Introducing the new model of scholarly publishing: A library outreach initiative to biomedical researchers at The University of the West Indies

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Key Words: Open Access, Trinidad and Tobago, The University of the West Indies, Publications, Libraries, Research personnel, Library services, Outreach

INTRODUCTION

The University of the West Indies (UWI) is a single institution, primarily serving the countries of the Commonwealth Caribbean. There are three independent campus countries: - Barbados (Cave Hill campus). Jamaica (Mona campus), and Trinidad and Tobago (St. Augustine campus). The other countries served by the UWI, formerly called the "non-campus countries" are now called the 'UWI Twelve'.

Although medicine has been taught at the Mona campus for over fifty years, undergraduate teaching in medical sciences only commenced at the St. Augustine campus in 1989. The Faculty of Medical Sciences (FMS) at St. Augustine is located at the Eric Williams Medical Sciences Complex and comprises four schools and a Pharmacy programme. At the FMS, Medicine, Veterinary Medicine, Dentistry and Nursing are full schools, while it is anticipated that the Pharmacy programme will be made a full school in the near future. In recent years, the intake of students has averaged around 260 in all schools and programmes.

BACKGROUND: COLLABORATION AND OUTREACH

The Medical Sciences Library (MSL), which serves the information needs of the FMS programme of teaching and research, celebrated fifteen years of service in October 2004, The facility was opened simultaneously with the commencement of teaching at FMS in 1989. The team of professionally qualified librarians and support staff provide a full range of services to the FMS including reference, research and instruction. Librarians at the MSL have been early adopters of information technology, such as the use of MEDLINE on CD-Rom since 1990. This product had become available in 1987.

Introduction to the Internet for faculty and students was also spearheaded at an early stage. This latter was achieved through collaboration with the Faculty of Information Science at the University of Toronto and with the co-operation of the Dean of the FMS. Through this collaboration, the library was able to establish a Web presence as early as 1995.

The librarians also collaborated in the development of a module in the FMS Postgraduate Diploma in Primary Care and Family Medicine. In this programme, the main objective of the librarians was to introduce general practitioners to the effective use of available health information resources. One of the actions taken in preparing the information resources for the Postgraduate programme was the provision of a diskette with a link to journal articles freely available from SciELO (BIREME).

The module successfully introduced the course participants to elements of evidence-based medicine and information literacy. In recognition of this initiative, the MSL was rewarded in 2001, with the Association of Caribbean University Research and Institutional Libraries (ACURIL) Gale Group Award for innovation in the use of technology. The interest in and action taken to introduce open access to the FMS community is a reflection of the MSL's ongoing commitment to keeping faculty informed about new developments, ideas and innovations through outreach and collaboration.

NEW PUBLISHING MODEL

The issue of improving access to scholarly publication was widely discussed at the meeting of the Sixth Regional Congress on Health Sciences Information (CRICS VI), which was held May 7-9 2003 in Puebla, Mexico. The conceptual models for enhancing equity in scientific communication addressed the tension between free distribution, publication costs, and copyright control among others. BioMed Central (BMC) demonstrated a new publishing model. BMC is an independent publishing house committed to providing immediate open access to peer-reviewed biomedical research. The Head, Medical Sciences Library, who attended the CRICS VI meeting, considered it opportune to have the MSL share these ideas and this new approach to publishing with members of the FMS. In particular, it was felt that the time was right to assist academic staff in exploring an opportunity to increase the exposure of Caribbean scientific literature and to introduce the concept of supporting peer-reviewed open access journals.

METHODOLOGY: INTRODUCING THE CONCEPT

In June 2003, the possibility of becoming an institutional member of BMC was discussed with the Dean of the FMS. The Dean invited the MSL to present the relevant information to the monthly Faculty Board meeting. In response to this invitation, the Head, MSL, made a short presentation. The BMC site was demonstrated. Information on the following concepts was shared at the meeting

- New models of scholarly publication
- Overview of OA initiatives
- High impact journals as an issue for staff assessment
- And the desirability of subscribing to the BMC

Faculty members were attentive. One member indicated that earlier interest in submitting an article to a BMC journal had been deterred by the USD500 charge, which equals \$3,100 in Trinidad and Tobago currency. This cost is payable to the BMC as an article processing charge. The meeting was informed that the institutional license would allow UWI researchers a waiver of article processing charges. In demonstrating the BMC site to faculty members, it was pointed out that three papers originating from the UWI were already in the database. Two of these were from the Mona campus, (Jamaica) and one from the St Augustine campus (Trinidad and Tobago).

