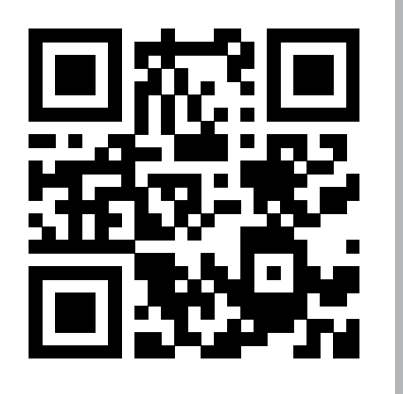


A comparison of actual versus typical publication impact for a publications program

Poster number 34

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Background

- Understanding publication impact requires contextual information, such as the typical impact of a publication in a given journal.
- The EMPIRE (EMpirical Publication Impact and Reach Evaluation) Index¹ was developed to provide simplified summary scores for publication impact on three scales: social, scholarly and societal (**Box 1**).
- Previously we have developed a journal-level indicator of article-level metric impact using a modified form of the EMPIRE Index:¹ the Journal Composite Metric (JCM, formerly the EMPIRE Index Journal [EIJ] score).² The JCM is calculated from the weighted mean impact of articles and reviews over the past 3 years.
- The JCM was developed to help guide journal selection, but here we explore its use in providing insights into publication impact across these three domains (social, scholarly, societal).

Objective

- To identify publications with notably high impact after taking into account journal differences.

Box 1. How to interpret the EMPIRE Index.

The EMPIRE Index has three component scores. Each incorporates related altmetrics and indicates a different aspect of engagement with the publication.
The social score represents the impact of the article in public domains such as social media and news and accumulates within days or weeks after publication.
The scholarly score represents the impact of the article in academic domains such as journal citations and scholarly reference libraries and accumulates over a period of months or years after publication.
The societal score represents the impact of the article in treatment guidelines, policy documents and patents and typically takes several years to occur.

EMPIRE, EMpirical Publication Impact and Reach Evaluation.

Table 1. Sample characteristics: (a) publication type and (b) journal of publication.

Therapy area	n	Publication type				
		Review	Interventional	Post hoc/pooled	Observational	Correction
Neuroscience	19	2	2	1	14	0
Gastrointestinal	6	0	2	2	1	1
Hematology	1	0	0	0	1	0

(b)

Neuroscience journals	<i>Annals of General Psychiatry; BMC Psychiatry; Clinical Pharmacology & Therapeutics; CMRO; Frontiers in Psychiatry; Journal of Affective Disorders; Journal of Clinical Psychopharmacology; Journal of Psychiatric Research; Journal of Psychopharmacology; Neuropsychiatric Disease and Treatment</i>
Gastrointestinal journals	<i>American Journal of Gastroenterology; Clinical Gastroenterology and Hepatology; Journal of Crohn's & Colitis</i>
Hematology journal	<i>CMRO</i>

BMC, BioMed Central; CMRO, Current Medical Research and Opinion.

Methods

- We analyzed all Takeda US publications during the calendar year 2022 published in journals for which JCM had been previously calculated.²
- Article-level metrics for each publication were obtained and calculated using a modified form of the EMPIRE Index.
- These scores were compared with the JCM.

Results

- Twenty-six publications from three therapy areas were included in the analysis: 19 neuroscience, six gastrointestinal and one hematology (**Table 1**).
- Article age ranged from 113 to 334 days, and journal impact factor ranged from 1.7 to 11.4.
- Social impact was seen for 16 articles and scholarly impact for 22 articles (mean modified EMPIRE Index scores for all publications were 0.5 and 0.9, respectively). No publication had societal impact to date (this is expected owing to the timescale of this type of impact, and will be reassessed after 2 years).
- Mean scores were generally highest for neuroscience publications, but for all therapy areas they were lower than the JCM (**Table 2**).
- This is owing to the skewed distribution of article scores, with most articles scoring less than the mean.
- There was a modest correlation between article impact and JCM (**Figure 1**).
- Two articles were identified as having unusually high impact (i.e. article score higher than the JCM).
- Social impact was higher than JCM social for two articles and scholarly impact was higher than JCM scholarly for one article.
- Both of these articles were published with visual abstracts that could be shared on social media (**Figure 1**).

