

### **A Pay per View project: Examining the efficacy of a pay per view system as opposed to subscriptions for journal access in an NHS healthcare library setting.**

#### **Abstract/Summary**

The aim of this study was to compare different methods of accessing journal articles and assess which were the most effective and economical in an NHS library setting. A study comparing the use of PPV (pay per view) at one NHS hospitals Trust and ScienceDirect ArticleChoice® at another NHS hospital site was undertaken. Results suggest that there is a place for PPV as part of ILL (inter library loan) procedures. It is recommended that PPV is adopted, particularly for those with small budgets, alongside other ILL access methods that already exist.

#### **Introduction**

For those working in the Library sector journal subscriptions have long been an issue. The costs per download of articles coming from either individual journal subscriptions or big bundle deals can seem prohibitively high on tight budgets. This leaves service managers trying to balance their users needs against available funds in a world where rising costs and shrinking budgets feel unavoidable.

In such a climate, it perhaps becomes inevitable that libraries will look for alternative ways to maintain or increase article access for less cost. An issue already covered to some extent by Fought, who noted, “PPV (pay per view) is a viable alternative to the traditional journal subscription model. It has the potential to expand journal access for patrons, reduce costs for libraries, and assist with collection development.” (Fought 2014)<sup>1</sup>

In the academic world, considering alternative article delivery models is already having an impact. It has been noted that the number of libraries signing big deals, “has fallen between 2006 and 2012” (Bergstrom 2014)<sup>2</sup>, whilst a recent online article discussed a growing trend towards breaking away from publisher’s big deal models in North American academic libraries. (Anderson 2018)<sup>3</sup> Anderson

<sup>1</sup> Fought, Rick L. (2014) Breaking inertia: increasing access to journals during a period of declining budgets: a case study. *Journal of the Medical Library Association* 102(3), 192-196

<sup>2</sup> Bergstrom Theodore C et al (2014) Evaluating big deal journal bundles. *PNAS* 2014 July, 111 (26) 9425-9430. <https://doi.org/10.1073/pnas.1403006111>

<sup>3</sup> Anderson, R. (2018). *When the Wolf Finally Arrives: Big Deal Cancelations in North American Libraries - The Scholarly Kitchen*. [online] The Scholarly Kitchen. Available at: <https://scholarlykitchen.sspnet.org/2017/05/01/wolf-finally-arrives-big-deal-cancelations-north-american-libraries/> [Accessed 8 Feb. 2018].

expects, “converging factors will lead to a growing number of Big Deal cancellations in academic libraries” based around the fact that many already are doing so and not going back as there has been no end user outcry. In many cases it seems libraries are offering a pay per view (PPV) alternative, offering to buy articles on an ad hoc basis as and when required.

The latter approach is one that we wanted to investigate. Could a library offer an ad hoc service like this, maintain an efficient delivery service and save money against subscription (individual or big deal bundles) at the same time?

To investigate the possibilities, a joint project has been run between the library services at Northern Lincolnshire & Goole NHS Foundation Trust (NLaG) and the Hull and East Yorkshire Hospitals NHS Trust (HEY). The project was started in late 2016 with the stated purpose; “to make an assessment of whether current provision of e-journals via both national core content and also those procured by the NHS Library knowledge services in England, proves to be value for money per download as against the pay per view or article choice or BL (British Library) on demand as potential alternatives for the NHS in the future”.

The reason these two Trusts decided to work together was because NLaG had journal subscriptions and HEY at that time did not subscribe to journals.

We approached Health Education England (HEE) with the proposal of this study and following informal discussion they offered funding. After further agreements HEE agreed to back the study with a maximum of £5,000 on the understanding that our results would be published. The money was split between both Trusts and used to fund the costs of the study.

A similar project to this was overseen by Jenny Lang, head of service at Salisbury NHS Foundation Trust from late 2012 to early 2013. Jenny very kindly agreed to talk to us about her experiences running the project which was published as a small piece in her local newsletter.

Instead of paying annual subscriptions to a wide variety of online journals which may or may not get read, the Salisbury team considered the possibility of putting journal funding into an online pay-per-article deposit account, so that only the articles required were paid for.

