## Article

# Supporting research at the Faculty of Medicine: the development of Imperial College London's Medicine Information Literacy Group

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## Abstract

Librarians providing information literacy training to Imperial College London's medicine faculty have set up a successful working model implemented by the Imperial Library Medicine Information Literacy Group (MILG).

MILG was created to improve and develop library services to support the Faculty of Medicine at Imperial College and to overcome the many challenges librarians face when attempting to provide information literacy training. These challenges include keeping up to date with new developments in their subject area, maintaining effective liaison with their faculty, updating their own skills and ensuring that they provide relevant and informative training sessions.

MILG's achievements include a successful, coordinated approach to liaison which has led to information literacy training being embedded into the curriculum of the Faculty of Medicine. The group has also developed working practices that allow its members to maintain and update their skills through professional development and "train the trainer" sessions. MILG members maintain current awareness within their subject area through the use of resource champions and make use of the latest technologies when they are training. The group uses a variety of methods to improve both the quality and relevance of the information literary training it provides. This involves adapting training to meet the changing needs of the medicine faculty and developing new ways of staying in contact with library users such as the Imperial Library medicine blog.

This article outlines the work of MILG and explains how the group's development has enabled its members to better coordinate library services across six campus libraries. This working model has already been successfully adapted by other library teams within Imperial College London and could be adapted to meet the needs of librarians outside Imperial.

## Keywords

## 1. Introduction: Medicine Information Literacy Group (MILG)

Librarians who aim to provide quality research support and information literacy training to university students and staff face continual challenges.  These include staying up to date with the latest developments in their subject area, ensuring that they are constantly developing their own skills, establishing, maintaining and liaising with academic contacts, and providing good quality, relevant and varied information literacy training.  The purpose of this paper is to share practice by showing

how librarians providing research support for Imperial College London's Faculty of Medicine have dealt with these issues.

Key to the medical librarians' achievements has been the creation in 2004 of the Medicine Information Literacy Group (MILG) to address the information literacy and research support needs of the Faculty of Medicine at Imperial College. Through collaborative working, MILG has been able to embed its information literacy training in the Faculty of Medicine's curriculum, ensure that good liaison is maintained with the faculty and keep up to date with the subject area through a variety of methods including the use of resource champions. MILG group members maintain and develop their skills through the use of reflective narratives and "train the trainer" sessions as well as external training.

MILG has shared its practice with library colleagues at Imperial and a similar group has recently been set up in an attempt to mirror MILG's achievements. This group is based at Imperial's South Kensington Campus and is known as SKILD (South Kensington Learning Development). Following the success of the MILG model in cross faculty work at Imperial, this paper is designed to share the work of MILG as an example of good practice which can be adapted to suit the needs of librarians at other universities and institutes of higher education.

## 1.1 The creation of MILG

MILG was initially created to provide structure and coordination to the activities of Principal Library Assistants (PLAs) carrying out research support within the Faculty of Medicine at Imperial College. The PLAs work across five medicine campus libraries and Imperial's Central Library at South Kensington.  Their research support role includes information literacy teaching and training for medicine staff and students, liaising with the Faculty of Medicine and keeping up to date with the latest information and resources in the field. MILG is integral to the role of each PLA, providing a forum in which to share ideas.

During their studies, medical students are based in six campuses depending on their year and course of study. MILG was created in part to ensure that the various medical campus libraries were providing a consistent service.  In particular it was essential to develop a more systematic way to co-ordinate and deliver the increasing number of information literacy training sessions. To achieve and maintain an equal, high quality service across the campuses, those delivering this training needed to share their collective knowledge, ideas and skills.

## 1.2 MILG membership and meetings

The core MILG group comprises five Principal Library Assistants from each of Imperial's medical campus libraries and one from the Central Library. The group is led by a Campus Library Manager who chairs meetings and organises group projects.

MILG membership has also been extended to include a Senior Library Assistant (SLA) representative. This SLA representative is invited to join MILG for one year and during this period the SLA representative is involved with various MILG projects and in delivering teaching sessions, enhancing their opportunities for professional development. Alongside their involvement in MILG the SLA representative normally takes part in the university's Supporting Learning and Teaching course, which provides training in instructing students.  They continue to be involved in teaching once their year on the group has been completed.

MILG meetings are organised to meet the needs of the Faculty of Medicine throughout the academic year.  As the demand for information literacy training is heavily weighted towards the beginning of the academic year, MILG meets once a week from July to October in order to prepare

for the start of the autumn term, and once a month during the rest of the year when teaching is less frequent. Monthly meetings allow individual group members time to discuss how best to support the faculty, ensure a consistent service is offered across the campuses, share information, train each other on new resources and consider ideas for service development.

