

Factors Associated with the Publication of Real-World Evidence Studies in Lung Cancer by Journal Impact Factor

Mai Ping Tan, PhD^{1,2*}, Lisa M Baker, PhD^{3,4}, Malcolm JM Darkes, PhD⁵, Elizabeth Harvey, PhD⁶

¹MedCommsTech, Cardiff, United Kingdom; ²Access and Value Writing Limited, Cardiff, United Kingdom; ³MedCommsTech, Bozeman, MT, USA; ⁴HEORpubs, Bozeman, MT, USA;

⁵MedCommsTech, Queensland, Australia; ⁶MedCommsTech, Orpington, United Kingdom

*Presenting author



INTRODUCTION

- Higher journal impact factor (IF) is generally perceived to reflect higher journal quality, and IF is often a key metric influencing authors' choice of target journal¹⁻³
- Although journal IF is not a measure of individual article quality, it may also influence readers' perceptions of the published literature
- An understanding of factors associated with publication of real-world evidence (RWE) studies in journals with higher or lower IFs may support researchers in selecting appropriate target journals, and identify trends for consideration in the review and interpretation of RWE literature

OBJECTIVE

- To evaluate factors associated with the publication of RWE studies relative to Clarivate journal IF, using lung cancer as a case study

METHODS

- A targeted review of the literature was conducted in PubMed to identify retrospective, longitudinal studies of real-world outcomes/practice patterns in lung cancer from 2022 to 2025 (Table 1)

Table 1. Search strategy

Category	Search string
Indication	((lung cancer) OR (lung carcinoma) OR (carcinoma of the lung))[title] AND
Real-world study identifier	((real-world) OR (real-life))[title/abstract] AND
Study design	((Claims OR administrative) OR (electronic medical record*) OR EMR OR (electronic health record*) OR EHR OR registry) [title/abstract]
Filters	Publication date: May 12, 2022 to May 12, 2025 Article language: English Species: Human

EHR, electronic health record; EMR, electronic medical record.

- Data were extracted for journal characteristics (name, Clarivate journal IF [2022–2024], and journal specialty) and article characteristics (data source, sample size, clinical outcomes, economic outcomes, and industry sponsorship)
 - The Clarivate IF indicates how often an “average article” published in a journal during a 2-year period is cited by other articles in the following year
- Study variables were extracted from published abstracts and stratified by journal IF quartile (Q1, lowest tier; Q4, highest tier)
 - Upper bounds of the quartiles were defined by IF values at the 25th (Q1), 50th (Q2), and 75th (Q3) percentiles, and the highest IF value (Q4)
 - Articles were assigned to quartiles based on journal IF and were not evenly distributed between quartiles

RESULTS

Journal characteristics

- Of 160 articles identified from the literature search, 108 articles were included across 45 journals (Figure 1)
 - IFs ranged from 0.5 to 14.8; median IF was 3.0 and mean IF was 3.6 (Figure 2)
 - 11% of articles (n = 11) were published in journals with IF > 5

