**Wellcome and COAF open access spend 2017/18**

**This is our analysis of the spending by 36 organisations that received a grant from the Charity Open Access Fund (COAF) between October 2017 and September 2018.**

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**Overview**

Every year, we ask all organisations in receipt of a grant from COAF to provide details about their open access (OA) publications and their associated article processing charges (APCs). The analysis covers research funded by:

* Versus Arthritis
* Bloodwise
* British Heart Foundation
* Cancer Research UK
* Parkinson’s UK
* Wellcome.

It provides details of the costs of OA publishing incurred by COAF and the extent to which the published articles comply with the COAF OA policy.

Overall, full compliance with the COAF OA policy – articles freely accessible through Europe PMC and made available under a CC-BY licence – was 90%, an increase on [last year’s](https://wellcome.ac.uk/funding/wellcome-and-coaf-open-access-spend-201617) figure of 87%.

The cost of OA publishing continues to rise, with both hybrid and fully OA journals contributing to the growing cost.

**Cost analysis**

In 2017/18, COAF funded the APCs of 3,601 articles at a cost of £7.5 million (see table 1).

We haven't included 228 articles that were either:

* ahead of print, as they wouldn’t yet have been checked for compliance
* in publisher deals with a reported APC of £0 – we aren’t able to calculate the real cost of these articles.

The number of articles for which an APC was paid has increased. This year, the average APC was £2,424 and the median was £2,250 – rises of 7% and 8% respectively compared with 2016/17.

We still see above inflation increases in APC prices each year. However, this year’s average price increase was smaller than in previous years.

**Table 1: APC spend for the years 2014-18**

| **Item** | **2014/15** | **2015/16** | **2016/17** | **2017/18** |
| --- | --- | --- | --- | --- |
| **Number of articles for which an APC was paid** | 2,942 | 3,552 | 3,474 | 3,601 |
| **Total cost of APCs** | £5,629,970 | £7,252,915 | £7,881,899 | £8,729,201 |
| **Total Wellcome/COAF spend on APCs (some APCs’ costs were split between COAF and another funder)** | £4,992,434 | £6,600,690 | £7,166,874 | £7,458,045 |
| **Average APC for the total spend** | £1,914 | £2,044 | £2,269 | £2,424 |
| **Median APC for the total spend** | £1,834 | £1,944 | £2,081 | £2,250 |

Our analysis splits journals into fully OA journals (in which every article is made OA – for example PLOS One or Nature Communications) and hybrid journals (which are published under a subscription model, but where individual articles can be made OA).

Table 2 provides a breakdown of the number of publications and average and median prices by publication type.

**Table 2: APC spend by publication type, 2015-18**

|  | **Fully OA journals** | **Hybrid journals** |
| --- | --- | --- |
| **Year** | **2015/16** | **2016/17** | **2017/18** | **2015/16** | **2016/17** | **2017/18** |
| **Article count** | 1,038 | 1,037 | 1,154 | 2,514 | 2,437 | 2,447 |
| **Average APC** | £1,644 | £1,943 | £2,090 | £2,209 | £2,401 | £2,581 |
| **Median APC** | £1,397 | £1,564 | £1,656 | £2,125 | £2,304 | £2,400 |

Publication in hybrid journals remains the predominant publication route for COAF-funded researchers, with 68% of articles for which an APC was levied published this way. Hybrid journals continue to be more expensive, with an average APC of £2,581 compared with £2,090 for fully OA journals.

Opposite to last year, the difference in the average APC of the two journal types increased – with the average price of hybrid journals rising faster than for fully OA journals. This year we saw average and median increases of 6% and 6% respectively for fully OA journals, versus average and median increases of 7% and 5% for hybrid journals.

Again, we are seeing a small number of high-priced, fully OA journals contribute to the average APC increase for this type of publication. More than 15% of the fully OA articles are published in the more expensive fully OA journals, such as Nature Communications (£3,490), Cell Reports ($5,200), and The Lancet Global Health ($5,000). If we remove these titles from our cost analysis of fully OA APCs, we observe the average and median to be £1,698 and £1,469 respectively.

We have also analysed the APC costs associated with publisher schemes – including read and publish, offsetting, prepayment, discount and membership schemes (see table 3). These will become more common as organisations make their content OA in future. This year, 23 organisations gave us data about their publisher schemes. 683 articles (19% of the total reported by these organisations) benefitted from some form of publisher scheme – for these articles the average APC was £1,617.