Following the meeting, the Dean agreed that the acquisition of institutional membership for the University community should be pursued. A policy decision taken at the level of the University Libraries' administration that the acquisition of electronic resources should be negotiated as a single University, wherever possible, was considered. It was agreed, therefore, that the terms of the license would apply to the three UWI campuses. To enable access, a list of IP addresses for all campuses was provided to BMC. In order to determine the cost of membership, BMC required that the UWI indicate the number of lecturers, researchers and graduate students in Medicine and the Life Sciences across the three Campuses. A total of 992 consisting of 316 academic staff and 606 postgraduates was reported: Cave Hill 40/20; Mona 161/447; and St. Augustine 115/109.

Negotiations culminated in the signing of an Institutional Member Agreement effective for one year from September 1, 2003. It was agreed that the FMS, St Augustine would pay the initial membership fee. With the permission of the St. Augustine Campus Marketing and Communications Office, the UWI logo was supplied to enable customization of a specially created member's page by BMC. A page was created for each of the three campuses. The full list of work published with BMC by UWI researchers appears on each of these pages. The icon for BMC was placed on the FMS website so that persons using the website would be aware of the availability of the resource and would be able to access the customized page with a single keystroke. Library users were advised of the availability of BMC and of the access to free full text open access journals.

BioMed Central provides a wealth of guidance to librarians with regard to marketing and advocacy. Posters and flyers are easily downloaded. An introductory letter to prospective users, which outlines the product, is also available. The librarian is free to customize the letter for the library's clientele. On September 11, 2003, the MSL utilized the suggested publicity format to prepare a letter to faculty indicating that the UWI had become an institutional member of BMC. The letter explained the advantages of publishing via this medium. The major advantages highlighted were:

- Exemption from article processing charges
- Retention of copyright
- Rapid peer review
- High visibility
- Immediate indexing and archiving

On the verso of the letter, the three research articles that had already appeared in BMC were listed. These articles had been published in 2001 and 2002. To accompany the letter, five additional items of information were included in the package.

- 1. A short flyer was appended. This flyer explained the concept of the impact factor by providing an extract from an essay originally published in 1994 by the Institute for Scientific Information (ISI), now Thompson Publishing [1]. Information about the impact factor was included to provide a point of reference on the informed use of impact factors as well as to convey the message that visibility equals the possibility of citation and hence possible increased impact.
- 2. To introduce the wider concept of Open Access, a short description of the Budapest Open Access Initiative (BOIA) was appended. The BOIA definition outlines the concept as follows: "free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited." [2]
- 3. The Public Library of Science (PLoS) was introduced with a short statement entitled *Why is open access important*. The statement was copied from the PLoS Website. PLoS is described as a non-profit organization of scientists and physicians committed to making the world's scientific and medical literature a public resource. [3]
- 4. A handout supplied by the BMC entitled *Reasons for publishing in the BMC journals* was also appended. [4]
- 5. The URLs for PLoS and the BOIA were included in the package, viz. http://www.soros.org/openaccess/ and http://www.plos.org/

This paper-based publicity was distributed to the biomedical and life sciences academic community at the UWI St. Augustine campus. Packages were also sent to the relevant librarians at the other campuses and they were encouraged to make the initiative known to faculty members and other researchers. The MSL advised of the commencement of the institutional membership by sending an e-mail announcement to the University Librarian, Campus Librarians, Systems Manager, and professional library staff at the St. Augustine campus; and to the medical and life sciences librarians on the other two campuses. The University Librarian, who at the time was based at the Mona campus, recorded thanks to the Dean, FMS St. Augustine for generously underwriting the cost of the institutional membership.

In order to assess the response of faculty members to the initiative, the statistics generated by BMC and the listings of articles published were monitored on a regular basis. To gather information on the experience of authors whose manuscripts had been accepted and published between September 2003 to July 2005, an e-mail message was sent to each UWI-based

corresponding author with a request for information regarding the review process and their views on publishing in OA journals. The authors were asked to indicate

- The number of papers they had submitted to BMC
- The number published by BMC
- Their experience with the review process
- Whether they had published in any other OA journals
- Would they encourage others to publish in BMC
- Would they encourage others to publish in other OA journals
- Their awareness of OA publishing

RESULTS

The fact that three articles authored by UWI researchers were in the BMC database since 2001-2002 indicated that there was already a certain level of awareness and action among some researchers. At July 2005, ten articles are listed on the UWI member's page. From inception of membership to July 2005, a total of twenty-nine manuscripts were submitted for review. The first submission against the institutional account was made in January 2004. In the first year of institutional membership - September 2003 to 2004, one article was published. During the second year - September 2004 to July 2005, six additional articles were published. Of the seven articles published, six are designated as research articles and one as a commentary.