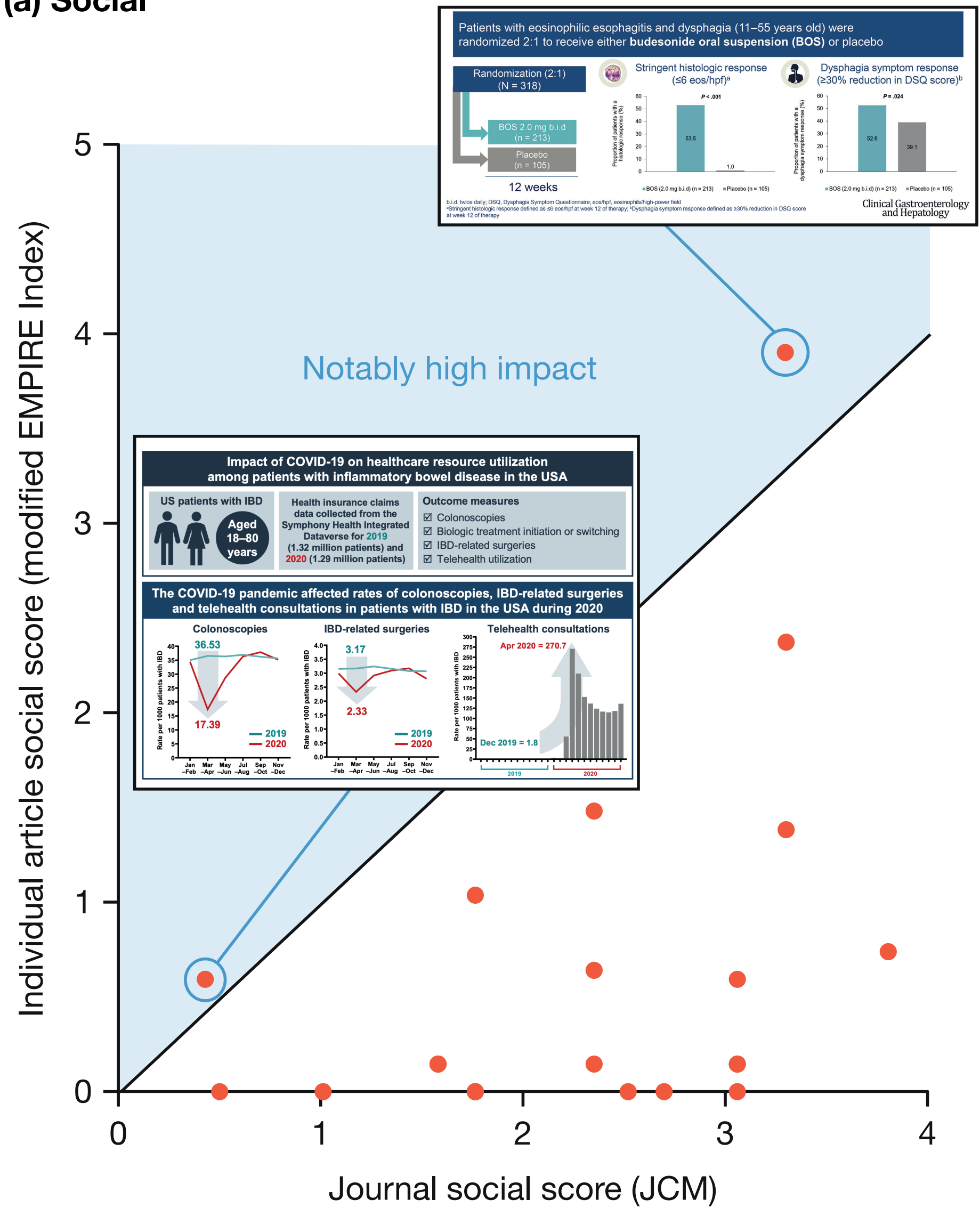
Table 2. Mean article impact compared with JCM.

Therapy area	n	Article score (mean modified EMPIRE Index)		Journal score (mean JCM)		Difference	
		Social	Scholarly	Social	Scholarly	Social	Scholarly
Neuroscience	19	1.4	1.8	2.4	3.5	-1.1	-1.8
Gastrointestinal	6	0.3	0.7	2.6	3.0	-2.3	-2.3
Hematology	1	0.1	0.2	1.6	1.6	-1.4	-1.4

