

**Exploration of barriers and facilitators to publishing local public health findings: A mixed methods protocol**

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**ABSTRACT**

**Background:** Worldwide, the US accounts for a large proportion of journals related to public health. Although the American Public Health Association (APHA) includes 54 affiliated regional and state associations, little is known about their capacity to support public health scholarship. The aim of this study is to assess barriers and facilitators to operation of state journals for the dissemination of local public health research and practices.

**Methods:** A mixed methods approach will be used to complete the 12-month study. Affiliate websites will be accessed through the APHA membership portal to evaluate organizational infrastructure and ascertain the presence/absence of a journal. The leader of each affiliate will be contacted via email containing a link to a 12-question on-line survey to collect his/her perceptions of scholarly journals and the publication of local health data. To determine barriers and facilitators to publication of local public health findings, 30-minute semi-structured telephone interviews will focus on the infrastructure of the association, perceptions of the leader about the journal (if in place), and its operation.

**Anticipated Results:** We anticipate that 54 affiliate websites will be reviewed to complete the extraction checklist, that 74% of affiliate leaders will respond to the survey, and that 11 semi-structured interviews will be conducted. A limited number of state/regional public health associations will operate journals and a small percentage of those without journals may express an interest in implementing them. Barriers to operation of journals may include lack of resources (i.e., personnel, funding), and low prioritization of publication of state and local public health findings. Facilitators may include strong affiliate-academic relationships, affiliate leadership with experience in publications, and affiliate relationships with state and local departments of health.

**Conclusions:** The research proposed in this protocol may stimulate other state public health associations and other academic public health programs to follow suit; it would not be the first time that an observational research study served as an intervention.

**Key Words:** Public health journal; organizational infrastructure; state-level association; local dissemination

**Statement of Ethics Approval:** The Augusta University Institutional Review Board (IRB) approved the *State-Level Public Health Publication Study* on September 4, 2016.

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**INTRODUCTION**

There are currently 25,400 journals in science, technology, and medicine, and the number is increasing by 3.5% a year (Smith, 2006). Of the top 25 public health journals, six (Annual Review of Public Health, Bulletin of the World Health Organization, American Journal of Preventive Medicine, American Journal of Public Health, Journal of Epidemiology & Community Health, and Palliative Medicine) list general public health as their domain (Lamar Soutter Library, 2016). These peer-reviewed, scientific publications focus on traditional topics relevant to public health (e.g., epidemiology, health education, environmental health, health policy, health economics) and recently, they have included topics such as communication science, eHealth, genetics, and health disparities. The numbers of publications, however, are limited. An example is seen in

the journal for the nation's largest public health association, the American Public Health Association (APHA). From January through June 2015, the American Journal of Public Health (AJPH) received 1,561 manuscripts, but accepted only 337 (21.6%) (AJPH Editorial Board, 2015).

By disseminating research findings, public health journals are in a position to advance implementation of best practices and evidence-based programs related to population health. Online peer-reviewed publications, which are now proliferating (Larsen et al., 2010), provide quick access to study results and have the potential to change the practice of public health. This paradigm shift also provides valid, relevant, and timely information to influence distribution of public health resources. The limited number of publications dedicated to public health coupled with the large number of annual submissions, however, challenges dissemination of

findings that could influence policies and practices in public health (Oliver et al., 2014).

In the US, data relating to public health concerns are often organized and reported at the state and county levels; however, the opportunity to publish research accomplished at the state level, relevant to the state's public health community, may be inadequate. The ability of local and state public health professionals to disseminate their work in national publications and to influence the trajectory of practice in their communities presents a challenge to the public health infrastructure of US communities. A possible solution is establishment and operation of state public health journals. The APHA includes 54 affiliated regional and state associations. Two of the five areas of engagement for these affiliates (continuing education and professional development) are directly related to publications. A third, advocating on behalf of effective state public health policy and legislation, may benefit from publication of local data. The other two areas, annual meetings and program development, may derive some benefit.