E-mail messages were sent to the UWI-based corresponding authors of research articles that had been published in BMC journals since the UWI institutional membership was purchased. These authors were asked to provide responses about the review process, their views on publishing in OA journals and their general awareness of OA. All three authors responded. Two of the authors were based at the St. Augustine campus and the third, at the Mona campus. The three authors reported submitting, along with their collaborators, a total of seven papers, of which five have been published to date. One author had submitted four papers of which three were published. The second submitted two and one was published. The third had submitted one, which was published.

Each author reported a positive experience with the review and publication process describing it as:

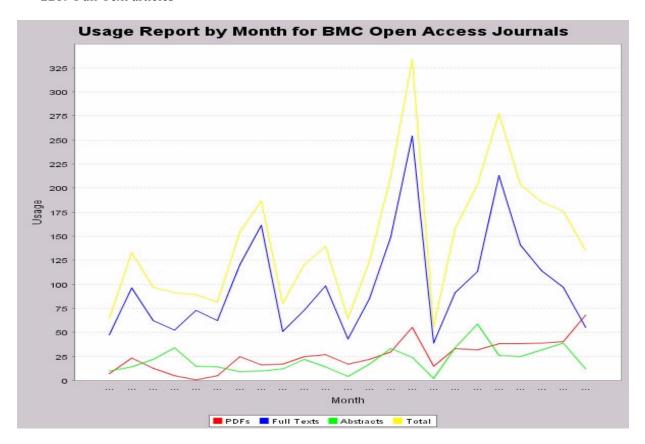
- Comprehensive, very helpful, and efficient
- Efficient one author particularly valued the ability to view the review status of the manuscript online, tracking and observing the review process
- Rapid, constructive and clear

One respondent also commented on the reduction in elapsed time between the submission, review, and publication processes.

Regarding encouragement of others to submit papers to BMC journals, two of the respondents indicated that they have already done so and one indicated that (s)he would be prepared to do so. The three respondents also indicated that they would encourage colleagues generally to submit manuscripts to OA journals. The respondents reported varying lengths of time since they had been aware of OA publishing. The time ranged from one year to three years. The published authors were clearly satisfied with the process and were prepared to act as advocates. One respondent requested a list of OA journals and was supplied with the URL for the DOAJ: Directory of Open Access Journals.

In addition to advocating open access publishing, MSL librarians promote improved access to the literature by encouraging users to access all OA sources. The Campus Libraries website links to BioMed Central, The Public Library of Science Journals and the Directory of Open Access Journals. Staff in the user services area promotes these resources to library users. The statistics indicate that use of BMC for accessing full text and open access research has increased consistently. These statistics reflect use of BMC Open Access Journals across the three campuses. During September 2003 to July 2005, users accessed a total of 3363 items:

- 483 Abstracts
- 591 PDF files
- 2289 Full Text articles



Access to BMC Open Access Journals over September 2003 to July 2005 – UWI – Chart supplied by BMC

DISCUSSION

The task of sustaining interest and of building further awareness about OA publishing among faculty members may be described as work in progress.

The MSL's commitment to outreach activity to the faculty and to the wider scientific community can be demonstrated. The Caribbean Health Research Council (CHRC) promotes and coordinates health research in the Caribbean and organizes a highly regarded Annual Scientific Meeting. Over the last two years, MSL staff has promoted the OA concept among regional researchers, in attendance at the CHRC Meetings. Publicity has also been given to the availability of publishing in BioMed Central, without article processing fees. A number of the researchers, who attend this meeting are staff of the UWI and so would benefit from this latter information. Reporting on this initiative in a forthcoming publication, Drayton-Andrews and Lewis note that there was much interest in the resource but that continued outreach would be required to improve usage through increased awareness and knowledge. [5]

Librarians assist in promoting the OA model by advocating both amongst potential researchers and at the institutional level. This advocacy often is the result of genuine interest in the scholarly communications process or of concern for improving dissemination of the research and scholarly output of academics. In some instances, the involvement may be as a consequence of the imperative to make the best use of serials budgets. While the issue of increasing costs of serials may provide the impetus, the real benefit that should be emphasized is the increased access

to and visibility of scholarly research. "The rationale is to maximise research usage, impact and progress" [6]

