Research Support Needs of Public Health Scholars

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UAB Libraries – Lister Hill Library of the Health Sciences
Introduction

How do faculty researchers in public health at the University of Alabama at Birmingham (UAB) perceive their main research and teaching goals and work environment? What supports do they have or wish they had, including (but not limited to) library support services? These questions formed the starting point for a qualitative study of public health researchers at UAB beginning in the fall of 2016. The Ithaka S+R organization, a not-for-profit entity focused on providing research and consultation for academic institutions in dealing with technological, cultural and economic changes, partnered with UAB Libraries as well as a number of other academic institutions around the United States to provide technical assistance for the study. Ithaka S+R will publish a synthesis report of all the participating institutions’ findings in this field, similar to those produced by the organization for other academic fields such as art history or agriculture. (See http://www.sr.ithaka.org/publications/?fwp_publication_types=research-report.)

The University of Alabama at Birmingham School of Public Health, which was formed in 1978, is the only accredited school of public health in the state. The faculty, staff and students form a diverse body, representing 31 different countries around the globe. The interests of the 66+ primary faculty at the UAB School of Public Health (SoPH) extend from community organization in the Black Belt regions of rural Alabama to understanding the dynamics of the HIV epidemic in Sub-Saharan Africa. The School is home to one of the largest research grants at UAB, the REGARDS study, and the scope of research conducted by the school spans academic disciplines from bench science through the social sciences, all focused on improving the public health and health care systems. Faculty and students routinely partner in research activities in
diverse areas such as statistical genetics, epidemiology, occupational health, toxicology, nutrition science, oncology, chronic diseases, health disparities in vulnerable populations, substance abuse, sexually transmitted diseases, maternal and child health, health care organization and policy, and health services and outcomes research. In addition to the scholarship advanced within the School’s main programs of Health Behavior, Biostatistics, Epidemiology, Environmental Health and Health Care Organization and Policy, the SoPH has established five centers for interdisciplinary research including the Sparkman Center for Global Health, the Center for the Study of Community Health, the Hypertension Center, the Deep South Center for Occupational Health and Safety, and the Lister Center for Health Policy. The School is fourth in the nation for NIH funding of public health research.

Key questions considered during this project included: 1) faculty roles, scope and subject of research; 2) information sources and data management approaches; 3) research methods and challenges; and 4) resources and other supports, both existing and aspirational.

This report, which is specific to the University of Alabama at Birmingham, will provide an account of the qualitative methods, findings and themes uncovered, as well as implications for UAB Libraries and the University gleaned from this study. These thematic findings include:

- The primacy of scholarly journals for dissemination of research findings and keeping up with particular areas of study.
- Concerns about the quality of research and of resulting papers.
- Ambivalence about data sharing, concerns about data management.
- Public health and its interaction with social issues.
- Public health and the research environment.
While some of the identified themes have broader implications than can be reasonably addressed by the libraries, the libraries’ and librarians’ effect on all these findings are considered and presented.

Methods

Using a purposive sampling approach, fifteen permanent faculty researchers affiliated with the UAB Ryals School of Public Health were interviewed beginning in December 2016. These subjects were identified in an effort to reflect a range of fields within public health interests as well as a range of topics and research methods. Care was also taken to recruit both seasoned and newer faculty researchers as well as administrative faculty with research responsibilities. The study, which was assigned exempt status by the UAB Institutional Review Board for human subjects research, focused on semi-structured, confidential interviews with the participating faculty members. From these interview transcripts, common observations and patterns were distilled into core themes according to grounded theory methodology. Those themes are discussed in detail in the following section.

Findings

“I come to work every day excited to be here!”

Public health is a field that seeks to advance the health of populations through broad-based approaches typically centering on prevention and containment of disease, often incorporating such “upstream” social elements as the effects of racism, poverty and similar social factors on health. As part of such an innovative and beneficent field, it is not surprising that a sense of purpose is evident in these interviews with UAB public health faculty regardless of their department or research area. Those areas of interest range from nutrition to health disparities to
air pollution, adolescent health, stroke, genetics, cancer and many more, with multiple collaborations both within the UAB community and across the country and globe. Specific projects tend to address identified, practical public health needs and research gaps. While each subfield has its own, sometimes unique, challenges, those frustrations have not dampened the general enthusiasm for the work, which is almost universal among the subjects. Their research as well as their instruction and mentoring of public health students is seen as important, and gives them a sense of purpose and intellectual satisfaction.

Theme 1: Scholarly journals occupy a central place in academic public health.

