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Yelena Friedman & Meagan Sills

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Collaboration: A Simple Recipe for Improving Research Productivity in the Community Teaching Hospital Setting

YELENA FRIEDMAN

Medical Library, Staten Island University Hospital, North Shore–LIJ Health System, Staten Island, New York, USA

MEAGAN SILLS

Department of Research, Staten Island University Hospital, North Shore–LIJ Health System, Staten Island, New York, USA

The Medical Library and the Department of Research of the Staten Island University Hospital developed a collaborative project aimed at improving research and scholarly productivity in the community teaching hospital setting to meet teaching program accreditation requirements. The project opens a new venue for hospital librarians seeking new and innovative roles within their institutions while helping to strengthen the library's position and demonstrate the value of library services to health professionals.

KEYWORDS collaboration, community teaching hospital, library training, research

INTRODUCTION

Collaboration is a hot topic in today's medical librarianship. Out of the 400 papers and posters presented during the Medical Library Associations Annual Meeting and Exhibition in May 2015, 35 (or every 1 out of 11) included the word collaboration (and/or collaborating, collaborative) in the title (1). This fact confirms that health science librarians are seeking

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Address correspondence to Yelena Friedman, Staten Island University Hospital, North Shore–LIJ Health System, 475 Seaview Avenue, Staten Island, NY 10305, USA. E-mail: yfriedman@nshs.edu

new roles to respond to the evolving environment of health care and keep providing valuable services to their customers (2). The authors of a recent study on emerging roles for biomedical librarians stated:

New roles, and the new relationships forged through them, can bring us many new challenges, opportunities, and rewards (3).

This study showed that emerging roles were associated with increased collaboration; it also demonstrated that librarians faced significant barriers when attempting to take on new roles, especially in hospital settings. The project was started with a goal to explore new venues for hospital librarians seeking innovative roles that will help to demonstrate the value of library services and librarians to their organizations.

BACKGROUND

Staten Island University Hospital (SIUH) is a 714-bed tertiary care, not-for-profit teaching hospital located in Staten Island, one of the fastest growing boroughs in New York City. SIUH has a commitment to enhance the quality of health care for the patients, by ensuring and improving the quality of medical education experiences for physicians in training. Providing excellent medical education has been part of SIUH's long-established mission. SIUH is the sponsoring institution for 14 teaching programs under Accreditation Council for Graduate Medical Education (ACGME), which include but are not limited to internal medicine and its subspecialties, pediatrics, and general surgery for a total count of almost 300 trainees. Holding accreditation for training programs requires compliance with guidelines set by accrediting bodies. ACGME accreditation of residency and fellowship programs requires scholarly activity from residents, fellows, and faculty. The goal of this requirement is to improve education and analytic skills for lifetime learning, to promote patient care and medical research (4).

The ACGME states within its common program requirements that the sponsoring institution, SIUH, and training programs should allocate adequate educational resources to facilitate resident/fellow (trainee) and faculty involvement in scholarly activities. The teaching faculty must establish and maintain an environment of inquiry and scholarship with an active research component. The members of the faculty should also demonstrate scholarship achievements to satisfy a matrix standard in some programs (5).

Meeting ACGME requirements on research and scholarly activities is a particular challenge for community teaching hospitals such as SIUH due to their limited academic resources; many residency and fellowship programs, including programs at SIUH, demonstrate mixed success fulfilling these requirements (6). Although SIUH residency and fellowship programs are generally highly successful in achieving their accreditations, SIUH did receive several citations related to research and scholarly activities within the last few years. The SIUH Graduate Medical Education (GME) Department sought to find a solution to this problem. The SIUH Medical Library considered this a unique opportunity to become a team player and make a contribution to this institution-wide endeavor.

In 2009, the Research Council was formed by the faculty and administration, including the Medical Library director, who volunteered to participate in this initiative. The Research Council focused on identifying the factors preventing research success at SIUH. The findings showed that the major barriers were (a) a lack of a proper research infrastructure at the institution; (b) insufficient research and educational resources or unawareness of their availability; and (c) insufficient funding. This helped define a long-term goal for SIUH: developing an institution-wide research program and creating a research infrastructure to satisfy ACGME systems—based practice and scholarly research requirements.

The Medical Library took an active part in this new education initiative. In 2012, the Medical Library participated in an intradepartmental pilot program aimed at improving faculty scholarly productivity. The program was highly effective and allowed significantly improved faculty research productivity. The results of this project were presented at the AHME (Association for Hospital Medical Education) Institute annual conference (7).