The literature revealed evidence of a librarian's involvement in an initiative to heighten awareness among faculty members about this new model of scholarly publishing. Watson, Login and Burns report on a library-faculty partnership in which Watson, a librarian partnered with her faculty colleagues to raise awareness about the BMC product. One issue which Watson noted as engendering "negative concern" was the sustainability of the BMC business model At the time, November 2002, there were forty-nine BMC institutions of which twenty-one were from the United States of America (USA). [7]

The list of BioMed Central members as posted on the BMC website showed that one year later, in October 2003, there were 324 BMC institutions in thirty-three countries, and that eighty-nine member institutions were from the USA. By August 2005, there were 544 BMC institutions in thirty-eight countries of which 163 member institutions were from the USA. This data suggests that the BMC publishing model has proven to be sustainable up to this time. Arguably, the most sustainable model for open access would be achieved when authors take the responsibility to ensure that their work is archived and freely accessible. Proponents speak of this approach essentially as the 'green road', juxtaposing this with publisher-driven models referred to as the 'gold' road. [8] There are other variations. Willinsky, for example, speaks of the "nine flavours of open access scholarly publishing" [9]

Effort is also needed to disseminate information about the wider range of concepts within the issue of scholarly communication - such as copyright issues, and institutional repositories. Educating the community about copyright has always been a fundamental role for librarians. In the OA environment, an important resource in this regard is the list of publisher permissions policies with respect to self-archiving which was created by the RoMEO (Rights MEtadata for Open archiving) Project and is currently hosted by SHERPA (Securing a Hybrid Environment Research Preservation and Access). [10] SHERPA is an open access repository project. The RoMEO list serves as a guide for researchers regarding the copyright policies of a number of publishers and is kept updated by contributions from the user community. Policies are coded as follows

- White: archiving not formally supported
- Yellow: can archive pre-print (i.e. pre-refereeing)
- Blue: can archive post-print (i.e. final draft post-refereeing)
- Green: can archive pre-print and post-print [11]

A link to this site as well as other major discussions and information resources on OA initiatives is available via the *Instructions to Authors in the Health Sciences* web page, which is maintained by the Raymond Mulford Library of the Medical University of Ohio at Toledo in the USA. [12] Since the Mulford site provides links to instructions to authors for over 3,500 journals in the health and life sciences; it is likely to be familiar to medical researchers and librarians. Other useful OA information resources are also linked on this page.

The current environment at the UWI is conducive to discussion about OA since there is much interest in utilizing technology, in adopting best practices for academic institutions and in improving the visibility and impact of UWI research and scholarly output. Concurrently, interest in the concept of institutional depositories has been expressed in the campus libraries. It is fair to say that building capacity in this area is under active consideration. In 2004, two librarians from the Systems Unit of the St Augustine Campus Librarians attended the CERN [the European Organization for Nuclear Research] Workshop on *Innovations in Scholarly Communication: Implementing the benefits of OAI*. The Systems Unit has since reported that during the past year, staff has worked on the Open Source application DSPACE and it has deployed under a Linux platform. It is said to be currently in a state of readiness to accept all digital formats and a wide variety of content. Further planning and consultation with librarians, faculty and administration is

anticipated. A pilot project would be the next step. At the Mona campus, a mandate has been given to the library to develop a comprehensive web-accessible database to include all campus research information including published and unpublished research funded projects and research in progress. These constitute major elements that could usefully be shared in an institutional depository. The administration of the campus library at Mona has sought to assist faculty in enabling this project through the provision of student assistance to collect the materials. An online form for the submission of bibliographic information about publications is also available.

Through the development of bibliographies and bibliographic databases, academic librarians have traditionally developed and provided a platform for sharing the research output of the academy. It would be timely to once again lead the way in fostering the dissemination of research by creating an atmosphere conducive to self-archiving, and by introducing the technological infrastructure to support this. Librarians' roles in support of OA initiatives include

- Information and persuasion
- Advocacy
- Provision of the evidence regarding impact of work placed in open access
- Assistance to persons challenged by the technology
- Provision of accurate information about the time and effort needed to engage in selfarchiving
- Populating the institutional and subject repositories with work already published by authors
- Provision of information regarding copyright issues

In a survey of OA in South Africa, the author surveyed computer, library and information systems professionals to determine their level of awareness and activity in the publication and dissemination in "new expressions" of scholarly communication. An interesting finding was that 53% of respondents saw libraries as taking responsibility for managing depositories of institutional research as well as theses and dissertations. [13]

A WAY FORWARD

The brief review reported on in this paper captured the responses of a very small number of early adopters of the OA publishing model, at the UWI. The UWI would be well served by the administration of a wide-ranging formal survey that would determine the current status of knowledge and of attitudes towards the open access concept. This survey should target prospective and active researchers and would gather useful baseline data. It would also provide an opportunity to expand awareness and understanding of the concept and offer a structure for so doing.