“If it doesn’t appear on a journal page, by and large it’s not relevant.”

Scholarly journals were identified by most subjects as a centerpiece for their work. In terms of career advancement, regular publication in reputable scholarly journals was seen as an essential metric for success and evaluation for promotion. To that end, many described a desire to publish their research in high impact, “top tier” journals where possible.

This attraction to publishing in the best scholarly journals was also reflected in a general ambivalence toward open access journals. On the one hand, there was agreement with the goals of open access in terms of making scholarly reports more widely accessible, particularly in certain public health areas such as global health. Some also noted that they found the process of publishing in open access journals faster than was typical in traditional scholarly journals, and many acknowledged that there were some excellent open access journals available. A number of subjects indicated that their government-funded research eventually appeared in PubMed Central or some other central open access repository – if nothing else, federal public access requirements dictated these submissions.
However, an additional attraction was the fact that some of these open access journals provided opportunities to publish (and read about) research that might not find a ready publisher among the more traditional journals, such as null findings or detailed descriptions of new interventions development. On the other hand, there were some concerns about the overall quality and reliability of open access journals that caused many to hesitate before submitting their research for publication there. Since the authority of the scholarly journal record was considered paramount – see quote above – these concerns weighed heavily toward traditional scholarly publications rather than open access. Finally, the expensive open access author fees were noted by many as a significant barrier toward publication via those journals.

“We don’t have the capacity to study everything, so we have to optimize what we are doing. And we do that by learning what others did.”

Beyond career advancement through publication, subjects also viewed the scholarly literature as an important source for new research progress and ideas and background for their own research. While information overload was acknowledged as a challenge, many alluded to a sense of excitement in discovering important new advances in the field via the literature, augmented by other means of keeping up such as conference presentations and meetings with colleagues or peer editorial review of submitted manuscripts. Interestingly, while some participants reported connecting to other scholars’ work via networks such as ResearchGate or LinkedIn, most seemed ambivalent about disseminating findings from their own work via social media. On the one hand, they recognized the potential of social media for amplifying the reach of their findings. On the other hand, a lack of time and perhaps a perception of social media outlets such as Facebook and Twitter as trivial, contributed to negative attitudes toward such
Theme 2: Concerns about the quality of research/publications.

“We publish a lot of papers in the field of academia that are completely useless.”

There were additional concerns raised regarding dissemination of research results. There were a number of subjects who expressed concerns about a perceived tension between the quantity of papers published and the quality of those published studies. Some attributed this “lousy science” in the words of one study participant to the pressures on researchers to obtain funding and publish at a high rate in order to advance, regardless of the true impact or innovativeness of the ideas behind the research. At least one subject also noted the increase in the supply of journals to publish research papers, perhaps further diluting the quality of the literature – not to mention adding to the problem of information overload. One participant even suggested limiting the number of papers a researcher might be allowed to publish within a year, while another proposed limiting the number of Ph.D.’s awarded in order to “regulate the workforce.” While these concerns aren’t necessarily limited to the field of public health, here they reflect a concern for excellence in the field that was an evident undercurrent within many of the interviews.

Theme 3: Data sharing – accessibility vs. protectiveness.

“It makes sense not to have...everyone going out and collecting the same data over and over again, let’s just share it. But I think there needs to be more thought put into how the sharing would actually work. And...we all are like, this data is mine. And so when it comes time to share it, your tendency is not to want to.”
Other practical considerations for public health researchers in this study revolved around the issue of data accessibility and sharing. Many subjects appreciated the availability of secondary data for their analysis, particularly from government sources. In fact, a significant number of subjects acknowledged their gratitude for the general ease with which they were able to make use of this data for their research. “Surprisingly, it’s one of the few things the government does quite well…access to and use of secondary data is one of the smoothest things we do,” one subject noted.

This isn’t to say there aren’t occasional barriers, particularly with using other researchers’ data beyond that gathered by the government. The same protectiveness of one’s data alluded to in the quote above is also experienced on the receiving end by some subjects. This may be manifested by specific requirements on the data user’s part to detail and justify their use of the data, for example. Still, when it comes to sharing their own data, a number of subjects also described stipulations they required for its use, such as on-site use only or fees imposed on access. This hesitation to allow unfettered access to data is demonstrated in this quote: “There are some data I made available for them, if they ask for a particular set of data, absolutely. It’s not that easy though because you never know exactly what they want to do with that data.” There is a running theme in comments on this issue about guarding against misuse of these carefully compiled datasets, even if subjects generally support the philosophy of sharing datasets. It should also be noted that a desire to make sure their own research use and publications from such painstakingly compiled datasets were fully exhausted before allowing others access plays a role in decisions about sharing data.

