Abstract EPICOH

Bibliographic analysis of occupational health journals indexed for OSHLINE®

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Objective: Open access (OA) publishing allows research to be available to readers at no cost. Under different OA models, costs are transferred to authors, funders, or institutions. This study aimed to evaluate occupational health and safety journals' policies and indexing for OA. Material and Methods: Journals indexed in the OSHLINE database (n = 216) were identified and their bibliographic characteristics and were obtained from the Crossref, ISSN, and Ulrichsweb databases. Non-academic (n = 9), discontinued (n = 4), and unverified (n = 1) publications were excluded. Remaining journals were searched for indexing in the Directory of Open Access Journals (DOAJ). Data on OA publishing start year, article processing charges (APC), author copyright retention, and available licenses were retrieved from DOAJ. Journals were classified as diamond or non-diamond OA as per the DIAMAS criteria (persistent identification, scholarly journal, OA with licenses, no fees, open to all authors, and community-owned). Publishers were labelled as commercial and non-commercial by reviewing publishers' websites and stock exchange listings. Results: Out of the 202 journals analyzed, only 13 (6.4%) were indexed in DOAJ. Of these, only 2 were diamond OA journals. The median APC was 1894 EUR (IQR: 690–2390, range: 0–2875). Journals owned by commercial publishers charged higher APC than non-commercial publishers (median 1424 vs 2490 EUR, p = 0.03). Eight (61.5%) allowed authors to retain the copyright of their works. CC-BY licenses were commonly allowed (n = 11, 84.6%), followed by CC0 (n = 5, 38.5%), and CC BY-NC-ND (n = 3, 23.1%). Conclusion: Few occupational health and safety journals indexed in OSHLINE are fully OA, with only 1% diamond OA. Journals owned by commercial publishers charge higher fees to authors, institutions, and funders, on average. Existing journals could evaluate transitioning to non-commercial or diamond OA, while new diamond OA journal initiatives should be encouraged.

Description

The list of journals indexed for OSHLINE® was extracted on 23/04/2025 from the Canadian Centre for Occupational Health and Safety public website. This list contains journal names and their ISSN.

A dataset was be generated from the html file by using functions from the `rvest` package to obtain a column with the journal name and the ISSN.

After manual inspection and checks for errors, two journals were removed as the ISSN was not registered for one (*Facility Safety Management*) and the correct ISSN could not be identified for a journal with no exact name matches (*Health Promotion*). The journal *Environmental Carcinogenesis and Ecotoxicology Reviews* (ISSN = 1059-0501) was removed as this was a duplicate of the *Journal of Environmental Science and Health. Part C, Environmental Carcinogenesis & Ecotoxicology Reviews* (ISSN = 1059-0501).

This resulted in a total of **n = 216** journals.

Crossref

The metadata for these journals was enriched by using the `rcrossref` package by first searching for the ISSN. For cases where there is no ISSN match, journal titles were searched.

ISSN Portal

Data on the publisher and the ISSN linked to the journal title were retrieved from crossref. The electronic ISSN could not be retrieved. Therefore, the ISSN portal was searched to extract other ISSNs, likely corresponding to the electronic ISSN. Later confirmation was done by matching of ISSNs against a robust bibliographic database (Ulrichsweb) as detailed below.

Discordant ISSN from the original OSHLINE dataset and crossref were manually removed and checked against the ISSN portal. One journal was removed because its ISSN could not be confirmed in the ISSN portal (*Occupational Health and Safety (Tx.)*).

Ulrichsweb

A list of all unduplicated ISSN was generated to search for individual ISSN in the Ulrichsweb database (Ulrichsweb.com™, Copyright © 2025 ProQuest LLC).

A total of **n = 415** ISSNs (print and electronic) were searched, out of which **n = 388 (93.5%)** records were found in ulrichsweb and downloaded for further examination against the dataset.