The following year, under the initiative of the newly created Department of Research, the institution's Research Steering Committee was formed. The committee's overall goal was creating an environment for productive scholarly activities to meet the accreditation requirements as well as to improve patient care through innovative and focused research. This goal had to be achieved through internal/external collaboration and centralization of resources, policies, and practices among training programs and administration. This committee was compiled with representation from all training programs, research leadership, and the Medical Library.

As a member of the new committee, the SIUH Medical Library was seeking for ways to actively participate in this institution-wide research initiative while establishing the role of librarians as partners with other departments. The librarians' expertise in providing informational and training support to researchers, as well as in managing and organizing access to various data and resources, has been a factor in defining a framework for a new collaborative project of the SIUH Medical Library and the Department of Research.

METHODS

Starting this collaborative project presented the first serious challenge: since both departments had very limited budgets, it was necessary to find funding to support this endeavor. A search for funding opportunities offered the solution with the Medical Library applying for a grant through the National Network of Libraries of Medicine Middle Atlantic Region (NN/LM MAR). The primary objective of the Medical Library Project Award was to

fund projects to strengthen the involvement of health sciences/medical librarians within their institution and/or community. Projects should promote librarian involvement in institution-wide health information initiatives and stimulate collaboration within the organization to address local health information problems (8).

Thus, our project met the criteria for applying. Developing an application for the Medical Library Project Award helped to define and frame the project's major goals, based on the need assessment previously conducted by our hospital's Research Steering Committee. These goals included raising awareness of and improving access to research resources for the residents/fellows, faculty, and other researchers; expanding research-related educational activities; and improving the process of monitoring research publications and scholarly activities with annual reporting to accrediting bodies.

To achieve these goals, we established the following objectives: (1) organize a *virtual research lab* for residents, fellows, and other researchers; (2) provide training to teach residents, fellows, research administrators, and other researchers essential research-related skills that were identified as an area for improvement; and (3) create an institution-wide tracking system to monitor research publications and scholarly activities.

The idea of a virtual research lab came about after analyzing the results of a survey conducted by the Research Steering Committee. The survey identified the lack of physical space and time for research activities as the major barriers for institutional researchers. Providing laptops to residents, fellows, and other researchers on lending basis was a proposed solution. This would allow a venue to use short periods of *downtime*, when they are free of their clinical duties, for research activities. Various research applications installed on the laptops would provide easy access to tools frequently needed/used.

It was realized that the availability of the research lab would not be enough to improve research productivity among the trainees and faculty; even more critical is teaching the researchers how to use resources and tools effectively. This goal had to be achieved through expanded research-related educational activities. With some training already in place, the Medical Library planned to use collaboration with the Research Department to gradually build up the training volume by adding new topics and involving new trainers.

Finally, creating a new institution-wide tracking system to monitor research publications and scholarly activities would significantly improve the process of reporting internally and to the accrediting bodies. This system would provide each department, as well as the institution's leadership, with specific information related to the number of publications and types of scholarly activity to attain metrics for success. It would also generate a list of SIUH staff publications to showcase the hospital scholarly productivity and achievements for peers and the community.

In April 2014, the Medical Library was awarded the grant from the NN/LM MAR. A detailed list of tasks and project schedule had already been developed while working on the award application; thus, the work started immediately.

RESULTS

By May 2015, the project was successfully implemented and all three parts were completed and set in place.

The virtual research lab was created with four laptops fully equipped with easily accessible research applications and tools (such as SAS, EndNote, etc.), and shortcuts to the NLM (National Library of Medicine) and other information resources for researchers. To raise awareness of these tools, promotion materials were developed and distributed throughout the institution via the hospital's intranet, e-mail distribution lists, and postings on bulletin boards. An equipment accountability log utilized to track the lending activity and usage.

To assist trainees, faculty, students, and research administrators with developing the much-needed research-related skills, the librarians expanded educational activities targeted at these essentials. When considering the curriculum for the education, the Medical Library used lessons learned from prior experiences of teaching PubMed classes to avoid any pitfalls.

PubMed training was performed in small groups of two to five trainees, in the form of hands-on sessions where attendees were given instructions and exercises. We revised earlier content to include more NLM resources of interest to researchers (such as Clinical Trials, PubMed Health, etc.). The Medical Library also added a new class to teach residents and other researchers on how to use EndNote (reference management software) and other research databases and tools available from the library: Web of Science, PubsHub, and more. The Research Steering Committee performed an informal survey among trainees and faculty, which revealed a high interest in this curriculum.