“We have very poor archiving capabilities.”
There can also be numerous technical issues with data sharing and archiving. These two aspects – data sharing and archiving – are linked in the complaints voiced by a number of subjects about requests they had made for secondary analysis of existing datasets. In some cases, the original data had already been discarded - even in one case by a federal agency – making it impossible to reuse the data. In other cases, the researchers who had originally compiled the data had since moved on to other institutions, complicating the access to institutionally controlled resources. More typically however the owner of the data had held on to the datasets but perhaps not the full documentation that went with it to clarify the exact meaning of the data and units described. “The documentation matters because…is it milliliters per deciliter, or milligrams per liter? That makes the unit very different.” This documentation can be critical to the task of cleaning the data preparatory to secondary analysis. One subject noted the limited usefulness of SAS variable description fields in providing clear, comprehensive labels as part of this documentation, while another lamented the “hodgepodge” of approaches toward data archiving in general. An additional concern was raised about the potential for the storage technology itself to become obsolete, making the data stored inaccessible – this point made by a seasoned researcher who noted his dissertation data were housed on computer punch cards.

These concerns about data access, sharing and storage are vital in the realm of “Big Data” in the 21st century. As one subject noted, “That’ll be another big challenge, is getting and assimilating all of this data that’s out there and understanding what it means, and knowing how to use technology to do major research projects.”

Theme 4: Public health and societal issues.
“There was a lot of interest by the community in cancer risks arising from PCBs, and they really wanted us to do more than we were able to do.”

“Public” being the operative word in public health, the field both affects and is affected by the society at large in many ways. Community-based participatory research is an important research approach in the field, involving the community both as research subjects and administrative partners to facilitate acceptance and understanding between academic researchers and the community, not to mention improve the research results if conducted appropriately.

Many researchers described collaborations with community partners in facilitating public health intervention studies or qualitative studies. As the above quote illustrates, the community also looks to public health experts to help them during times of environmental and public health crises. Many subjects in this study acknowledged the importance of communicating effectively with the lay public about public health issues and research, although relatively few were as proactive in this regard as they themselves wished to be. “Our biggest worry is that we write all these papers, and get all these grants, and then it gets published and then what happens with our work? And so, if there’s a way to get more of that work disseminated to the public…making it more lay reader friendly.” Others stressed the gaps in understanding of critical health issues among the lay public and the need for public health to help with effective messaging. “We are constantly misrepresented in the media…I don’t think most scientists are trained and that I think will be critical.”

Public health and politics are inextricably linked as well, perhaps especially in recent years. From funding challenges to increased mistrust of academic expertise and related issues, the current political concerns of society affect public health research in very concrete and not so obvious ways. Added to that is the controversial nature of many of the topics of public health
research – e.g., gun violence, or sex education in schools among many others. As one study subject noted, “If you work in one of those areas, you know you’re just walking around with a target on your back constantly.” This can play out within academia as individuals and organizations with an agenda they perceive to be threatened by study findings may seek to discredit researchers’ work by seizing on errors within their research methods, thus discouraging further the desire to participate in open access data sharing initiatives, as this subject explained.

Subjects mentioned such additional societal impacts on public health research as the impact of technology on the brain development of youth (affecting public health students as well), the decline of health education in the schools and its implications for public understanding of health issues, the potential impact of genomic research for individuals, and the need for society to come to terms with uncertain results in research. All of these societal pressures and more affect public health researchers and the public they ultimately serve in multiple ways, as these study participants are aware.

Theme 5: Time, money and the academic enterprise.

“I feel like sometimes I’m so caught up in all of the work and the minutiae that I’m unable to step back and assess it and think, okay, am I still going in the right direction? Is the work that I’m doing still benefitting public health, or is it just checking off another mark on my faculty evaluation to make sure that I got my five papers and I got my grants?”

A paucity of time for reflection and planning for meaningful progress toward research and career goals was a common issue for these study subjects – and the “meaningfulness” was important to them. Many noted the numerous roles they performed in their daily work, for example, as instructor, mentor, researcher, project or department administrator, fundraiser and
more. The multiple roles, projects and daily demands on their attention detracted from their ability to look at the big picture, come up with innovative new ideas and projects, even learn about new applications such as data visualization and GIS software programs and techniques. This time crunch perhaps also plays a role in the previously noted suggestions about limiting the number of publications a faculty member is allowed to publish or reducing the number of Ph.D.’s in the pipeline.