Given the way data relating to public health are reported in the US, the role of APHA affiliates in advocating on behalf of local/state issues, and the lack of knowledge about their capacity to support scholarship, an assessment of barriers and facilitators related to operation of state journals of public health is needed. The objectives of the State-Level Public Health Publication Study are to: 1) examine

publishing trends among state-level public health associations; 2) outline barriers and facilitators to operation of state journals; 3) describe factors associated with publication of local research findings; and 4) review opportunities for promotion of scholarship among members of public health associations.

**METHODS**

**Data Collection**

Quantitative and qualitative methods will be used. To eliminate bias, two quantitative approaches will be completed: website extraction and leadership surveys. A subjective measure, semi-structured interviews of affiliate leaders and journal editors, will also be completed. Data collection methods are described below.

1. *Website Extraction Form*

A data-extraction checklist was constructed to record salient features of the organizational structure of each affiliate. The checklist was developed by inspection of the website of the Georgia Public Health Association (GPHA) for details of what should be reported (Table 1). With the checklist, two independent reviewers will screen five websites to ensure that the checklist is adequate. First, reviewers will apply the draft to pilot the checklist then meet to discuss their assessments and any challenges experienced. Second, they will assess five websites to identify additional potential difficulties.

**Table 1. Data extraction checklist**

Affiliate Domain	Yes	No
Mission		
Contact information		
Elected officer information		
Membership information		
Affiliate history, structure and size		
Information about sections/committees		
List of conferences and events		
Presence/absence of a public health journal		
Editorial board		
Guidelines to authors		
Peer-review process		
Archived issues		
Publication frequency		
Indexing		
Legislative information		
Link to public health/healthcare news		
Link to state public health journal		
Link to the APHA		
Presence/absence of the APHA affiliate signage		
Link to regional public health associations		
Links to public health resources		

The checklist will be piloted and evaluated for inter-rater agreement. Based on these results, the checklist will be refined. APHA's 54 state and regional public health associations (Table 2) are

independently established and have their own infrastructure, policies, processes and procedures. Their websites included on the APHA portal will be reviewed by use of the finalized checklist.

**Table 2. APHA-Affiliated State and Regional Public Health Associations**

<u>Region I</u> Connecticut Maine Massachusetts New Hampshire Rhode Island Vermont	<u>Region II</u> New Jersey New York City New York State Puerto Rico	<u>Region III</u> Delaware District of Columbia Maryland Pennsylvania Virginia West Virginia
<u>Region IV</u> Alabama Florida Georgia Kentucky Mississippi North Carolina South Carolina Tennessee	<u>Region V</u> Illinois Indiana Michigan Minnesota Ohio Wisconsin	<u>Region VI</u> Arkansas Louisiana New Mexico Oklahoma Texas
<u>Region VII</u> Iowa Kansas Missouri Nebraska	<u>Region VIII</u> Colorado Montana North Dakota South Dakota Utah Wyoming	<u>Region IX</u> Arizona California-North California-Southern Hawaii Nevada
<u>Region X</u> Alaska Idaho Oregon Washington		

2. *Assessment of Perception of Affiliate Leaders of Scholarly Journals*

A survey (Appendix) was developed to determine opinions of leaders of public health associations related to promotion of scholarship (e.g., peer-reviewed publications) relative to community research, best practices, and evidence-based practices. Questions related to affiliate membership size, presence/absence of a journal, and if applicable, the journal format (e.g., print and/or open access) and distribution, have been included. With a four-point Likert scale (1= strongly agree, 4= strongly disagree), respondents will be asked to rate perceptions of public health scholarship at the local and state levels during their tenure as affiliate leader. A brief introduction to the survey, the purpose of the research, and a timeline will be developed. The survey will be vetted through the GPHA leaders, who will review item content and the scripted study introduction and purpose. Feedback will be obtained from these leaders and appropriate changes to the instrument will be made.