The weekly meetings include practice teaching sessions and allow the group time to confer on what teaching will be carried out for various student groups. MILG members jointly prepare presentations, student teaching activities, and lesson plans. Meetings are used to review and develop procedures for liaising with the faculty and to carry out various "train the trainer" activities. The quality of information literacy provision is maintained through the review of student evaluations and staff reflective narratives on a year by year basis.


## 2. MILG activities

The group creates and updates resource guides, analyses new resources and collaboratively tests them, carries out targeted marketing to staff and students across the Faculty of Medicine and produces templates for teaching such as PowerPoint presentations and workbooks designed for specific student groups. These student groups include first, third, and fourth year undergraduates, MSc students and PhD students as well as teaching and research staff.

MILG also collaborates to produce and maintain quizzes for the library's virtual learning tool, OLIVIA (Online Virtual Learning Assistant). Quizzes are used at the end of training sessions on plagiarism and referencing to assess how much students have learnt during the session. They are now embedded in the curriculum and are run in conjunction with the Faculty of Medicine to ensure student compliance with Imperial's referencing and anti-plagiarism practices. The results of the 2008 quizzes illustrated that students had problems distinguishing a citation from a reference and a bibliography from a reference list. The results of these quizzes therefore allowed MILG to identify key areas to focus on when preparing future sessions.

During meetings, MILG members report back and update each other on their progress as well as giving feedback on teaching carried out at each campus. Group meetings act as a forum to review and discuss ideas and as brainstorming sessions for ways to adapt and improve teaching sessions. One example of a new teaching technique tested by MILG was the use of personal response systems (PRS). Through the use of hand held 'clickers' connected to software on a PC, PRS allow training sessions to incorporate quizzes where the results are immediately visible to both students and trainers. PRS had been successfully trialed in other faculties and offered greater engagement with the students by creating a more "more active approach to learning" (Matesic and Adams 2008, p3). The group decided to use the 'clickers' in plagiarism and referencing training sessions in order to make these sessions more engaging for students.


### 2.1 Liaison

MILG have worked with members of the Faculty of Medicine in order to develop courses which meet the needs of the changing medical curriculum. Liaison with faculty staff continues to help MILG understand the structure of the complex, 6 year medical undergraduate course which includes intercalated years, electives and clinical attachments. To operate successfully, the group needs to be fully aware of the needs of students at each stage of their degree.

The introductory information literacy training given to first year medicine undergraduates is tied to the Problem Based Learning (PBL) course which they undertake during the first two years of their course. In the most recent academic year (2008/2009), we used examples from the reading list of their first PBL case to demonstrate how to locate a full text journal article and find a book on the library catalogue. With the aim of making students aware of the benefits of referencing

assignments correctly, members of the Faculty of Medicine also provide genuine examples of coursework from previous years which show reduced marks awarded because of poor referencing.

Conventional reading lists are made available only for the PBL cases given early in the students' first year, and as a result problem based learning has created different information needs and changed students' information seeking behaviour. Studies (Dodd 2007, Eskola 2005) have found that PBL students need to become information literate at an earlier stage in their courses compared to those on traditional courses. PBL students are required to gather their own source material and the information gathering process is an essential part of their learning (Eskola 1998). By case 6 at the end of year 1 students are given a set of Medical Subject Headings (MeSH) (e.g. disease management, drug therapy, bronchodilator agents, anti-infective agents, drug tolerance, drug combinations) and are told to use these to research the questions generated by the tutorial groups in which they work, so by this point they need to be confident using at least one online medical database such as Medline and familiar with MeSH.

In response to demand from academic staff, MILG started teaching critical appraisal of evidence to first year medical undergraduates in the 2008/2009 academic year as part of their information literacy sessions. Critical appraisal is integral to evidence based medicine (EBM) which has been defined as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (Sackett et al 1996, p.71). The evidence based medicine movement has been called "the information literacy movement of medical education" (Kaplan and Whelan 2002, p.230). EBM highlights the importance of liaison with medical teaching staff in order to ensure that information literacy teaching complements that of the undergraduate medicine course.

The Library Learning Development team at Imperial co-ordinates training across faculties and also attends MILG meetings. This year the Learning Development team in collaboration with MILG worked with the Faculty of Medicine to deliver 3rd year compulsory plagiarism teaching using PRS technology. In previous years there had been problems of attendance as some students asked their friends to sign their name on the attendance sheet. As a result of using PRS, where students need to enter an identifying number which is registered by the PRS system in order to complete the quiz, it has become possible to note exactly how many students have attended and identify those who were absent. As a result, student participation increased to near 100%.