After talking to Jenny it became clear that having run the pilot, Salisbury library ultimately decided that this was a useful tool but now it is only accessible by their library staff, i.e. they have normal ILL procedures in place but have this running in the background and download a ppv article from it if they have exhausted all other avenues. It was suggested that this occurs probably once or twice a month now.

At the same time as we have been looking into this, Health Education England (HEE) have been running the AMillionDecisions campaign. One of the stated aims of HEE, highlighted through this campaign is the delivery of the right information to the right people at the right time. The last point being key – information needs to be delivered in a timely manner. Pay Per View (PPV) may be the only cost based model that can offer the immediacy that some may require here. The only other model that may match it is Open Access (OA) and as Grouse notes, “the rise of open access publishing challenges the long-standing model developed in concert by commercial publishers and

medical organizations, a model whose profitability depends on the ability to restrict and sell access to medical information". (Grouse 2014)<sup>4</sup>

Of ongoing concern with OA are the legality of some forms of access and to some extent the problem of predatory publishing. This latter refers to exploitation of the OA business model whereby authors are charged a publication fee but do not receive the professional editorial and publishing oversight that subscription journals may offer. One need only look at the extent of the archive on the now defunct Beall's list of predatory journals (<http://beallslist.weebly.com/>) to see the depth of this issue.

The difficulties of this model were further highlighted by Sorokowski et al when they created a fake editor who was in no way qualified for posts applied for ('Dr Oszust' – which is Polish for fraud) and were able to have 'her' accepted to editorial positions.(Sorokowski et al 2017).<sup>5</sup> With this in mind we determined that although people may wish to investigate the OA route, from a library based point of view it was more suitable to continue investigating the paid routes and seeing how PPV stacked up against the other paid access options.

Prior to what was expected to be the initial phase of the trial, a comprehensive literature search and assessment of said literature was undertaken. This search was undertaken mostly via the HDAS platforms and also on LISTA<sup>6</sup>. Most of the literature that was returned referred to American academic institutions, although in fairness most of what was being discussed was the sort of thing that had prompted this project in the first place. For instance, the bundling of journals whereby, Grouse again notes, "Publishers of important medical journals often force medical libraries to pay high prices for access to the journals, and they "bundle" many different journals of much less importance with those that are in great demand, forcing libraries to buy access to many journals that are useless to them in order to to get the ones they need."<sup>7</sup>

We also wanted to look at the service for end users. All considerations of finance aside, could the speed of service for library users be drastically improved by the use of a ppv method and if so how would that factor into any recommendations we were to make at the end of the study?

With all of these factors in mind, we decided to investigate how a PPV access method would compare to subscriptions across two NHS trusts, using different access methods. Was it cheaper for a library to adopt the PPV system as a whole rather than looking at payment per article costs? We were interested in finding out not only which method was cheaper per article, but also which method offered the better overall value for money for a small budget.

## Method

A comprehensive literature search was undertaken by staff acting independently at each hospital site. The results of these searches were then compared and amalgamated as appropriate. These

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<sup>4</sup> Open Access and Medical Publications. L Grouse, Journal of Thoracic Disease, Volume 6(6), E133-E136 P133

<sup>5</sup> Sorokowski et al (2017). Predatory journals recruit fake editor. *Nature* 543(7646) 481-483

<sup>6</sup> LISTA and HDAS are databases used for searching by library staff. LISTA is 'Library, Information Science and Technology Abstracts provided by EBSCO and HDAS are the 'Healthcare Databases Advanced Search' tool provided by NICE and routinely used by information professionals in the NHS.

<sup>7</sup> Open Access and Medical Publications. L Grouse, Journal of Thoracic Disease, Volume 6(6), E133-E136 P133

searches were done using the HDAS databases, Medline, Embase, HMIC and CINAHL, as well as a further search on the LISTA databases and back up searches were done on Google Scholar too. Once all the data had been collected, compared, analysed and discussed a plan of action was decided.

It was decided to trial two different methods at the two different hospital sites. To that end, NLaG would trial a system whereby articles were accessed for end users on an on demand basis using a debit card set aside for that purpose. Alternatively, at HEY they would purchase bundles of articles or book chapters from Elsevier using their ScienceDirect ArticleChoice® service, which allows users to download articles or book chapters using their ScienceDirect account (including downloading and printing).

