone app to view the dashboard.

Figure 5. (A) The links to the dashboard highlighted in the results section of the article and (B) as reference 9, and (C) overview page of the dashboard

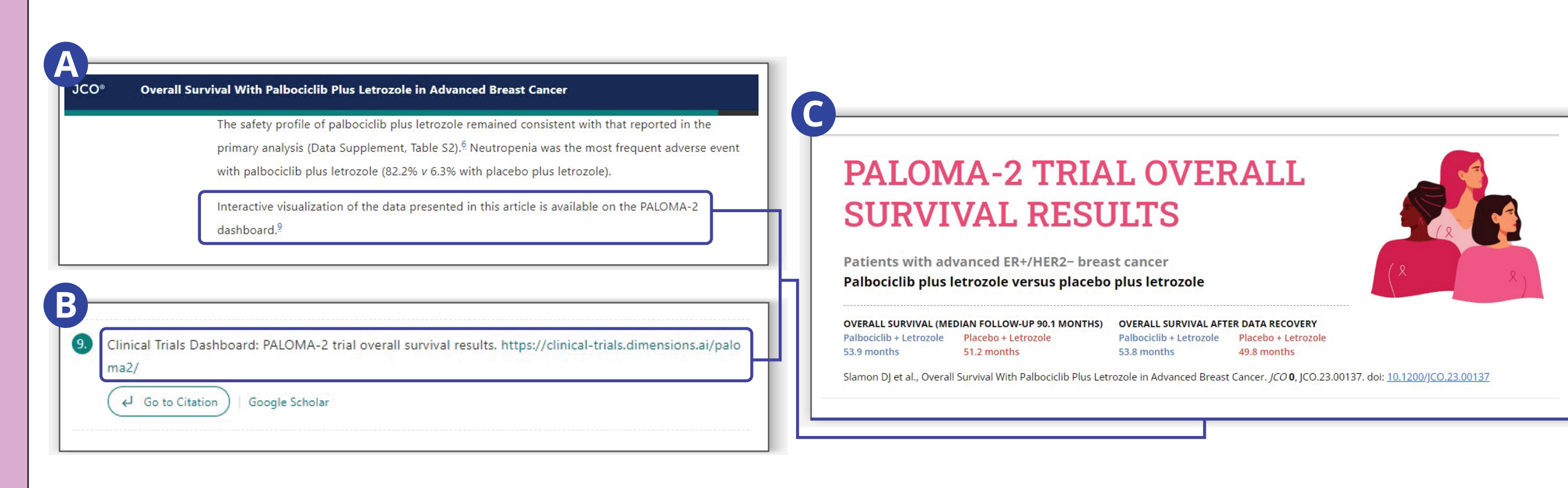
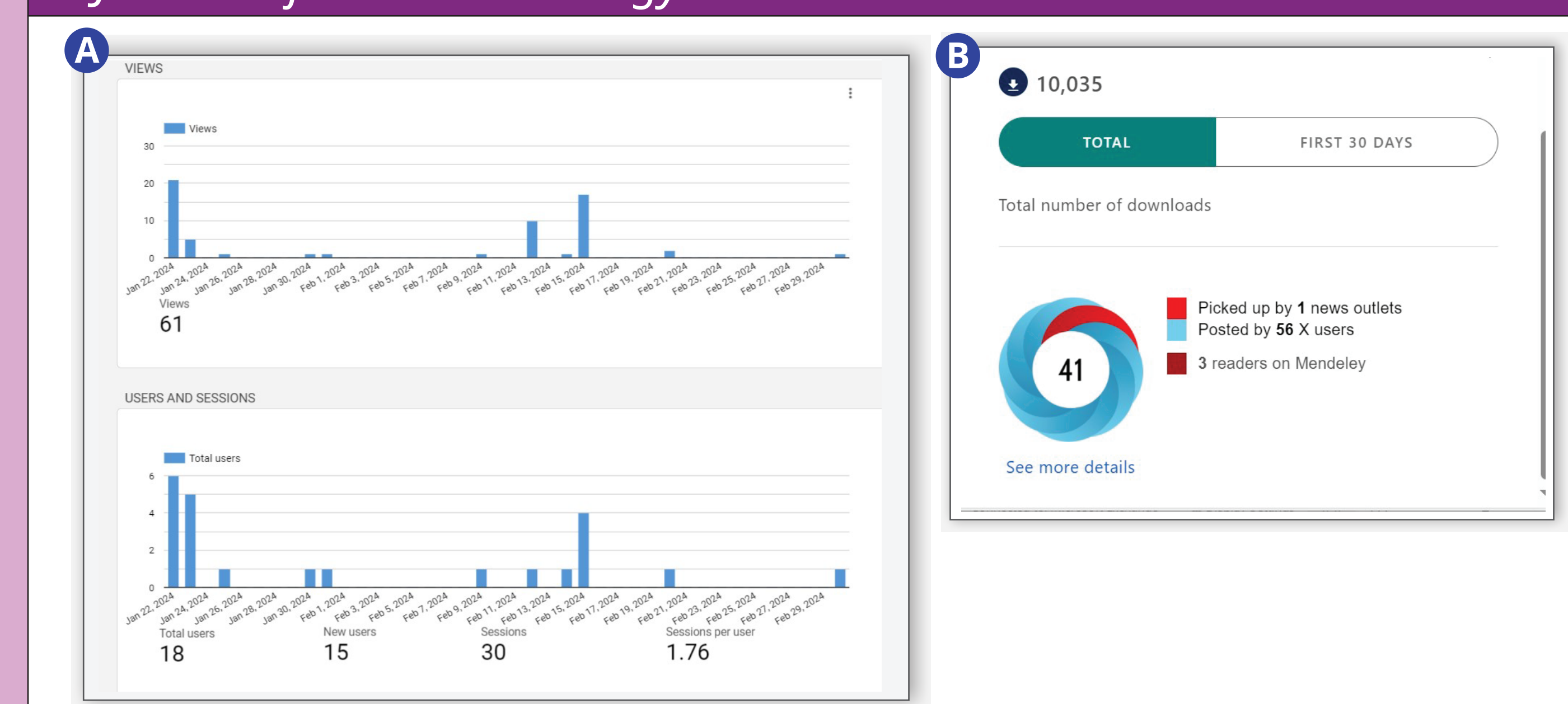