Figure 1. Flow diagram of study identification

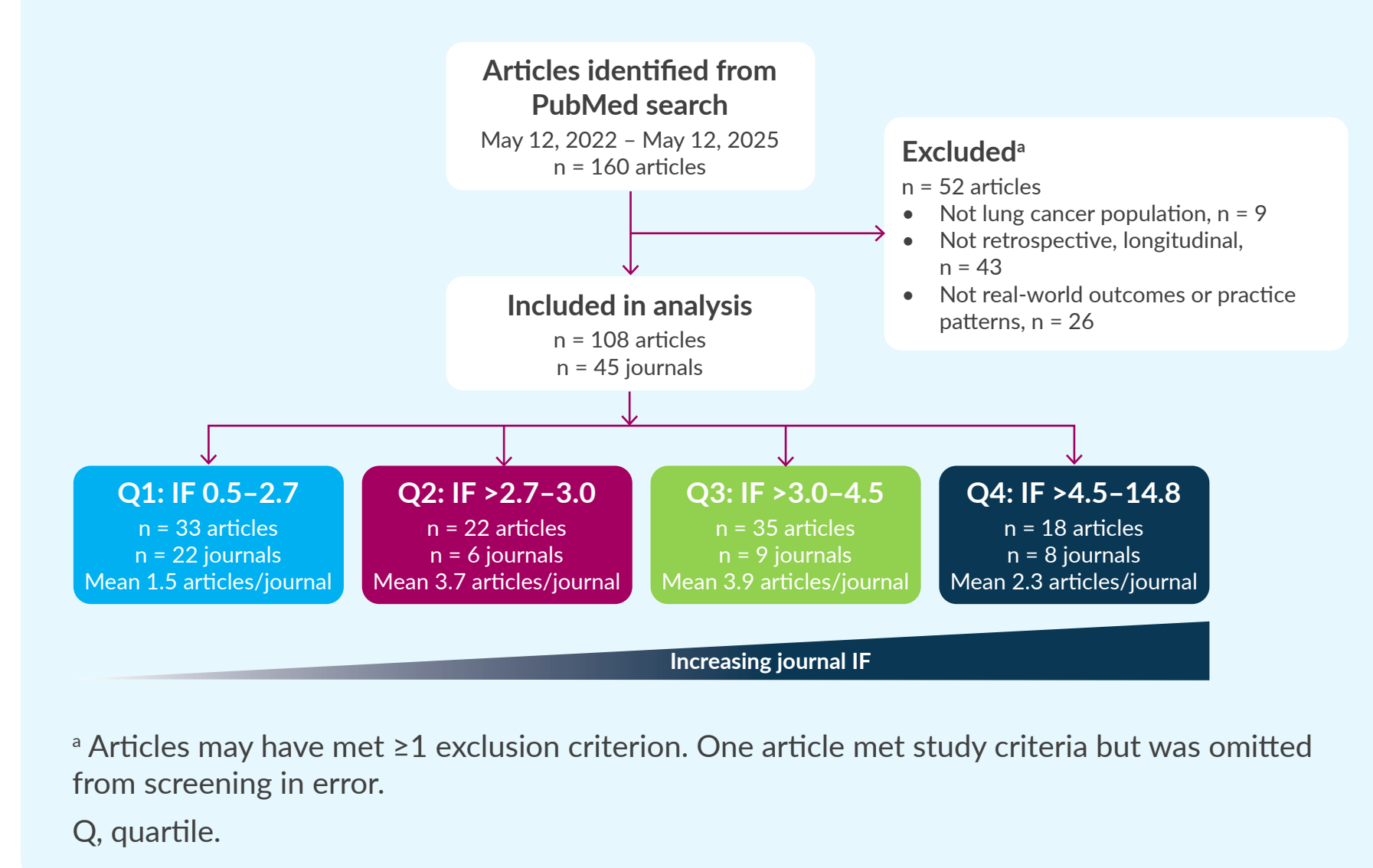
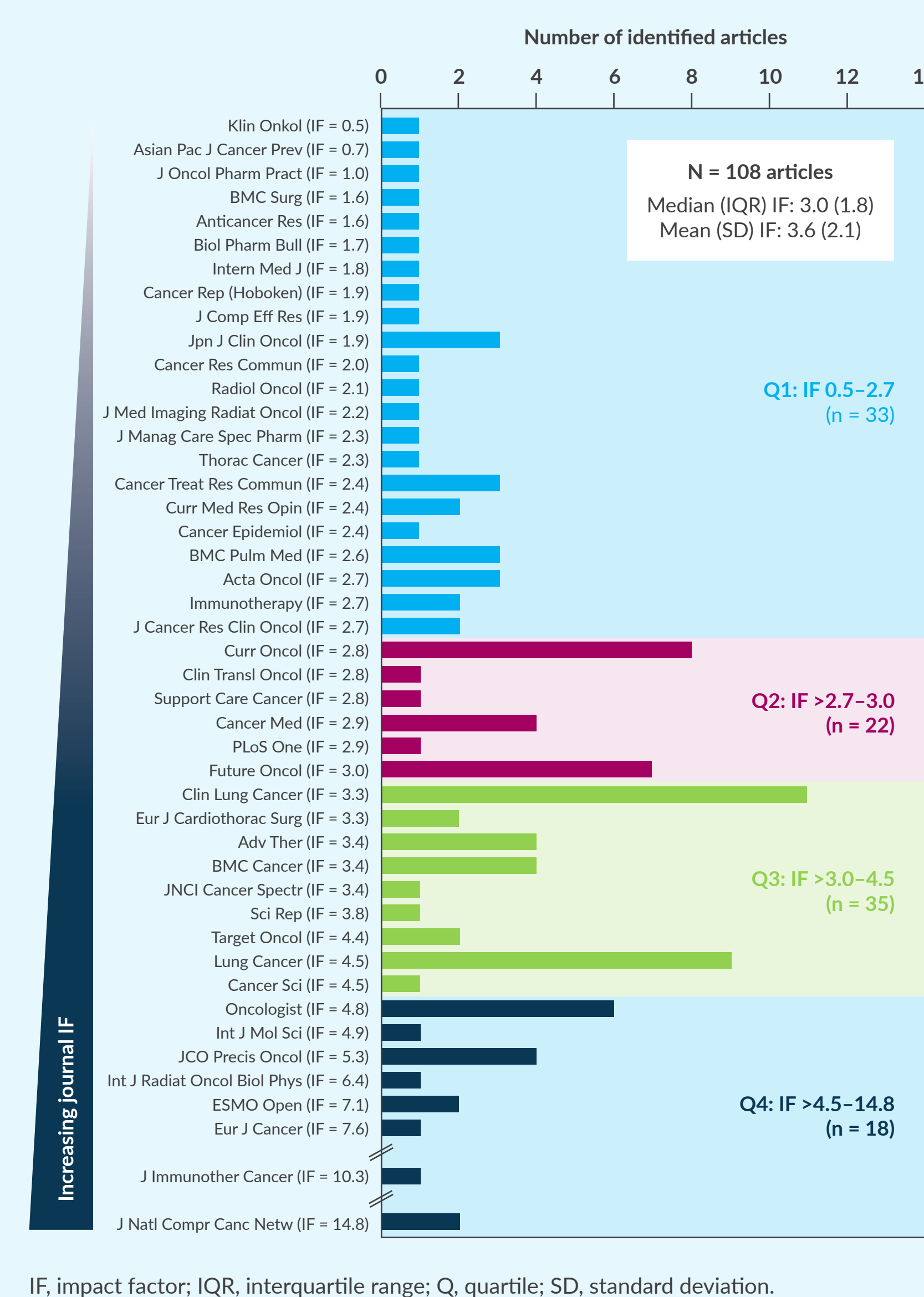