There were a number of concerns raised about human capital in terms of research assistants as well, frequently student assistants. Many expressed the belief that they could bring more of their research ideas to fruition and publication if they had a research assistant to help them. “It’s really helpful to have human research assistants who can go track something down, write computer code, call up people, ask for information, things of that sort.” Still they raised concerns about the quality of that assistance, noting the School’s focus on masters programs, and the fact that by the time the students were trained well enough to be useful on research projects, they were about to graduate unless they were Ph.D. students.

The “economic model” of academia in general (and UAB in particular) in terms of grant funding was a source of concern as well. Some noted the shrinking availability of funding resources and wondered about the viability of the current academic career pathway based on teaching + research + grant funding. While acknowledging the advances made possible by grant funding from NIH and other sources, many lamented the dependence on grant funding which has other negative effects beyond its contribution to the time and attention crunch among faculty. “The second price is…that a lot of research gets done which is stupid, trivial research. Because people write grants because they need or want grants, not because they really desire for that project’s support.” In addition, some noted that many grant funding sources encourage
addressing very specific, focused research questions rather than “big, overarching questions,” the kind that require interdisciplinary teams of collaborators looking at complicated, difficult to solve health issues – the kind of “wicked problems” public health was meant to address.

“*I think that there has to be some congruence between the expectations that you have to fulfill or meet and also meanwhile meeting the expectations of advancing science.*”

**Summary**

In the end each of these core themes are connected to the deep commitment to the field evident in the interviews. A desire to publish in reputable scholarly sources while making one’s work as broadly available as possible, to make certain that data used and produced in research is made available appropriately and archived for future scholars, and concerns about the quality of research and grant projects all speak to this basic sense of purpose and commitment. Even the complaints about time and resources are a reflection of the desire to make a meaningful contribution to science and to the field.

**UAB Libraries**

Clearly the centrality of scholarly publishing reinforces the need for the Libraries to determine that its collection development policies are appropriately addressing the needs of public health scholars. Many study subjects noted that the Libraries’ collections, which had experienced a budget hit in recent years, had rebounded satisfactorily over the last year or two. While most subjects reported regular use of interlibrary loan services, few had any complaints about that service or their frequency of use. One faculty member admitted to confusion over the other methods for obtaining full text as outlined in the link resolver documentation, which might be clarified for users. Additionally, there is an apparent need for help in identifying journals for
There was also a suggestion for federated searching of all of the Libraries’ catalogs and resources (instead of separate catalogs for each individual library), which is in the works now.

**Recommendations**

The implications of these study results for the Libraries can be surmised from general observations as well as from specific suggestions by study subjects.

- Provide instruction in evaluating journal publishers’ reliability, especially open access journals.
- Provide technical instruction in data sharing and archiving.
- Provide instruction in data visualization techniques and resources.
- Increase promotion of training specifically for student assistants, e.g., literature reviews and biosketch creation for grant proposals.
- Develop more effective communication about existing library resources and services.
- Provide assistance in literature reviews beyond searching, such as help in identifying seminal articles on a topic.
- Collaborate with other campus programs on services such as editorial services to help in determining the actual relevance of cited references to topics discussed in papers (partnering with the Graduate School or Writing Center) or cooperative provision of resources such as power computation software programs (partnering with the University Research Administration).

**Broader Concerns**
Some of the issues raised in this study are obviously beyond the capacity of the Libraries to address. Some, such as the desire for guidance on research data sharing/archiving, or support for effective communication, might be addressed in part by collaborative instructional efforts by the Libraries and the Center for Clinical and Translational Services or other UAB or even non-UAB organizations. Others might require consideration by academia in general. These points are presented here merely as a reflection of the concerns raised in this study. Those concerns include:

- The need for clear guidance and technical support for research data sharing and archiving.
- Support for effective public health communication, including technical support for individual web sites, blogs and other means for communicating with the public on health issues.
- The need for additional trained research assistants for improving faculty productivity in research and publication.
- Reexamination of the role of grant funding in faculty promotion and tenure.

In addition, a renewed School and/or University attention to mentoring junior faculty was noted as potentially benefitting workplace morale by at least one faculty member.

Conclusion

This study provided a qualitative snapshot of some of the major professional values, concerns and desires of public health faculty researchers at the University of Alabama at Birmingham in the fall and winter of 2016/2017. The study author wishes to express her sincere
appreciation to the subjects for their time and their openness in discussing these issues. For more information, please contact Kay H. Smith at khogan@uab.edu.

Appendices:

- Institutional Review Board Information Sheet for Study Participants
- Interview Questions