Our original expectation for the project was that it would begin in October 2016 dependent on funding and agreement of what format each hospital site would trial for their pay per view project. However we were unable to begin when intended due to delays in waiting for the money for the project to filter through from finance at each site. HEY also had to set up ScienceDirect ArticleChoice® and we wanted to start our trials at the same time at each site.

Once the money had come through and been approved for the project, and all the logistics were in place at each site there was a further delay. This latter delay was voluntary however as we found ourselves at a traditionally fallow time of year for article requests. Hence we opted to wait until the academic year was underway and people were more likely to make requests.

The two trials were set to run from October 2017 to February 2018 or end sooner if the funding was all used. After that the teams from each site were to meet to discuss results and consider further options.

### **Method i: The NLaG Experience**

The PPV trial began at NLaG from the week commencing 16<sup>th</sup> October 2017. A list had been made of the heaviest ILL users at both internal hospital sites and invitations to join the project were sent to them. Invitations were also sent to every member of the R&D and clinical skills teams as both often have ongoing projects requiring evidence capture.

Staff were invited to request articles in the usual manner (physical or online request forms) and advised that the PPV project was running so they could expect to receive their requested articles quite quickly.

Initial response was quite slow. To start with there was zero up-take until day 4. The first request for the project that came on day 4 was actually inspired by a literature search that had been done in the morning of that day. During training the member of staff had been informed of the project and encouraged to get any articles this way. They had managed to source all of the other articles they wanted online for themselves but were interested in one article that was behind a paywall and that they did not have any form of institutional access to.

In light of this slow initial response it was decided to invite recently qualified junior doctors, (foundation year one and foundation year two trainees), who may have journal club presentations etc. to do, to apply for their loan requests this way. An invitation to access requests in this way was

also sent to the infection control team who also seemed in our experience to be a department who were keen to keep up to date.

Further slow take up after this meant that we then also decided that ALL ILL requests taken during the period following the commencement date of the project would be done on a PPV basis. That way we would be able to assess the impact of delivering articles in this way as well as see what problems arose in attempting to get the articles via this method. Problems arising in each instance of an application for an article can be seen in appendix 1.

We did make note of the fact that week 2 of the project was Open Access week – meaning that a lot of paywalls were temporarily removed between the 23<sup>rd</sup> and 27<sup>th</sup> of October which would potentially greatly diminish our chance of receiving ILL requests.

Having had very few requests from starting out with the project, (5 article requests supplied), we decided to ‘remind’/re-launch the idea to staff and students by putting an announcement out on the HUB (our intranet site) and in the staff weekly bulletin. This was done on Tuesday 7<sup>th</sup> November 2017. This message was repeated on the HUB on the 7<sup>th</sup> December. The reminder message can be seen in appendix 2.

On the 7<sup>th</sup> November we received 14 article requests. On the 7<sup>th</sup> December we did receive an enquiry re the articles but the user actually was more interested in our ability to do a literature search for them. Whilst this did not apply to this project it is interesting to note that successive appearances on the HUB did raise awareness of our service.

Of the 14 article requests received in response to the November push, some we were able to process as a normal PPV and 1 was abandoned as a PPV choice due to problems with the payment card. This was obtained as an urgent ILL. One consultant asked for 10 articles relating to a particular topic. It was interesting to note that of these, 5 were available as OA articles, which we did not purchase but simply downloaded and 5 we did pay for. The 5 OA articles took 10 minutes to access & cost nothing, whilst the PPV articles took just under an hour to sort out and cost approximately £160.00.

Of the 29 articles accessed from December to February, (there was another fallow period over the Christmas break), the vast majority were easily obtained and downloaded within 5 minutes.

Since that time, further reminders were put out and all ILLs were undertaken as PPV wherever possible. Over time the system became much more efficient, meaning access to content for end users could be very rapid indeed.

### **Method ii: The HEY experience**

HEY, as discussed, were to purchase bundles of articles or book chapters from Elsevier using their ScienceDirect ArticleChoice® service, which allows users to download articles or book chapters using their ScienceDirect account (including downloading and printing).