A total of **n = 9 (4.2%)** journals were removed from the dataset due to having a discontinued status without a subsequent active journal under a different publisher. The list of those journals is as follows:

ID	Journal
59	Clinics in Occupational and Environmental Medicine
94	International Journal of Cognitive Ergonomics
100	International Journal of Occupational and Environmental Health
106	International Review of Industrial and Organizational Psychology
117	Journal of Biological Chemistry
164	Just Labour
180	Noise Notes
182	Occupational Ergonomics
185	Occupational Hygiene

A total of **n = 4 (1.9%)** journals were removed from the dataset due to not being academic or scholarly publications:

ID	Journal
3	Accident Prevention
41	Canadian Journal of Infection Control
44	Canadian Occupational Safety
177	NFPA Journal: the Official Magazine of the National Fire Protection Association

There were three journals with more than two ISSN identifier. The `print_issn` which had a match with ulrichsweb were kept instead of the OSHLINE ISSN.

DOAJ

All the remaining **n = 373** ISSNs in the long dataframe containing bibliographic information from Ulrichsweb were searched in the DOAJ. Whenever an exact match was found for any ISSN, this was registered as TRUE in a new column. The journal ID with a TRUE value were identified and additional information on their open access publishing characteristics were exctracted for further analysis.

Out of the remaining **n = 202** journals, a total of **n = 13 (6.4%)** were indexed in the Directory of Open Access Journals (DOAJ):

ID	Journal
17	Annals of the Academy of Medicine, Singapore
26	Archives of Public Health
43	Canadian Medical Association Journal
64	Emerging Infectious Diseases
67	Environmental Health : A Global Science Access Source
68	Environmental Health Perspectives : EHP
77	Experimental Lung Research
101	International Journal of Occupational Medicine and Environmental Health
114	Journal of Applied Clinical Medical Physics
143	Journal of Occupational Health (Japan)
145	Journal of occupational medicine and toxicology
149	Journal of Rehabilitation Medicine
200	Scandinavian Journal of Work, Environment and Health

Analysis of journals indexed in DOAJ

The following analyses are restricted to the 13 publications indexed in the DOAJ.

Diamond Open Access

Journals were binary classified as diamond open access (DOA) and non-DOA based on meeting all six criteria stated in the DIAMAS classification. Only 2 journals met all criteria to be classified as DOA:

ID	Journal
64	Emerging Infectious Diseases
68	Environmental Health Perspectives : EHP

Therefore, the percentage of DOA journals out of the total set of publications was **1%**.

Article Processing Charges

Whenever APC charges were registered in a currency distinct to euros (EUR), values were converted to EUR by using international currency exchange rates from Google Finance on 23/04/2025.

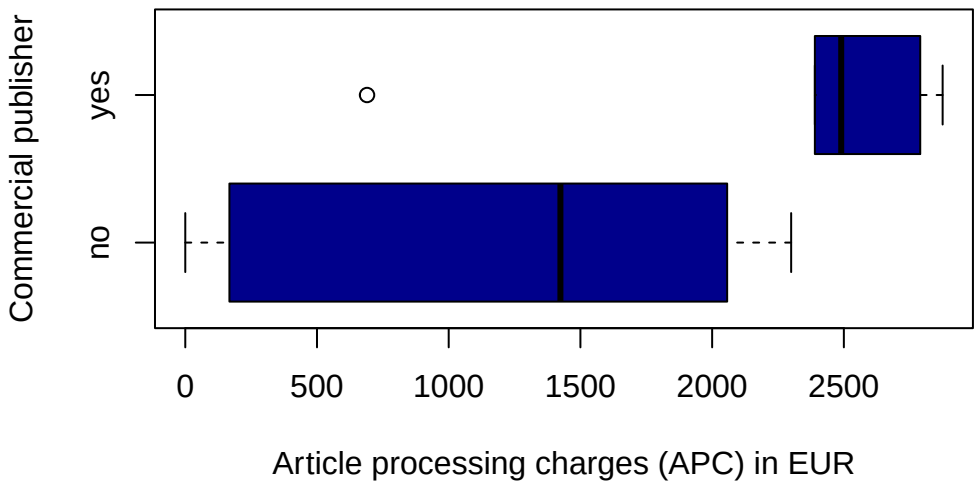
The summary of journal article processing charges (APC) per article in euros (EUR) is shown in this table:

Number of Journals	min	Q1	median	Q3	max
13	0	690	1894	2390	2875

The status of the publisher as a *commercial* or *non-commercial* publisher was classified by reviewing the publishers' websites when available, or listings of companies on a stock exchange (if true, these were labelled as commercial).