3. *Semi-Structured Interviews*

Individual semi-structured interviews (SSIs), which include an open set of questions allowing new ideas to evolve based on participant responses, will be conducted with editors of journals and with the leadership of affiliates indicating a desire to establish a journal. The SSIs will assess perceptions about barriers and facilitators to establishing and/or maintaining a

state-level public health journal. Prior to use, investigators will ensure that the SSI interview guide has been written at an appropriate comprehension level. The guides will be pilot-tested for appropriateness and language accuracy. Each discussion will be digitally recorded, transcribed verbatim, manually coded, and summarized.

**Statistical Analyses**

Responses to the survey will be summarized by use of descriptive statistics. Univariate tests of association between affiliate characteristics and affiliate leader/journal editor responses will be performed with Fisher’s exact test. *P* values of ≤0.05 will be considered significant. Coding steps for the SSIs include development of preliminary themes, creation of additional codes based on themes that arise, development of non-substantive codes, and production of detailed codes for analysis of specific topics. NVIVO 10 (qualitative data analysis computer software) will be used to facilitate the coding process (i.e., assessment of the degree of agreement/disagreement across themes and calculating inter-rater reliability scores) (2015). Recurring themes will be identified, the research team will come to consensus on coded themes, and themes will be summarized for analysis. Data from the SSIs will be analyzed with Qualitative Content Analysis (Schreier, 2012).

## ANTICIPATED RESULTS

A previous report related to state journals of public health (Thomas, 2007) found that of 53 APHA affiliates contacted, 24 (45%) responded to an email that asked: 1) if a research-based journal was provided to members; and 2) if so, was such a publication available electronically or in print format. Four states (Florida, Georgia, Michigan, and Nevada) reported offering an online journal; the state of Washington indicated plans to implement a journal within a year. The author also examined 28 affiliate websites for evidence of a journal. This search revealed one additional journal located in Texas.

For the review of affiliate websites, we anticipate a 100% extraction rate. Based on a preliminary review, each APHA affiliate has a website and we anticipate that most of the information needed will be accessible. With an anticipated response rate similar to that for the 2007 study (45%), a more complete website review may result in a better determination of which affiliates have public health journals. Additional strategies for improving the survey response rate include repeated solicitations of responses (an initial email, a follow-up email, and a reminder telephone message) over a three-month period; engaging the APHA Council of Affiliates, a group formed to promote communication among state/regional associations and to endorse research and scholarship; and involving the affiliate leadership through the online APHA Leaders Corner (APHA, 2016). Although it is difficult to estimate the number of states operating public health journals since the initial study nine years ago, with a greater number of websites reviewed (54 vs. 28) and an enhanced response rate to the survey (74% vs. 45%), we anticipate that 11 (20%) of the affiliate leaders or journal editors will complete SSIs.

Based on the results of the previous study (Thomas, 2007), we expect that a limited number of state/regional public health associations will operate journals and that a small percentage of those without journals will express an interest in implementing them. Barriers to operation of journals may include lack of resources (i.e., personnel, funding), and low prioritization of publication of state and local public health findings. Facilitators may include affiliate-academic relationships, affiliate leaders with publication experience, and affiliate relationships with state and local departments of health.

## DISCUSSION

The advent of electronic publishing has led to an explosion of new journals in every field and, in particular, open-access journals. Fueling the explosion are several phenomena: there is a huge and growing demand for publishing opportunities, primarily from academic faculty, fellows, and post-docs; electronic publishing is relatively inexpensive; and the open-access model, which in most cases relies on publication fees, reduces or eliminates the need to generate income by selling advertisements and subscriptions.

Most of the journals are owned by publishing companies. Some older journals, established before electronic publishing became available, are owned by professional societies (but may be published by a publishing company). Society journals include, for instance, the American Journal of Public Health (American Public Health Association), the American Journal of Preventive Medicine (Association for Prevention Teaching and Research and American College of Preventive Medicine) and the American Journal of Tropical Medicine and Hygiene (American Society of Tropical Medicine and Hygiene).