It was decided to approach the research and development department at HEY in the first instance in order to advise those individuals that would usually access articles using the library ILL service. One aspect of the trial would be to ascertain how much of a barrier the current ILL systems actually are.

Although we hoped that we would be inundated with requests to join the trial (anecdotally we understood that having broad access to as many medical journals as possible could be a critical help in aiding patient safety) we only received two responses, and as such we did consider widening the trial.

However, it was decided that to broaden things from here would dilute the results and feedback we received. Therefore no extension of the trial was undertaken at HEY. It was further felt that extending the dates of the trial or broadening the scope of it would only further dilute the results. It was felt at the time that it would be preferable to remain within the parameters of the original premise of the trial; even if those results were not particularly successful.

The 2 members of the pilot study were asked a couple of simple questions prior to them receiving usernames and passwords. We wanted to ascertain whether they thought that not having access to the most recently published articles was a barrier to their work.

The day before the final meeting to write up the trial, one of the individuals in possession of the username and password at HEY got in touch, explaining they were having difficulty using it. They could not get the username and password to link to their ScienceDirect account. As this came 4 months after the project was initiated it was assumed that nothing had been downloaded by this participant. As they were unable to download the items they required, the librarian at HEY created an account and used it to download the requested items and they were forwarded by email.

Due to the light usage of the ScienceDirect ArticleChoice® service being provided by HEY we decided to test it ourselves and see what kind of experience it offered for the end user. Having tried it separately we agreed that it could seem quite cumbersome to someone not used to searching databases. There is also a sense that if staff only used it intermittently they would need to re-learn the system every time they came back to it. On the other hand, if they used it regularly, for research for instance, we felt that they would soon become used to the system and adapt usage accordingly.

It was noted that whilst one could easily obtain recent articles, if you wanted to access something slightly older then we encountered instances where it would take you to a table of contents and citation reference rather than a point of access to the article. You could access such articles elsewhere online, but we felt that a user of the system would expect to obtain everything via this one point of access once they were locked into it. This may be down to the current medical publishing model but it is not intuitive for the end user.

A final point to consider re: ScienceDirect ArticleChoice® service is that when we have accessed this we are locked into a relatively narrow resource range as offered by Elsevier. It may be easy for the end user to forget that there are other resources available.

## Results

Usage data was tracked at both hospital sites to see how well used the service was throughout the course of this study. Overall take up was no greater than the usual ILL demand rates for NLaG whilst the PPV offer was available. At the same time at HEY take up rates for the particular approach to offering a PPV service were very limited indeed.

By February 2018 NLaG had supplied 58 articles on a PPV basis at a cost of £1,673 (£28.84 per article). This may be more expensive than the cost per article download of some deals, but for those with a small budget, pay on demand like this, where demand is not excessive, can be cheaper than say several annual journal subscription costs.

If you were to extrapolate over the course of 12 months this would equate to 174 articles, costing £5,019. If that had been a near total ILL expenditure for a small budget akin to ours, then the potentially high £28.84 per article cost would be offset entirely by how much cheaper overall this would be as an alternative to having multiple subscriptions.

By the end of the project at HEY using the article choice service only 2 users had taken part and their contributions had been limited due to access difficulties.

It appeared that the PPV pay on demand method trialled at NLaG was the more popular of the two approaches trialled by each respective trust library service with end users.

## **Discussion**

What has become clear as the project has progressed from the idea to action stage is that in both our trusts the demand for ILLs is declining. This, we believe at least from anecdotal evidence, is reflected in national trends. There seems to be some disparity over why this might be. For some it may be that people are now used to searching for themselves and are better at finding things. It is also possible that people are more willing to circumvent the system and use 'guerilla open access' approaches such as 'canihazpdf' on twitter or using sci-hub.

There is also a school of thought that suggests, particularly in the NHS that staff are now so time poor they don't really have time to keep up to date as much as they used to. At least in the NLaG trust we can attest to this where recent surveys have shown that most clinicians are more concerned about whether we offer point of care tools rather than journal access. To discover what is the main underlying reason for this decline in ILL demand or whether it is a mixture of things would require deeper analysis.