The format of the classes remained hands-on training sessions (Figure 1). Through the GME Department, we could establish a schedule of classes for trainees and began to conduct training on a regular basis. Instructional materials for the trainees were created by adapting materials from the NN/LM and Thomson Reuters (the EndNote developer).



FIGURE 1 Library hands-on training session.

Creating of an institution-wide tracking system to monitor research publications and scholarly activities was the third part of the project to be tackled. We wanted to consider a tracking system that could be used across all programs/departments, with easy access, user-friendly for both logging the entries and generating reports, and without any cost. After a thorough analysis, we selected the New Innovations Residency Management Suite as the database application for central tracking of scholarly activities (9). The key advantage was the ability to utilize an already existing resource. New Innovations Residency Management Suite facilitates the creation and maintenance of trainee portfolios by gathering cumulative scholarly activities, statistics, and trainee evaluation results. This Web-based application allows trainees or administrators to log entries and upload documents, which can be used for annual reporting to the accrediting body (ACGME) and to hospital leadership. The application allows data to be managed in real time and reports can be generated for each department, individual trainee, or the entire institution.

Using the ACGME common program requirements as guidance to define scholarly activities, we designed template forms to capture the necessary information about the activity to be entered into the database (Figure 2a and b). With drafted instructions in hand, we provided training to research and trainee program administrators monitoring scholarly activities as part of their role. Program coordinators also train new residents/fellows on New Innovations each year during orientation.

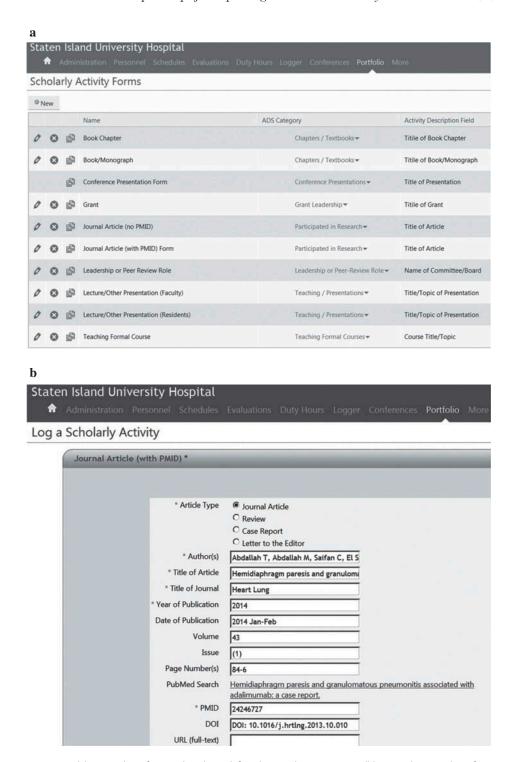


FIGURE 2 (a) Template forms developed for the tracking system. (b) Sample template form for a journal article with PMID.

With reinforcement from research and program administrators, the trainees and faculty started to log scholarly activities into the tracking system with oversight by the Medical Library and the Department of Research (Table 1). To make the results of the institutional scholarly activities easily available for both institutional researchers and the general public, a Webbased list of research publications was spawn based on the data set in New Innovations. The Medical Library developed a format for this list that would include an author index and links to PubMed.

The data from New Innovations was first entered into the EndNote-based database. One of the research administrators was assigned with this task, while the Medical Library provided assistance and data verification. The list of publications was generated from the EndNote database using a custom output style developed by the Medical Library (Figure 3). The EndNote database also served as a backup and a source for generating various reports in a form of bibliography, whenever it is needed. Updates to the publication list have been made on a regular (usually monthly) basis.

The Web-based list posted on the hospital's Intranet currently includes more than 400 publications (some retrospective tracking was performed) with the number of activities captured growing fast. Informational sessions, postings to the electronic bulletin board, and e-mail distribution lists were a few ways this newly developed product was promoted. The new tracking system was successfully used to create reports to the ACGME on scholarly and research activities by several residency programs.