Figure 6. (A) Page views of the dashboard as of March 1, 2024, and (B) overview of audience attention for the article published in *Journal of Clinical Oncology*



COLUMBUS

The original dashboard published with the COLUMBUS 5-year study in *Journal of Clinical Oncology* in July of 2022 remains the dashboard with the highest metrics.⁵

- The dashboard URL is embedded only in the reference section
- From July 2022 to March 2024, COLUMBUS reported 19,897 views, with 2838 users, and an average of 2.97 sessions/user



Scan this quick response (QR) code with your smartphone app to view the dashboard.

Summary



Despite application of learnings and negotiation on the placement of dashboard links in more prominent locations, **no pattern emerged as to an association with user metrics**



Nevertheless, **data visualization remains an effective way to enhance understanding and communication to broad audiences**



A novel approach to increase audience engagement and **maximize the potential of interactive data visualization is warranted**

References: 1. Thomas CM et al. Original Abstract from the 19th Annual Meeting of ISMPP. *Curr Med Res Opin.* 2023;39(suppl. 1):5–39. 2. Agarwal N et al. *Lancet.* 2023;402(10398):291–303. 3. Riely G et al. *J Clin Oncol.* 2023;41(21):3700–3711. 4. Slamon DJ et al. *J Clin Oncol.* 2024;42(9):994–1000. 5. Dummer R et al. *J Clin Oncol.* 2022;40(36):4178–4188.

Acknowledgments: Medical writing support for this presentation was provided by dna Communications, funded by Pfizer Inc.