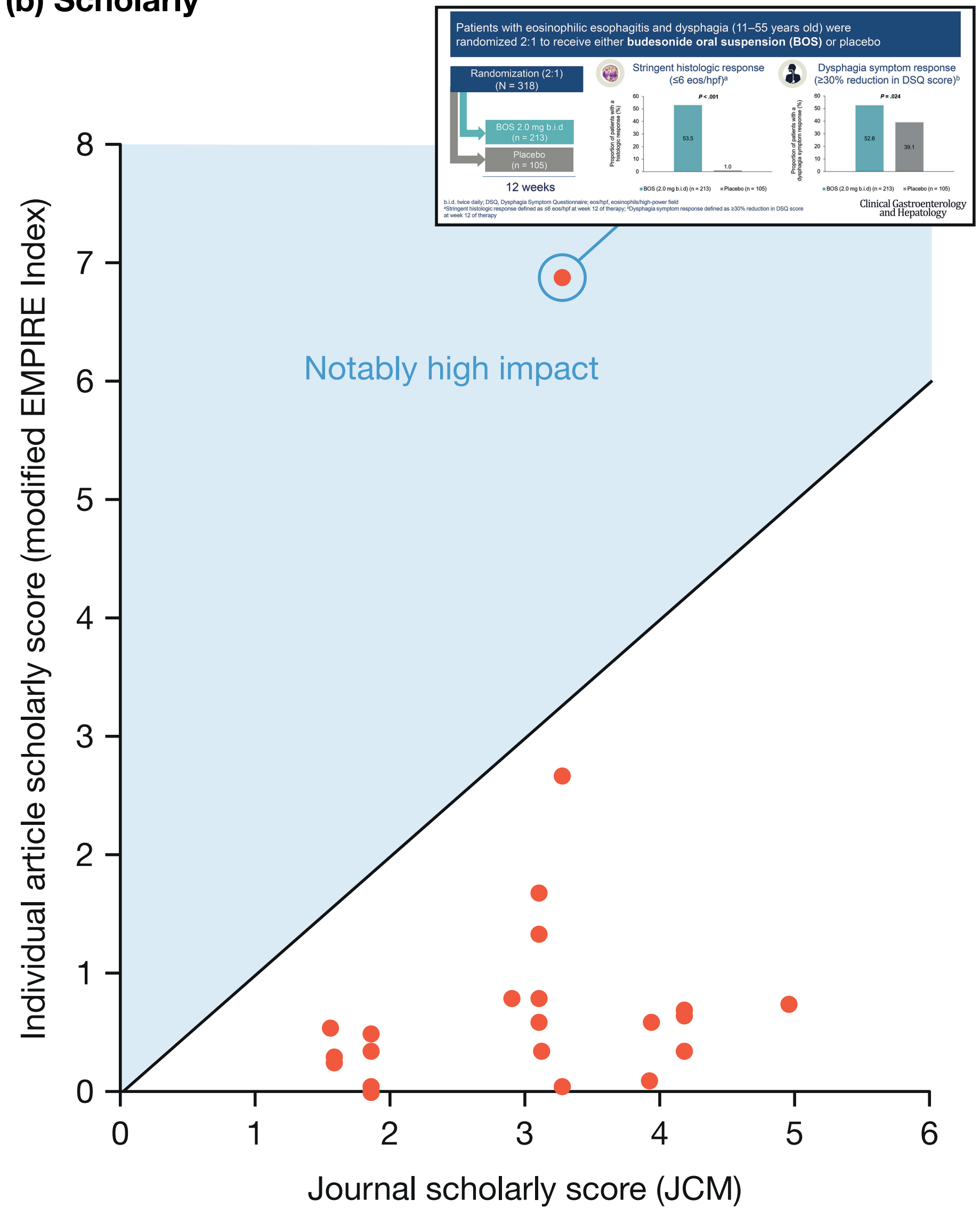
EMPIRE, EMpirical Publication Impact and Reach Evaluation; JCM, Journal Composite Metric.

Figure 1. Correlation of individual article impact with JCM.

(a) Social



(b) Scholarly



EMPIRE, EMpirical Publication Impact and Reach Evaluation; JCM, Journal Composite Metric. Visual abstracts reproduced from (panels a and b) Hirano I *et al.*; ORBIT1/SHP621-301 Investigators. Budesonide oral suspension improves outcomes in patients with eosinophilic esophagitis: results from a phase 3 trial. *Clin Gastroenterol Hepatol* 2022;20:525–34, licensed under a CC BY 4.0 license and (panel a only) Ungaro RC *et al.* Impact of COVID-19 on healthcare resource utilisation among patients with inflammatory bowel disease in the USA. *J Crohns Colitis* 2022;16:1405–14, licensed under a CC BY NC 4.0 license.

Conclusions

- The JCM allows articles with exceptional metrics to be identified after accounting for the characteristics of the journal.
- The factors that may have led to these exceptional metrics (e.g. use of tweetable infographics) can then be explored.
- Publications with very low scores can also be explored for learning that can be applied to the publication plan (e.g. through more appropriate target journal selection or greater engagement with external stakeholders via potential publication enhancements).

References

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Disclosures

TR (<https://orcid.org/0000-0003-0221-0098>) is an employee of Oxford PharmaGenesis. EBH and SD (<https://orcid.org/0000-0001-6326-4116>) are employees of Takeda and receive stock and/or stock options.