After the sessions, there was further liaison to provide the department with the student results, generated from the PRS system, to ensure that students unable to attend the sessions were given an alternative method (an online survey) to complete the plagiarism assessment or to account for their absence. While the sessions do not eliminate plagiarism and there is on average one case of plagiarism on the course each year, the sessions ensure that students are made aware of what is and isn't considered plagiarism, and provides evidence that they were aware of College regulations should they subsequently face any accusation of plagiarism. Through the provision of case studies based on real situations the sessions aim to demonstrate to the students that plagiarism can be committed accidentally and to help them avoid this they are trained in citing and referencing skills.

## 2.2 Reviewing, evaluating and improving information literacy sessions

MILG is constantly reviewing and improving the teaching it provides and the group uses a variety of methods to do this. Students are asked to fill in evaluation forms at the end of each teaching session. These ask questions about what they have learned from the session and what they would like to have seen covered in order to gather information to meet student needs.

Those delivering the session also fill in reflective narratives at the end of each session to record their thoughts and impressions. The reflective narrative form asks questions about the teaching session such as "what went well?", "what didn't go well?" and "what advice would you give colleagues?" These forms are used together with student evaluation forms to allow MILG members to review individual

teaching sessions. An example of advice from the lead author's reflective narrative is "this was not an easy room to teach in as it's hard for those at the back to see the screen for demonstrations". Reviewing this means we can ideally try to find another room for teaching next year or, if this is impossible, adapt the session bearing in mind these visibility problems.

As well as filling in evaluation forms the students complete a diagnostic questionnaire at the beginning of the first session which is used to assess their information needs for planning the following year's training. For example, through the results of diagnostic questionnaires it was discovered that the majority of biomedical science students had not used a library catalogue before. This information meant that we were able to cover the library catalogue in detail during the biomedicine induction without the concern that it could be too basic for the majority of students on the course.

## 2.3 Keeping up to date with resources

MILG members take individual responsibility for updating their knowledge of medicine-related resources. However, given the large number of resources available to the Faculty of Medicine, it would be time intensive for each member of the library to monitor all of them continuously. The group therefore keeps up to date by appointing resource champions. Each group member is assigned a resource or a group of related resources for which they are primarily responsible. Currently, resources covered include Pubmed, Web of Science, Google Scholar, The Cochrane Library, Ovid databases (covering Medline, Embase and PsycInfo) and the National Library for Health.

Resource champions take overall responsibility for staying abreast of their resource(s). They produce and update user guides for their resource and obtain publicity and documentation from resource providers and vendors for distribution. Champions subscribe to relevant mailing lists and news feeds so they are able to inform the group in advance of any changes to the resource. Resource champions give refresher training on their resource when major changes occur. For example, when Ovid brought in the OvidSP interface the group received training in advance of the library switching entirely to the SP version, so that library staff were able to support users during the transition period.

Since resources are linked, champions also need to examine how they work together, for example how to import references from Web of Science into RefWorks or how to search Embase within Metalib.

Complex queries from library users relating to the resource can be forwarded to the resource champion for expert attention. The resource champion system means that the member of staff responsible can build up contacts with "their" resource provider.

The group also investigates and experiments with new technologies to judge how valuable they may be to the Faculty of Medicine. RSS feeds or email alerts, for example, may be offered by the resource and can be publicised to users. Campus libraries are using various ways to communicate with medical students and NHS staff, including campus blogs, information on Trust intranets and pieces in Trust newsletters and publications as well as direct email and internal post communication where these are useful.

Champions create and update tutorials for the main medical databases using Intute's Informs interface which has instructions (the "guide at the side") running alongside the resource itself so that users can get hands on experience of searching on a 'just in time' basis. Currently the library uses the Informs Pubmed tutorial in its timetabled sessions as part of a blended learning approach. The library also makes the tutorials available within Olivia so that students can consult these resources at any time.

Currently the MILG group uses a wiki to keep in contact and store key information such as reports from resource champions. The wiki, a free service provided by wetpaint.com, also hosts sample searches for different resources which is used during demonstrations. In addition, the wiki is used to store useful articles and links concerning particular resources and information literacy in general. Ahead of conference attendance the wiki has been used to store conference information, and to link to information such as the LILAC blog (LILAC 2008). Members of MILG who have presented at events such as the 2008 Health Libraries Group (HLG) conference have used the wiki as a place to find information (for example, on poster size requirements when creating posters) and to store information afterwards (such as the completed posters). Each of the sub-groups within MILG has their own wiki page to allow members of other sub-groups to monitor their progress. This is particularly useful when a sub-group of MILG is working on a presentation that all members of MILG will be delivering, such as 1st year information literacy training sessions.