TABLE 1 Capturing of Scholarly Activity With Entry Into Tracking System

Tracking/entries into New Innovations for scholarly activities							
Program	Pre (9/22/13–9/22/14)*	Post (9/23/14-5/29/15)*					
Emergency Medicine	0	21					
Cardiology	0	31					
Gastroenterology	0	1					
Hematology/Oncology	0	5					
Internal Medicine	0	65					
Nephrology	0	1					
Pulmonary	0	2					
Obstetrics/Gynecology	0	2					
Pathology	0	6					
Pediatrics	5	26					
Psychiatry	0	10					
Radiology	67	58					
MIS	0	11					
General Surgery	37	62					
Vascular Surgery	1	5					
Total	110	306					

^{*}Month/Day/Year.

SIUH STAFF PUBLICATIONS

(listed by years, then in alphabetical order by first authors' last names)
2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 2003 2002 2001 2000
Author Index

2015

Author(s): Abraham C, Seethappan V.
Staten Island University Hospital, Staten Island, NY, USA.
Title: Spontaneous live recurrent ectopic pregnancy after ipsilateral partial salpingectomy leading to tubal rupture.
Journal: Int J. Surg Case Rep. 2015;7c75-8. DOI: 10.1016/j.ijscr.2014.12.028. [Journal Article]
PMID: 25594734; PMCID: PMC4336397; Full-text article

Author(s): Atthinos JN, Gibbs KE.
Division of Bariatric & Minimally Invasive Surgery, Staten Island University Hospital, Staten Island, NY.
Title: Comment on . Accuracy of routine postoperative swallow study in predicting leak or obstruction after gastric bypass.

Journal: Surg Obes Relat Dis. 2015 Jan-Feb;11(1):4-5. DOI: 10.1016/j.soard.2014.09.001. [Journal Article]

PMID: 25572772; Full-text article

Author(s): Badheka AO, Chothani A, Mehta K, Patel NJ, Deshmukh A, Hoosien M, Shah N, Singh V, Grover P, Savani GT, Panalch SS, Rathod A, Patel N, Arora S, Bhalara V, Coffey JO, O'Neill W, Makkar R, Grines CL, Schreiber T, Di Biase L, Natale A, Viles-Gonzalez JF.

Detroit Medical Center, Detroit, Mr, MedStar Washington Hospital Center, Washington, DC, UPMC Shadyside Hospital, Pitsburgh, PA; Staten Island University Hospital, NY; et al. Title: Utilization and adverse outcomes of percutaneous left afrial appendage to closure for stroke prevention in atrial fibrillation in the United States: influence of hospital volume.

Journal: Circ Arthythm Electrophysiol. 2015 Feb;8(1):42-8. DOI: 10.1161/circep.114.001413. [Journal Article] PMID: 25480543; Full-text article

AUTHOR INDEX

(First authors' names are shown in bold)

ABCDEEGHIJKLMNOPORSTUVWXYZ

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Abreu JA. Ann Thorac Surg. 2014 Nov.98(5):1613-8.

FIGURE 3 Excerpt from the Web-based staff publication list with author index.

We have collected data to measure the project outcomes. The number of the training sessions increased 50% in the first quarter of 2015 (as compared with the first quarter of 2014, before the project started). To assess the quality of training, we used evaluation forms collected following each educational activity. The overall satisfaction with training was 4.7 on a Likert scale (with 5 being the highest score).

Data were gathered from the library Web site to gauge usage of research resources (including the NLM resources). There was a significant increase in interest for using research databases and tools, with 509 visits to researchrelated library Web site pages for last 3 months of the project versus 94 visits for the first 3 months (Table 2). Overall, institutional research productivity grew significantly. The number of publications in peer-reviewed journals increased from 86 in 2013 to 100 in 2014 with 32 publications in the first quarter of 2015. Based on this number, we are on track to have over 120 publications this year. Furthermore, the Institutional Research Day annual spring competition attracted significantly better quality research in 2015 compared with 2014, according to the event judges' scores.

After this project was completed, the tools and services constructed during its application continue to function and expand research collaboration. The Medical Library and the Department of Research will maintain an institution-wide tracking system to monitor research publication and scholarly activity. If this initiative proves its success, the structure can be

TABLE 2 Medical Library Site Usage Statistics

Medical Lib	rary site	visits from	April 2014	through	March 2	2015
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	Visits					
Pages (research/training related)	Apr–Jun 2014	Jul–Sep 2014	Oct–Dec 2014	Jan–Mar 2015		
Case Report Writing	1	1	11	13		
NLM Resource List (without PubMed)	n/a	21	67	95		
Reseacher Resources	63	61	255	254		
Staff Publications	15	53	69	105		
Training—info & schedule	15	20	24	42		
Visits total	94	156	426	509		

implemented throughout the 15 other health system hospitals. A virtual research lab will serve researchers whose needs librarians are going to evaluate on a regular basis to improve lab usage. We will also continue to assess and improve training activities by adding new topics and expanding the audience of researchers.