In this regard, two Joint Information Systems Committee (JISC) reports were reviewed to determine the kinds of issues that have been engaging the attention of researchers working on the attitudes of researchers to open access publishing. JISC is a committee of all United Kingdom further and higher education funding bodies, and is responsible for supporting the innovative use of information and communication technology (ICT) to support learning, teaching and research. The first report, *JISC/OSI Journal Authors Survey Report* was published in 2004, co-funded by JISC and the Open Society Institute. [14] Data was collected on the following:

- Awareness of Open Access journals
- Reasons for publishing or not in Open access journals
- Experience of publishing in Open Access journals
- Opinions of the Open Access concept
- Economics of publishing in Open Access journals
- The publishing process
- Article repositories and archiving

The second report, *Open access self-archiving: An author study*, [15] published in May 2005, was specifically aimed at collecting information from authors on open access self-archiving.

Interestingly, the survey revealed that only ten percent of the authors sampled were aware of the SHERPA/RoMEO resource. In this survey, data was collected on the following:

- Experiences and opinions on publishing in open access journals
- Production and use of information
- Information-seeking behaviour
- Self-archiving experience
- Awareness of self-archiving as a means to providing open access
- Motivation issues
- Mechanics of self-archiving

These are useful points of reference for the UWI community. Additional questions to elicit information about attitudes of faculty, Deans and Promotion Committees towards open access publishing in the context of academic advancement should be included.

ANTICIPATED CHALLENGES

In any University, responsiveness to QA initiatives is likely to be influenced by the stage of an academic' career, for example, whether new or distinguished, tenured or not. It is anticipated also that the impact factor would continue to be an issue for Appointment and Promotions Committees. There may be some scepticism about publications that appear in journals that are not 'traditional'. The literature reveals however that strategies for recording and reporting on impact factors in the context of new publishing models are in use. It is clear that increased impact can be expected when research is more visible, as can occur with research that is published in OA sources.

A combination of education and administrative suasion may be a strategy for consideration in the UWI environment. As observed by Swan and Brown, "The evidence...indicates that a mandate from an institutional employer or a research funder to self-archive would meet with very little resentment and even less resistance from researchers ...Probably in the end, the usual recipe combining incentive and insistence would prevail as the most successful approach: If you are going to tell someone to do something, it makes sense to start by explaining what benefits it will bring them at the same time as you finger the handle of your baton." [16]

CONCLUSION

Through monitoring the professional literature and engaging in continuing education fora, medical librarians in the Caribbean keep pace with emerging concepts in their field. Like professional colleagues in the region, MSL librarians have identified the need to encourage initiatives for making Caribbean research more visible and accessible. Action has also been taken to inform our researchers of initiatives to make scientific output in general more easily accessible. By encouraging the use of the freely available scientific literature, issues of more equitable access to the published literature have also been addressed.

The overall objective to allow UWI researchers in the medical and life sciences, across the three campuses of the University, i.e. in Barbados, Jamaica and Trinidad and Tobago, opportunities to gain exposure for their research, through publishing in this medium has constituted a moderately successful outreach activity. The preliminary results of the initiative indicate modest success in encouraging the use of OA publishing. Continued promotion, ongoing outreach and a more targeted and focussed education campaign is planned to improve the success ratio.

Additional research is suggested. For example, a survey of authors who may have submitted and not had their work accepted may be usefully undertaken. There is no doubt that there are varying levels of awareness of the concept within the University. In reviewing the reported research output of the UWI St. Augustine Campus as reported in the annual reports of 2003 and 2004, it was noted that faculty members have been publishing in open access sources

other than BMC. This trend should be studied. A survey as described earlier to assess the level of awareness of and willingness to engage in OA publishing and self-archiving should be undertaken.

The discussion regarding viability and usefulness of the open access model is rich and varied. There is definitely a change in the model of scholarly communication and publication. However, the pace of change may be too slow for the most dedicated advocates to whom the rationale seems eminently sensible. There is still a great deal of work to be done in the area of education and advocacy. Initiatives and strategies that increase the visibility and impact of the research emanating from the Caribbean Region must be encouraged and supported. Staff of the MSL has contributed to early and successful action in this regard.

Acknowledgement: Deans of the Faculty of Medical Sciences who have consistently supported the initiatives of the Medical Sciences Library. Staff of the Medical Sciences Library who quietly and steadily contribute to innovation and transformation.

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