Imperial College London now supports Sharepoint, Microsoft's platform which includes document sharing and wiki capability, so MILG is investigating whether to use Sharepoint to host its information rather than continuing to use the existing wiki. Regardless of any change in the software used the group should continue to benefit from having a central area in which to share information on all aspects of its work from meeting times to learning objectives.

MILG continues to respond to the needs of the Faculty of Medicine. A key example of this is the current plan to develop a medicine blog to provide the faculty with information on new library resources in their field and training opportunities provided by the library. Responsibility for the blog will be shared by the MILG group and will rotate between group members; this will ensure that the blog will remain up to date and varied.

## 2.4 Peer support

MILG includes a "train the trainer" element consisting of both external and internal training sessions. Internal training usually takes place during MILG meetings, and is delivered by resource champions providing training on their resource. This has the dual benefit of giving the resource champions an opportunity to gain teaching practice and give the group a refresher on the resource. External training is organised to meet the group's specific needs. For example, voice projection training was offered recently in response to a training need identified through reflective narratives, since it is difficult to be heard in many of our training rooms.

All MILG members offer one-to-one training sessions to students and staff at the campus where they are based. To support this resource champions create and update checklists for their resource which are available to all MILG members to support one-to-one sessions. Checklists also ensure that all essential information on the resource can be covered during the training irrespective of group size.

MILG can be seen as a peer support network or a community of practice. Etienne Wenger describes communities of practice as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger 2007). The way in which MILG works allows members to meet regularly and collectively review and improve the service they are delivering. The opportunity for interaction afforded by MILG has enabled the group to develop library services in ways that individual librarians would not have had the time or resources to achieve. Examples of this include the extent to which MILG teaching sessions are now embedded in the curriculum of the Faculty of Medicine, the ongoing development of new initiatives such as the medicine blog and the constant improvement in the delivery of information literacy training through online learning and new teaching techniques such as PRS.

## 2.5 MILG's relationship with other library groups

MILG is part of a wider group structure within the library. In order to maintain an overview of wider library services it invites representatives from different library groups to attend its meetings. Many MILG members already sit on other library groups such as the NHS Group (the working group responsible for developing Imperial Library services to the NHS), the Marketing Group and the Learning and Development Steering Group.

The Library's Faculty Support Services held a seminar day in July 2008 during which members of MILG gave a presentation on the work of MILG for library staff who support other Imperial faculties. Interest in MILG's model for co-ordinating information literacy training led to the subsequent development of SKiLD (South Kensington Learning Development Group). While the members of MILG are spread across six different campus libraries, the SKILD group is based at the South Kensington (Central) campus and includes representatives from all of the subjects served by faculty support services covering the five subject libraries based at the Central campus.

SKILD meetings take place monthly and a representative from MILG attends each month on a rota basis and reports on developments from MILG. In return a representative from SKILD attends each MILG meeting, also on a rota basis, and reports on SKILD developments. In the Autumn term of 2008 both groups discussed their experience of library induction. A variety of approaches were used across the faculties including traditional, Cephalonian (Morgan and Davies, 2004) and a library treasure hunt. Next year's inductions will be informed by the outcomes of these discussions which established what worked well with diverse group sizes and for different faculties. The treasure hunt created by the Natural Sciences team was extremely popular and is likely to be adopted by more faculties next year, although this will require co-ordination within SKILD.

SKILD have created a site in Sharepoint in order to make key information available across faculties. This now includes information on using training technology (for example, the radio microphone in use in the library's new training room) and copies of teaching materials. The availability of a shared document folder storing relevant material such as lesson plans should prove extremely useful in the event of staff shortage where another member of staff is asked to step in and deliver training for another faculty at short notice.

# 3. Conclusion

This article has provided an overview of the work carried out by the Medicine Information Literacy Group at Imperial College. It has also provided an account of the group's achievements and of the challenges it faces as well as the strategies used to address these challenges. MILG has been able to respond to the specific needs of the Faculty of Medicine thanks to its coordination and management of the information literacy training programmes. The successes of this group have encouraged other library teams at Imperial to adopt the concept behind MILG and employ it to suit their own circumstances. As the MILG group has successfully shared its practice within Imperial College the purpose of this article was to share practice with colleagues outside the College.

The real strength of MILG lies in its peer support networks which allow the group to work collaboratively to keep up to date, deliver good quality and relevant teaching sessions and provide a service of consistent quality across all the campus libraries. MILG has set up a structure and a way of working that allows it to review the success of the services it offers and to build on these thanks to the feedback generated by staff and students alike. It has created a body of knowledge, contacts and experience that can be passed on to new members to ensure that the library is always offering a library service that is flexible and adaptable to the needs of the Faculty of Medicine as its impact is evaluated on a regular basis.

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