Early indications seem to suggest that it can be time consuming and potentially frustrating to initially opt for paid article access. From an individual's perspective it would be no doubt tiresome to have to keep registering or obtaining membership from every new publisher prior to downloading an article. However, once your registration is in place it does seem fairly straightforward on returning to a publisher to download and pay for an article.

For an institution that one off registration becomes negligible if they are repeatedly returning to a publisher to download articles. This seems to suggest, at least in our experience, that if you were to follow the PPV approach, mediation by the library services would be a preferable approach. We would not want our users to be put off from accessing information by any frustrating barriers to immediate access they may face.

We note also that the price we pay for one off access tends to be 24 hour access to the article, however downloading a PDF is allowed by the publisher for the end user. They must remember to do this however if they wish to look at the article later, as one off purchase is time limited in this way and if they needed to re-access it they would have to pay again beyond the 24 hour window.

Also as an aside from this, Wiley offer a range of access options for an article from \$6 to rent it as read only for 48 hours, to \$15 to have it as read only in the cloud up to \$38 to read, print and save. It is an interesting range of options for users that most publishers do not cover. However, there was an issue over security of their site (see appendix 1).

When accessing some of the articles for our users, we had to click checkboxes to confirm that the article we were about to download was for personal use only. We wondered about the legitimacy of doing this and would need to explore this further with the publishers concerned.

A further point of interest is added tax on purchases from US publishers. Some sites have a phrase along the lines of 'Are you registered for tax exemption'. We do not currently know if it would be possible to arrange some kind of exemption for NHS libraries but this would surely be worth investigating.

## **Conclusion & Recommendations**

From undertaking the study it is clear that there is a place for PPV in the context of an NHS library service like ours with a small annual budget. It may not be able to replace all of the access options available, but it does offer a viable economical access option that should certainly be considered.

It could be that lodging monies into a ScienceDirect account, as was done at HEY, may be of some use for urgent requests for articles, allowing the library to purchase and supply while the requestor waits. However the lack of interest in the initial offering and the subsequent lack of use from the 2 participants may indicate that the take up of this approach could be quite limited.

A further thing to consider with the ScienceDirect ArticleChoice® undertaken at HEY is that it can be quite limiting. If you are subscribed to this, you are using a part of your budget for access to ScienceDirect articles alone. Whilst Elsevier do provide a lot of titles it is difficult to justify spending a portion of budget and excluding other article access versions from other publishers.

One thing that was reinforced by doing the study was the need for internal promotion of services within the hospital setting. We only got take up (you could particularly see increases at NLaG correlating to promotion), when the service was pushed. If anybody elects to offer some form of PPV service they will need to continuously remind staff of its availability.

It seems that if you want the experience to be less stressful for your end user then a mediated service should be offered. To some extent this may seem counter-intuitive in that a barrier to access is being put in place with librarians as guardians of those barriers. However, experience suggests that users don't want to go through routine processes –they just want to be provided with information. A further element in favour of mediation is for the library services themselves. With

greater control over the access to articles they can maintain a better understanding of what is happening from a budgetary perspective on an ongoing basis.

It would be remiss of us to recommend that all services took up PPV alone as a result of this small study. Rather, we would suggest that all avenues should be explored. This is particularly true for library services like ours in an NHS setting with a small budget.

For the sake of comparison, NLaG expenditure on journal subscriptions in the 2016/17 financial year was £26,000. During this period we requested 191 articles specifically for library users – beyond those we were able to obtain via OA. Had we been using a PPV only service to access these articles at the approximate cost of £30.00 an article this would have only cost us £5,730 – freeing £20,270 from the budget.

This would not be the case if all NHS libraries were to go to PPV on a full time basis. Then of course, it would be very difficult to supplement articles by getting them from ILL agreements. Something that we would not want to see lost.

There currently exist many reciprocal ILL arrangements between groups of libraries. For the NHS where it is being encouraged that more sharing is undertaken, these networks will only widen. We did question whether there is economic sense in many different libraries subscribing to the same journals. It would make more sense for individual libraries to subscribe to what will be highest demand in their organisation and then for individual libraries to subscribe to publications that can be shared via ILL as widely as possible.