It appears that few of the 54 state and territorial health associations have taken advantage of the growing opportunity in journal publishing. Thomas' 2007 study (op cit) identified only five state societies that published or were planning to publish a journal: Florida, Georgia, Michigan, Nevada, and Washington. The National Library of Medicine (NLM) lists six (not entirely congruent with Thomas' list): Texas, Washington, Georgia, Florida, Ohio, and Massachusetts. There may be others, but they are clearly "flying beneath the radar." It is likely that most state societies publish at least a newsletter, but without recognition by NLM as a peer-reviewed journal, newsletter articles would not appear in PubMed or other databases and would not be cited by other authors. With some effort, they might be discoverable and appear as part of the "grey literature."

Given the opportunity and the demand, why are there not more state public health journals? The answer may lie in the gap between academic public health and public health practice. Academic public health has grown enormously in recent years. The Association of School and Programs in Public Health now lists 102 member institutions, and the Association for Prevention Teaching and Research lists 31 (there is some overlap between the two lists). In Georgia alone, there are four schools of public health and an additional five MPH programs. Most full-time faculty at these schools and programs must "publish or perish;" promotions, salaries, and their very jobs depend on getting into print.

State public health associations, on the other hand, are primarily comprised of practitioners who work for state and local health departments. These health workers are distinctly non-academic; many (perhaps most) do not have public health degrees. Research is not listed on their job descriptions, and they have little or no incentive to write for publication. This is unfortunate. Paraphrasing from the noted public health academic Lawrence Green: if we want evidence-based practice, we must have more practice-based evidence (Green, 2008). However, given the demands placed on local and state public health department personnel in the face of shrinking budgets, it is unlikely that they will have the opportunity to conduct research, and their professional associations will have little reason to publish journals.

**FUTURE DIRECTION**

It can be seen from this discussion that there are great benefits to be gathered by partnerships between state public health associations and academic public health institutions. Through such partnerships, public health research can be conducted at the state and local level; local and statewide outbreak investigations can be reported; case reports can be published; and valuable evidence for public health practice can be generated. State public health association journals offer an appropriate vehicle for these reports. The state of Georgia represents one of the few models for publishing a state public health association journal through an academic-public health association partnership. Here, the Georgia Public Health Association has partnered with Augusta University to publish the *Journal of the Georgia Public*

*Health Association*, with editorial offices at the university. The research proposed in this protocol may stimulate other state public health associations and other academic public health programs to follow suit; it would not be the first time that an observational research study served as an intervention.

**Timeline**

A 12-month timeframe for conducting the study is included in Table 3. The initial step was development of the protocol. The editorial staff of the *Journal of the Georgia Public Health Association* met June 2016 to develop the checklist template, survey, and SSI interview guide. At that time, the research protocol for obtaining IRB approval was completed. The IRB application was submitted in July 2016 and approved September 4, 2016.

**Table 3. State-Level Public Health Publication Study Timeline**

Steps	June 2016	July 2016	Aug 2016	Sept 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017
Develop protocol	✓	✓										
Obtain IRB approval		✓	✓									
Pilot test data collection measures				✓	✓							
Conduct website extraction					✓	✓						
Enter data						✓	✓	✓	✓	✓	✓	
Analyze data						✓	✓	✓	✓	✓	✓	
Solicit participation in the survey						✓						
Conduct the survey						✓	✓	✓				
Compile list of affiliates with/interested in journals						✓	✓	✓				
Identify contact information for journal editors						✓	✓	✓				
Conduct SSIs									✓	✓		
Analyze data						✓	✓	✓	✓	✓	✓	
Submit manuscripts for publication												✓

During September-October 2016, website extraction of the APHA affiliates was completed. From November 2016-January 2017, surveys will be completed by leaders of the affiliates. Data collected from the surveys will be analyzed to identify affiliates with journals and those interested in developing journals. Contact information for editors of existing journals will be obtained. SSIs will be scheduled for February-March 2017. Data analyses will be completed November 2016-April 2017 and manuscripts will be submitted for publication beginning May 2017.