The summary of APC in EUR according to commercial status of the publisher is as follows:

Commercial Publisher	Number of Journals	min	Q1	median	Q3	max
no	8	0	251.25	1424	1975.5	2300
yes	5	690	2390.00	2490	2790.0	2875



The Mann-Withney U-test (Wilcoxon's rank sum test) was applied to test the alternative hypothesis that the APC differed according to publisher commercial status classification:

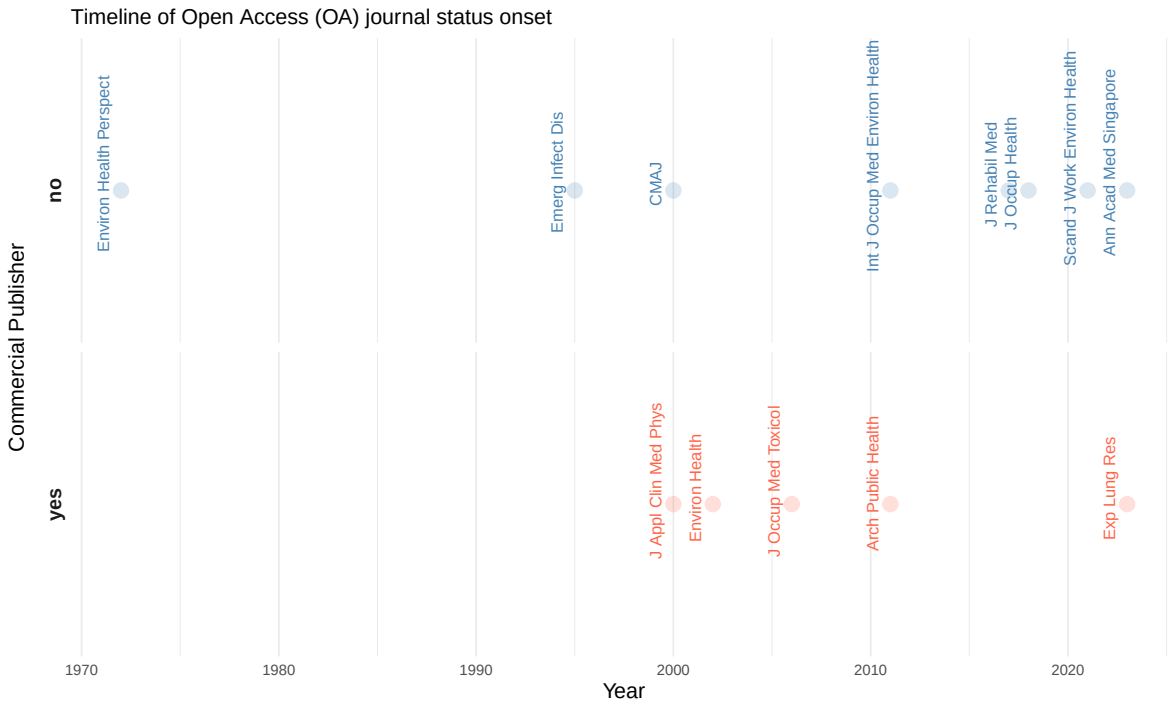
```
    Wilcoxon rank sum test with continuity correction

data:  APC by commercial_publisher
W = 5, p-value = 0.03354
alternative hypothesis: true location shift is not equal to 0
```

Year of conversion to OA

The year of registration of journals as fully open access (OA) is summarized in the following table:

Number of Journals	min	Q1	median	Q3	max
13	1972	2000	2011	2018	2023

The onset of publication as fully OA, according to journal commercial status is shown in the following plot:



Author copyright

Out of the 13 publications included for analysis, **n = 8 (61.5%)** allowed authors to retain the copyright of their works.

Licensing

The types of licenses allowed in the journals indexed in DOAJ were the following:

License	n	Percentage
CC BY	11	84.6
CC0	5	38.5
CC BY-NC-ND	3	23.1
CC BY-NC	2	15.4
CC BY-NC-SA	1	7.7

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