We stated that we would compare pricing PPV against the BL and the BL offers an encrypted download of an article at a cost of £9.10 plus VAT. This is obviously cheaper than PPV but there is a 4 day wait. If the request is not urgent then BL should certainly still be considered as a viable option.

A combination of maintained ILL lending groups that have well thought through subscription plans spreading the costs across different sites whilst maintaining access for as many libraries as possible combined with PPV, BL, and OA would be an excellent step forward.

This was a small study run over only 2 hospital sites using differing methods. Whilst certain conclusions may be drawn from a study like this for deeper analysis further investigation would be advised.

#### **APPENDIX 1 – Problems encountered with the PPV method.**

- The first problems we encountered were with the first article request itself. This was from the Journal of Perioperative Practice. We went directly to its website and followed the process for downloading an article. You could not immediately download and pay for your

article as first you had to create a username and password. Further, when we tried to pay for the article we were asked for money for membership. We rang the helpline associated to this & were told this access point was for members only – there was a membership fee and then articles were cheaper. In this case £10.00 per article instead of £16.64. As we may only have ever wanted the one article from them this did not seem like an offer we wished to pursue. We then looked to see if the article was available from another platform – it was & we were able to purchase it via Ingenta. However we were still not able to download the article as our purchasing card was blocked. This was because the merchant code was blocked as our card had not been used for article purchasing – usually we had used it to rapidly order books from Amazon, and we had to get this code unblocked before we could proceed. As this was our first attempt we were hopeful we would not encounter this many problems every time we tried to purchase an article!

- Further issues were raised by the second article we attempted to get via PPV. This was requested by a consultant who wanted it for his grand round on 26/10/17. His request was made on 23/10/17. When we looked at the purchasing options we could buy 24 hour access to the article for £59.00. This was obviously inappropriate as by the time the consultant wanted the article access would be over. We did not know if we were able to print the article but thought it unlikely & did not want to try at this cost to find out. Alternatively we could buy 30 day access to the whole journal issue for £282.00. - - this was adjudged to be prohibitively expensive.
- The third article we accessed on the 26/10/17 was also problematic. We were able to use the card & have it accepted. We had to register once again before being allowed to buy the article. This led us into a frustrating feedback loop of registration page-payment page-basket/checkout before the cycle was broken at the 4<sup>th</sup> attempt. The level of frustration occasioned by this did suggest mediation by the service may be better than letting users have direct access.
- Elsevier emailed an invoice post registration as tax was added afterwards.
- 2/11/17; we were asked by a GP to obtain an article from the Journal 'Medical Teacher'. We went to do this by PPV. Once again we were made to register as a member (this time with Taylor & Francis) and ordered the article. However we were still not able to download the article as our purchasing card was blocked. This was because the merchant code was blocked – as we had ordered an article in this way previously on this card, we can only presume this is because it is a different supplier. Having to have the payment system unblocked every time we use a new supplier would be immensely time consuming and frustrating. (As this was an older article we later sourced online free anyway and were able to supply to our user).
- We noted with interest when searching for an Elsevier article that we could purchase it for \$30.00 via Science Direct but was available for \$15.00 via Small Animal journal suggesting that some publishers at least are pricing to the market as they see appropriate rather than having a fixed fee. Hardly fair on researchers who are not (in this instance) of a veterinary background that they are paying double what others may pay.
- Whilst trying to purchase a PDF from Wiley it was noticed that the checkout process was not secure in the URL line and so purchase was abandoned. Looking into this lack of security it would appear that had we gone ahead with a purchase we would have been vulnerable to having our card details stolen!

- **APPENDIX 2 – Reminder/relaunch message put out at NLaG.**

Do you need a journal article that you just can't access?

Do you want it fast and free?

**Staff and students we can help!**

We are undertaking a review of the way we provide information and part of that is trialling a 'pay per view' approach to the gathering of information.

In return for access to articles provided on a pay per view basis rather than via our usual inter library loan channels we would ask for your input and review of how you think this alternative service fares.

We hope that this will make access to content quicker, easier and more manageable for you.

*Contact the libraries at Grimsby on 304665 & SGH 302248 or by email to make your requests.*

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