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**APPENDIX****Survey Instrument****When was your APHA affiliate established?**

\_\_\_\_\_ (year)

**What size is your APHA affiliate membership?**

- 01 <100
- 02 101-500
- 03 501-1000
- 04 >1000

**Does your state association have a scientific journal?**

- 01 Yes
- 02 No

**If yes, what prompted your association to develop a journal? (check all that apply)**

- 01 Membership
- 02 Lack of publishing opportunities
- 03 Promote local scholarship
- 04 Need to disseminate local data
- 05 Need to involve practitioners in dissemination activities, political forces
- 06 Other \_\_\_\_\_ (please specify)

**If not, have you ever considered developing a journal?**

- 01 Yes
- 02 No

**If you considered developing a journal, but have not, what barriers prevented this development? (check all that apply)**

- 01 Lack of leadership, political or turf issues
- 02 Duplication of effort with a similar organization
- 03 Funding
- 04 Personnel; resources
- 05 Other \_\_\_\_\_ (please specify)
- 06 N/A

**How often is your journal published?**

- 01 Monthly
- 02 Bi-monthly
- 03 Quarterly
- 04 Semi-annually
- 05 Annually
- 06 Irregularly
- 07 N/A

**What is the estimated distribution/readership of your journal?**

- 01 <100
- 02 101-500
- 03 501-1000
- 04 >1000
- 05 N/A

**How many submissions do you receive per issue?**

- 01 <10
- 02 10-19
- 03 20-30
- 04 >30
- 05 N/A

**What is the format of your journal?**

- 01 Open-access/online
- 02 Print
- 03 Open access and print
- 04 Online-not open access (i.e., members/subscribers only)
- 05 N/A

**How is your journal marketed or advertised? (check all that apply)**

- 01 Networking
- 02 Email marketing
- 03 Abstracting and indexing (e.g., Medline/Pubmed, DOAJ)
- 04 Other \_\_\_\_\_ (please specify)
- 05 N/A

**Does your state association have other publications (i.e., newsletter)?**

- 01 Yes
- 02 No

**If so, please specify the type of publication.**

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**Do you agree or disagree with the following statements?**

	01 Strongly Agree	02 Agree	03 Disagree	04 Strongly Disagree
Having an affiliate academic institution for a public health state association journal is critical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public health data dissemination of local findings is important for affiliate members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public health scholarship is important for affiliate members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publishing local health data does not affect public health policy decision-making	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



The American Journal of Public Health comprehensively presents the health concerns of our state

The cost of operating a state association journal is too great for our affiliate

There is a lack of interest among our affiliate members

Peer-review is essential for scientific integrity

A major constraint to operating a journal is the lack of resources

Dissemination of research findings is not a priority for our affiliate

There is little compensated time for publishing

Publishing is not formally linked to job performance

At my workplace, there is no reward for publishing

**SSI Topic Guide**

SCRIPT: During the next 30-minutes, I would like to discuss the following topics: infrastructure of your association, the perceptions about your journal (or anticipated journal), and the assessment of the affiliate-academic partnership in operating your journal. With these topics in mind,

Main Questions	Additional Questions	Clarifying Questions
Can you tell me about your experiences encountered in establishing a state journal of public health?  What are barriers related to operating a state public health journal?	<ul style="list-style-type: none"> <li>• How did you deal with these barriers?</li> <li>• Why do you consider this a problem?</li> <li>• What is the scope of the problem?</li> <li>• Have you noticed changes in these barriers over the past few years?</li> <li>• How do you explain these barriers?</li> </ul>	<p>Can you expand a little on this?</p> <p>Can you tell me anything else?</p> <p>Can you give me some examples?</p>
In your experience, which problems with the journal bother you the most?  In your opinion, what are the most worrisome problems for the journal?  Generally speaking, are your affiliate members satisfied with the journal?	<ul style="list-style-type: none"> <li>• Why?</li> <li>• If not, what are the main problems that you have witnessed or heard about?</li> </ul>	<p>Can you expand a little on this?</p> <p>Can you tell me anything else?</p> <p>Can you give me some examples?</p>
Are there any other concerns related to the journal that we have not discussed and that you find a problem?  Do you want to add anything?		