**Table 3: articles benefitting from read and publish, offsetting, prepayment, discount and membership schemes, 2016-18**

|  | **2016/17** | **2017/18** |
| --- | --- | --- |
|  | **Number of articles** | **Average APC** | **Total spend** | **Number of articles** | **Average APC** | **Total spend** |
| **Fully OA journals** | 167 | £1,439 | £240,370 | 205 | £1,518 | £350,424 |
| **Hybrid journals** | 528 | £1,638 | £864,889 | 478 | £1,935 | £1,079,349 |
| **Total** | 695 | £1,590 | £1,105,259 | 683 | £1,810 | £1,429,773 |

The average APC total of £1,810 (see table 3) is significantly lower than the average APC total for all articles which is £2,424 (see table 1). The reductions provided through publisher schemes are slightly more for hybrid journals than fully OA journals.

Table 4 breaks down the publication costs reported to us for the top five publishers (by volume) of COAF-funded articles published in 2017/18.

**Table 4: top five publishers (by volume) of COAF-supported research and APC spend, 2017/18**

| **Publisher** | **Journal type** | **Number of articles** | **Average APC** | **Total spend** |
| --- | --- | --- | --- | --- |
| **Elsevier** | Fully OA | 118 | £3,336 | £393,642 |
|  | Hybrid | 697 | £3,129 | £2,181,198 |
| **Totals** |   | **815** |   | **£2,574,840** |
| **Springer Nature** | Fully OA | 502 | £2,139 | £1,073,689 |
|  | Hybrid | 182 | £2,324 | £422,951 |
| **Totals** |   | **684** |   | **£1,496,640** |
| **Wiley** | Fully OA | 21 | £1,302 | £27,344 |
|  | Hybrid | 327 | £2,240 | £732,483 |
| **Totals** |   | **348** |   | **£759,827** |
| **Oxford University Press** | Fully OA | 6 | £1,617 | £9,704 |
|  | Hybrid | 254 | £2,205 | £560,115 |
| **Totals** |   | **260** |   | **£569,819** |
| **British Medical Journal** | Fully OA | 68 | £1,811 | £123,119 |
|  | Hybrid | 88 | £2,306 | £202,938 |
| **Totals** |   | **156** |   | **£326,057** |

Elsevier again has the most expensive APCs, with average APCs over £3,000 – far higher than the other publishers in the top five.

Elsevier is the only publisher in the top five that has a higher average APC for fully OA journals than hybrid ones. This is a consequence of the small number of highly-priced OA journals Cell Reports (Elsevier) and The Lancet Global Health (Elsevier).

Springer Nature is the only publisher that has published more fully OA articles than hybrid ones.

**Compliance data**

In addition to understanding how much OA is costing us, we look at whether publishers are delivering a service that helps our researchers to comply with the COAF OA policy.

In brief, the policy requires that when COAF funds are used to pay for an APC the publisher must:

* deposit the final version of the article in PubMed Central (PMC)/Europe PMC
* make sure that the article is clearly licenced CC-BY on their own site and in PMC/Europe PMC.

As in previous years, we used the [Cottage Labs compliance checking tool(opens in a new tab)](https://compliance.cottagelabs.com/) to programmatically determine if a paper is in the Europe PMC repository and, if so, what licence is attached to it.

Overall compliance is 90%, a rise from last year’s 87% (see table 5), but less than the 91% in the 2015/2016 analysis. We had hoped to see a greater increase in overall compliance and are disappointed by this – especially in light of [the changes we’re making to our open access policy](https://wellcome.ac.uk/news/wellcome-updating-its-open-access-policy).

If we look at the two elements of the policy separately, the percentage of articles available via Europe PMC was 94%, while the number of articles with a correct and programmatically identifiable licence (either in Europe PMC or on the publisher’s website) was 92%.

**Table 5: compliance with COAF OA policy, 2015-18**

|  | **Numbers** | **Percentage** |
| --- | --- | --- |
|  | **2015/16** | **2016/17** | **2017/18** | **2015/16** | **2016/17** | **2017/18** |
| **Published articles for which an APC has been paid** | 3,340 | 3,382 | 3,601 | 100% | 100% | 100% |
| **Number of these articles available in Europe PMC as full text** | 3,210 | 3,070 | 3,386 | 96% | 91% | 94% |
| **Number of articles with a CC-BY (or CC-0) licence either in Europe PMC or on the publisher's website** | 3,122 | 3,090 | 3,300 | 93% | 91% | 92% |
| **Number of articles with other licence (or no programmatically identifiable licence)** | 218 | 292 | 301 | 7% | 9% | 8% |
| **Number of articles for which full text was available via Europe PMC with a CC-BY or CC-0 licence** | 3,041 | 2,931 | 3,251 | 91% | 87% | 90% |

In aggregate, there are 348 articles for which COAF has paid an APC and which are not compliant with our requirements – this is 10% of the total number of all APC articles (see table 6). As in previous years, hybrid journals remain the overwhelming source of non-compliance (93%). The total spend on these non-compliant articles is £823,635. Since some of these articles were split between Research Councils UK and COAF, the total amount charged to COAF for these non-compliant articles is £770,351. If payments are made, we fully expect services to be delivered in line with our policy.