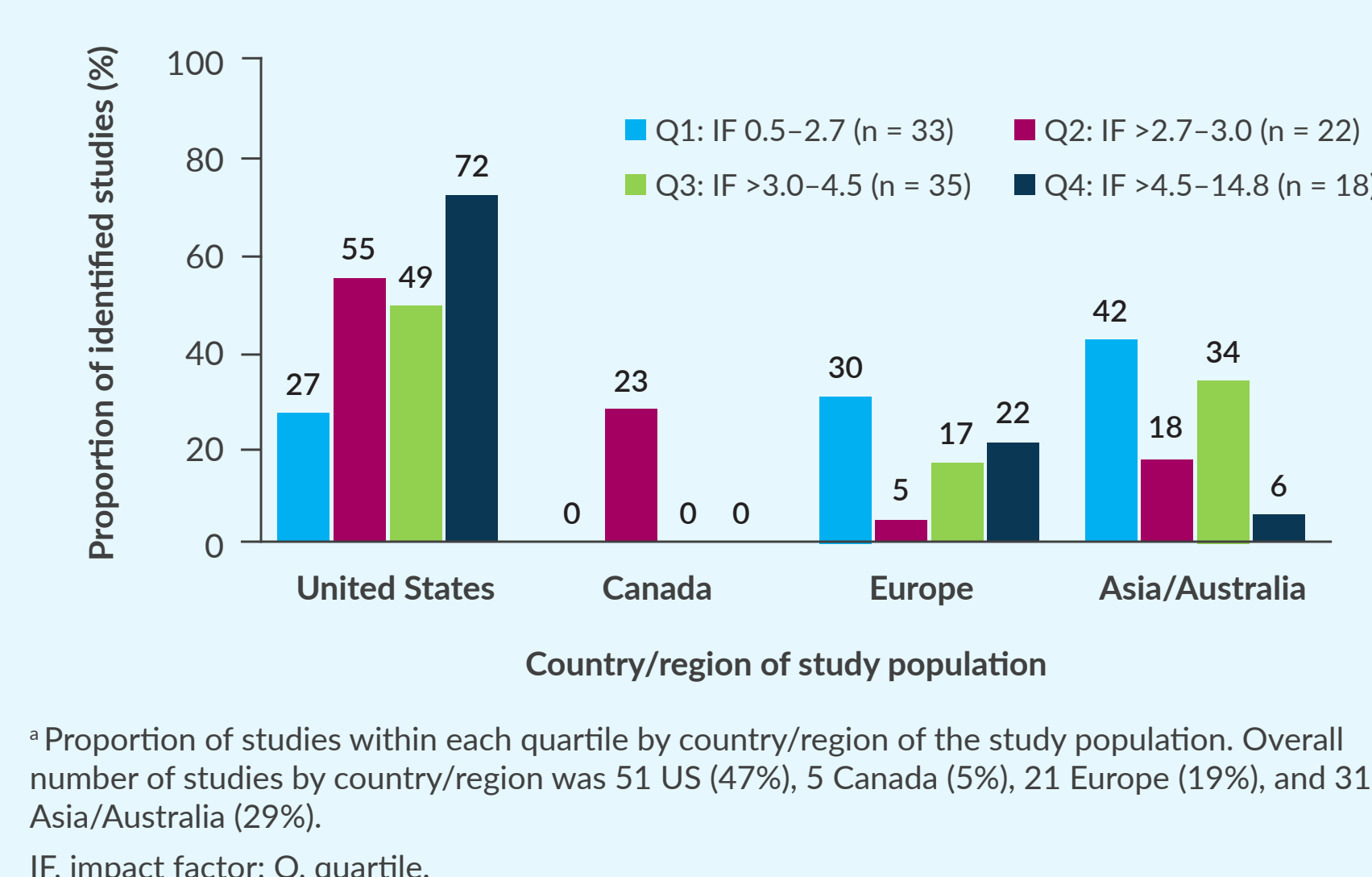
Figure 2. Article frequency by journal in ascending order of IF (n = 45 journals, n = 108 articles)