DISCUSSION

Adapting new roles and building collaborations remains a challenge for hospital librarians. In their study, Crum and Cooper found that hospital librarians were considerably less likely to take on new roles than librarians in academic settings (3). Accordingly, academic librarians undertake big projects much more often than their hospital counterparts. This is not surprising, as the same study showed that 52% of librarians from hospital or health systems participating in an emerging roles survey were solo librarians. Thus, lack of time is a very critical issue for hospital librarians. More barriers include inadequate staffing, insufficient budgeting, and the lack of necessary educational background and skills. This is why it is so important to build the correct strategy for a collaborative project. The lesson we learned from our project was that the key points to achieve success are (a) prioritizing; (b) delegating; and (c) finding the right partners.

The study by Crum and Cooper showed that the most popular strategy used by librarians to make time for new roles was to add them to the existing workload. This strategy appears to be the easiest one, but has the disadvantage of having natural limits. If you start a project, you should be ready to commit personal time; however, the time should not be excessive, and should be funded. Most grants allow funding for labor within the project budget to offset participants' time and effort.

Prioritizing is more rewarding strategy when finding the time for new projects and collaborations. Devoting additional time to new initiatives inevitably forces one to abandon old approaches. Careful review of all current responsibilities allows one to make the right decision on what tasks need to be done contrary to what can be dropped or postponed. For example, the hospital librarians are often asked to participate in various committees and task forces within institution where they cannot serve as valuable contributors. Discharging these types of commitments can free up several hours per week. Careful planning and time calculations provide meaningful pay offs when considering time for a new project.

Delegation is a strategy that librarians tend not to use willingly. Within an institution with a solo librarian this strategy might simply not work, as no one but this professional is able to perform certain library-related duties. At the same time, nonessential or technical responsibilities can be delegated when resources are available. The beauty of collaboration is that with more people involved in a project, it is feasible to define tasks to delegate among the project team who are ready to accept new responsibilities. Delegation usually requires some additional instruction and training, but in the long run, it is time well spent. For example, we conducted training sessions for research and residency program administrators to complete scholarly activity forms in New Innovations. This required time for developing instructional materials, conducting training sessions, and providing assistance at the first stage of work. In due course, however, this effort offered significant benefits, as the research and program administrators not only were able to enter data into the new tracking system, but also assisted researchers and trainees with this task. Overall, the process of the capturing of scholarly activities became standardized and more efficient.

The library nonprofessional staff, if/when available, might be also involved in a new project. During our project we used nonprofessional library staff to assist in producing the Web-based publication list. Although this required upfront training and monitoring, it was beneficial, as routine technical tasks were eliminated for professional staff to commit time for this project and further.

Another vital factor is identifying partners for collaboration. It is not a secret that some administrators and faculty are much more enthusiastic about new projects and supportive to library development than others. It is important to reach out to the right people and gain their buy-in to reach success. One of SIUH Medical Library's greatest achievements is building collaboration with Academic Affairs/GME and training program directors, to promote information literacy to the residents and fellows. Although this initially took several years to achieve, eventually we found supporters within the faculty and administration who arranged for library classes as a part of the curriculum. The PubMed classes are now mandatory; no resident can graduate without completing this training. Scheduling residents for PubMed training sessions is done by the residency program staff and approved by the library.

During this project we used the same mechanism to incorporate newly introduced EndNote training into the resident curriculum. With active support of the Research Steering Committee and vice presidents of Graduate Medical Education and Research, we had the ability to evolve EndNote instruction as a part of the research component of the residency program curriculum. The course was such a success that other hospital researchers contacted the library to seek permission to join the next scheduled session.

CONCLUSION

Today, when many hospital libraries are struggling for survival, adapting new roles and extending their areas of expertise allow hospital libraries to remain relevant and necessary. Our project aimed at improving research and scholarly productivity in a community-based teaching hospital demonstrated an important result: collaboration is a vital tool for hospital librarians to expand their involvement in the institution-wide initiatives and strengthen the library's position within their hospitals. Partnerships with other departments allow librarians to improve leadership role not only in managing knowledge resources but also beyond traditional fields of library services. It is important to select a project where librarians' expertise and skills contribute to a meaningful outcome. Finding enthusiastic and supportive partners is critical to achieve success with library initiatives.

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