Looking at the 348 non-compliant hybrid articles, 63% are missing from Europe PMC and the remainder are available, but under an incorrect or unknown licence.

We continue to urge subscription publishers to develop better workflows to make sure that COAF-attributed articles, for which an APC has been levied, are deposited in PMC in line with our requirements. This issue of continuing non-compliance was considered as part of [Wellcome’s recent open access policy review](https://wellcome.ac.uk/news/wellcome-updating-its-open-access-policy) and contributed to the decision that, from 1 January 2020, we will no longer fund APCs in subscription journals unless they are covered by a [transformative agreement(opens in a new tab)](https://www.jisc-collections.ac.uk/Transformative-OA-Reqs/).

**Table 6: non-compliance - fully OA journals vs hybrid journals, 2017/18**

|  | **Published articles for 2017/18** | **Non-compliant articles** | **Percentage of non-compliant articles** |
| --- | --- | --- | --- |
| **Fully OA journals** | 1,154 | 25 | 2% |
| **Hybrid journals** | 2,447 | 323 | 13% |
| **Total** | 3,601 | 348 | 10% |

Compliance analysis (see table 7) of the top five publishers reveals that all five have more than 10 non-compliant papers. This represents 58% of the total number of non-compliant papers. Elsevier, Springer Nature and Wiley all have higher rates of non-compliance than last year. Oxford University Press have reduced their non-compliance from 34% last year to 5% this year.

**Table 7: non-compliance – top five publishers by volume**

| **Publisher** | **Journal type** | **Number of articles** | **Non-compliant** | **Non-compliant (%)** |
| --- | --- | --- | --- | --- |
| **Elsevier** | Fully OA | 118 | 10 | 8% |
|  | Hybrid | 697 | 88 | 13% |
| **Totals** |   | **815** | **98** | **12%** |
| **Springer Nature** | Fully OA | 502 | 2 | 0% |
|  | Hybrid | 182 | 30 | 16% |
| **Totals** |   | **684** | **32** | **5%** |
| **Wiley** | Fully OA | 21 | 1 | 5% |
|  | Hybrid | 327 | 46 | 14% |
| **Totals** |   | **348** | **47** | **14%** |
| **Oxford University Press** | Fully OA | 6 | 0 | 0% |
|  | Hybrid | 254 | 14 | 6% |
| **Totals** |   | **260** | **14** | **5%** |
| **British Medical Journal** | Fully OA | 68 | 3 | 4% |
|  | Hybrid | 88 | 10 | 11% |
| **Totals** |   | **156** | **13** | **8%** |

**Conclusions and actions**

Overall compliance with the COAF OA policy is 90%. We’re disappointed to not see it rise higher – in 2015/16 it was 91%. As in previous years, we will be working with publishers and organisations to make sure that articles are made compliant as soon as possible.

This year, we saw an increase in non-compliance from the three biggest publishers. We have repeatedly heard the argument that hybrid journals are the best way to make articles open access; however compliance rates continue to challenge this assertion.

Our cost analysis continues to show an increase in the cost of OA publishing, with the average APC increasing by 6% on last year. The difference in average APCs for hybrid and fully OA journals continues to narrow. We think the increasing popularity of high-priced, fully OA journals contributes to this.

We have also looked at the impact of publisher schemes on the costs of APCs and have seen that they do contribute to lower costs for COAF members. This year, we will publish clear guidance on how to report these costs, and we encourage all organisations to send us this information as part of future COAF returns. In future, it will be increasingly important to understand the costs associated with publisher schemes.

As things stand, COAF will be terminated at the end of September 2019 because the funders will no longer share a common OA policy. A final decision will be taken in June 2019 and communicated to all organisations in receipt of COAF funding. If COAF is terminated, the individual funders will continue to support OA costs in line with their policies, but these funds will not be centralised through COAF.

**Notes**

The data used for this analysis was provided by organisations in November and December 2018. The analysis was carried out using Wellcome’s [Cottage Labs compliance checking tool(opens in a new tab)](https://compliance.cottagelabs.com/) on 7 March 2018. The analysis was conducted using the raw data provided by organisations. While every effort has been made to provide accurate information, there may be errors within the analysed data. Where errors are identified, we will endeavour to make corrected versions of the data available.

The raw data used for this article is freely available on Figshare.