Article characteristics

- In Q4, most studies (13/18, 72%) were conducted in US populations, while in Q1 the highest proportion (14/33, 42%) was conducted in populations in Asia/Australia followed by Europe (10/33, 30%) (Figure 3)

Figure 3. Geographical distribution^a of 108 identified articles by IF quartile



- A lower proportion of Q1 (64%) articles was published in specialist oncology journals than in Q2 (95%), Q3 (80%), and Q4 (94%) (Table 2)
- A higher proportion of articles in Q3 (57%) and Q4 (56%) used electronic health/medical record data than in Q1 (36%) or Q2 (27%) (Table 2)

Table 2. Characteristics of 108 identified articles by IF quartile

Characteristic, n (%)	Q1: IF 0.5–2.7	Q2: IF >2.7–3.0	Q3: IF >3.0–4.5	Q4: IF >4.5–14.8
N	33	22	35	18
Journal specialty				
Oncology	21 (64)	21 (95)	28 (80)	17 (94)
Pulmonary	3 (9)	0 (0)	0 (0)	0 (0)
Surgery	1 (3)	0 (0)	2 (6)	0 (0)
General/Other	8 (24)	1 (5)	5 (14)	1 (6)
Industry sponsorship^a				
Yes	11 (33)	16 (73)	15 (43)	10 (56)
Data source				
EHR/EMR	12 (36)	6 (27)	20 (57)	10 (56)
Claims/administrative	5 (15)	11 (50)	4 (11)	2 (11)
Registry	12 (36)	2 (9)	9 (26)	2 (11)
Combination/Other	4 (12)	3 (14)	2 (6)	4 (22)
Sample size^b				
>10,000	4 (12)	2 (9)	3 (9)	4 (22)
>5,000 – 10,000	4 (12)	3 (14)	3 (9)	2 (11)
>1,000 – 5,000	13 (39)	3 (14)	9 (26)	4 (22)
>100 – 1,000	11 (33)	13 (59)	15 (43)	7 (39)
≤100	1 (3)	1 (5)	5 (14)	1 (6)
Clinical outcomes^c				
Treatment patterns	22 (67)	17 (77)	18 (51)	13 (72)
Effectiveness	28 (85)	18 (82)	29 (83)	14 (78)
Safety	5 (15)	4 (18)	12 (34)	3 (17)
PRO	0 (0)	0 (0)	0 (0)	0 (0)
Molecular testing	5 (15)	4 (18)	8 (23)	7 (39)
Economic outcomes^c				
HCRU	5 (15)	2 (9)	1 (3)	1 (6)
Costs	4 (12)	2 (9)	2 (6)	1 (6)

^a A study was deemed as sponsored by industry when ≥1 study author was affiliated to a pharmaceutical company.

^b Sample size ranged from N = 46 for a study in Q1 to N = 60,025 for a study in Q3.

^c Categories are not mutually exclusive.

EHR, electronic health record; EMR, electronic medical record; HCRU, healthcare resource utilisation; IF, impact factor; PRO, patient-reported outcome; Q, quartile.

- Most articles focused on treatment patterns (51–77%) and effectiveness (78–85%), while a smaller proportion reported safety outcomes (15–34%), regardless of IF quartile (Table 2)
- The proportion of articles with a focus on molecular testing increased from 15% in Q1 to 39% in Q4, while more articles in lower-tier journals focused on economic outcomes (HCRU or costs; Q1: 12–15%, Q2: 9%, Q3: 3–6%, Q4: 6%) (Table 2)
- Industry sponsorship (range, 33% in Q1 to 73% in Q2) and sample size (range, N = 46 to 60,025) did not show clear trends relative to journal IF (Table 2)

LIMITATIONS

- Review findings were based on a single indication with a focused search strategy spanning a relatively short time period, and based only on information in the published abstracts
- This analysis focused on IF as one measure of journal impact, and did not account for variations in IF according to field of research,⁴ geographic location, audience size, or measures of article impact (e.g., downloads or individual article citations)⁵

CONCLUSIONS

- This analysis suggests that the geography and outcomes assessed in RWE studies of lung cancer may influence publication in higher versus lower IF journals
- Almost three-quarters (72%) of articles published in higher IF journals were US studies
- Trends towards publication of articles reporting molecular testing outcomes in higher IF journals may reflect the drive in precision medicine in lung cancer
- Researchers should be aware of potential biases by journal tier when reviewing the RWE literature
- Future country-specific research may be conducted to analyse other measures of post-publication success, such as the extent of forward citations and inclusion in clinical guidelines

REFERENCES

- Bilgin C et al. *Acad Radiol*. 2023;30(3):552
- Gasparyan Y. *J Korean Med Sci*. 2013;28(8):1117
- Waltman L, Traag VA. *F1000 Research*. 2021;9:366
- Kamat PV, Schatz GC. *J Physical Chemistry Letters*. 2015;6(15):3074
- Suiter AM, Sarli CC. *Missouri Medicine*. 2019;116(6):461

DISCLOSURES

The authors have no financial disclosures with respect to this study.

ACKNOWLEDGMENTS

Lisa Ivil of LIMA Graphics provided poster layout and design support. MedCommsTech members contributed to the discussion on review findings.