A Public Health of Consequence

With this editorial we launch a new section in *AJPH* that we are calling "A Public Health of Consequence." This monthly section builds on our previous work, calling for scholarship of consequence[1,2] and on a growing body of work by several authors that urges public health to engage issues of relevance to the public health.[3,4] We take that call for scholarship of consequence one step further, and ask for, whenever possible, an elegant visual display of the results with the goal of maximizing the ease of conveyance, or a description of the results in context, to again maximize the illustration of the importance of the results. We offer details, clarification, and examples below.

We ground this section in a foundational appreciation of what public health is. The Institute of Medicine has defined public health as "what we, as a society, do collectively to assure the conditions for people to be healthy."[5(p1017)] We have little argument with that definition, seeing it as both aspirational and forward looking. The role of scholarship in public health should therefore be to generate the knowledge that can inform public health action aiming to improve the conditions that makes us all healthy. But does our scholarship today do that?

We have previously observed that while indeed some articles in our field do indeed lay down the knowledge base that can help make for healthier people, much else in our scholarship focuses on approaches to health problems that cannot be considered, to be particularly helpful to our cause.[2,6] We are all guilty of this. We both have written article that, when viewed through the rearview mirror, have scant bearing on the goals of public health. And *AJPH*, arguably the world's premiere peer-reviewed journal for public health scholarship, has published its fair share of articles that are of little consequence, or present the data in a way that obscures the consequence; hidden behind a table of coefficients without explanation.

Take for instance an important hypothesis related to older adults. Gerst-Emerson and Jayawardhana asked, in *AJPH*, whether extended loneliness affects health care utilization.[7] The main test of their hypothesis was a negative binomial regression where number of doctor visits was the outcome and extended loneliness was the primary independent variable, adjusted for several covariates. The description and interpretation of this analysis was provided as "Loneliness was statistically significant and positively associated with the number of doctor visits only for persons lonely at both time points (b = 0.075, SE = 0.034)."[7(p1015)] This result may be statistically correct but stops short of delivering the corresponding public health message in context. What does b = 0.075 mean, regardless of its statistical significance?

What could have Gerst-Emerson and Jayawardhana have done with this b = 0.075? Recall that the parameter estimate, the "b" from negative binomial regression, is the difference in the log of the expected count at one level of the covariate and the log of the expected count and one unit lower of the covariate (in this case the log of the expected doctor visits among those who were lonely at both times minus the log of the expected doctor visits among those who were not lonely at either time), or by properties of logs, the log of the ratio of those expectations. Unlogging that quotient (i.e., e^b) produces the incidence rate ratio. In this example, $e^{0.075}$ yields approximately 1.08 or 8% higher count rate in the lonely group compared with nonlonely group. Assuming a nonlonely rate of approximately 9 visits per year gleaned from Table 2 in Gerst-Emerson and Jayawardhana, we might conclude that on average, holding all other covariates constant, that those chronically lonely made less than one additional doctor visits (8% of 9 visits). *One more or less doctor visit per year* versus *b = 0.075*. Which is easier to understand? The authors might have rightly assumed that the readers would have been able to make that inference given the other valuable information in the article, but we hope that going forward, *AJPH* and its authors can partner to make results more transparent and again, steeped in context to highlight the consequence.

We are well aware that science is incremental, and that our hope for any article is that it makes a small contribution toward a larger tapestry of scholarship. And we are aware that at some level, every internally valid contribution might matter. But, surely we should be interested in asking ourselves, what matters most. At core, we are interested in articles that tackle problems that challenge the health of populations, and that provide us, brick by brick, with the knowledge we need to better learn how we should be building better conditions that produce a healthier society.

To this end, we are launching a section in each issue of *AJPH* that attempts to explore a perhaps deceptively simple question: why do these articles matter? To do so we will, in each issue of *AJPH*, highlight a few papers that are, in our assessment, consequential for public health and present the results in a clear but statistically valid manner. We will discuss

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why we have chosen these articles and discuss how they pave a way forward, and what way that might be. We will offer alternative and additional examples of the presentation of results, relying primarily on visuals and less on dense tables and text. Some of the articles we highlight will be commissioned to illustrate a particular aspect of a public health that matters, but most will be selected from articles submitted to *AJPH* and scheduled for publication.

Our hope is that this new section of *AJPH* will have 3 outcomes.

First, and most importantly, we hope to prod us collectively, as a field, to ask questions of consequence, to push us to think about everything we do: Is this worth doing? Why does this matter? Does it matter? How can our work matter more? How can we present the results in a way that best communicates the consequence? We will strive to not hide the ball.

Second, we hope to develop a more robust intellectual architecture that informs how we think about the very idea of a public health of consequence. We will attempt to use each of our commentaries to center around a particular aspect of the notion, pushing to the surface, and making explicit, why it is that some work may matter, and how this can suggest directions for future work.

Third, we hope to provoke discussion and disagreement. We are well aware that some of this exercise may infuriate authors and readers alike ("why was *my* article not included in the section?"). We see debate as a productive force in science and hope that through debate we can find better answers. We are, at the end, interested principally in producing better public health knowledge that can make people healthier. If disagreement with us serves as one vehicle to get the field there, it will be well worth the effort, both our risking our ideas, and the reader's voicing their disagreement. We also hope that some readers will agree with us, at least sometimes, and look forward to hearing about that too.

We hope this perspective has resonance, although holding ourselves to these standards will take some diligence and perseverance. We look forward to your help and feedback as we attempt to encourage, practice, and publish scholarship of consequence. AJPH

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Increasing the Incidence and Influence of Systematic Reviews on Health Policy and Practice

Why do people make practice and policy decisions in health care and public health without reference to relevant research, or only to biased samples of relevant research evidence? This illogical behavior doesn't serve the interests of health service users or the public, yet it remains usual. One reason is that most reports of research do not help. Even very prestigious journals publish reports of new studies without acknowledging that readers need to know what the new evidence has added to the totality of trustworthy evidence relevant to the questions addressed.[1]

Waste in the conduct and reporting of research is a scientific, ethical, and economic scandal, especially because half of the potentially relevant research does not even get reported (see, for example, http://www.alltrials.net). Nevertheless, it is important that systematic use is made of those reports of research that *are* accessible. In this editorial we consider the increased availability of systematic reviews of research, some of their positive effects on policy and practice, and limitations in the current use of systematic reviews. We end by offering suggestions for enhancing the effectiveness of systematic reviews.

AVAILABILITY AND POSITIVE EFFECTS ON POLICY AND PRACTICE

The number of reports of systematic reviews of research has increased from about 80 a year in the late 1980s to more than 8000 a year today,[2] and they now cover syntheses of observational, qualitative, and animal data in addition to clinical trials.[3] Furthermore, the methods used to appraise the quality of primary studies and synthesize data from those that merit inclusion in systematic reviews have expanded dramatically.

The influence of findings from systematic reviews on policy and clinical practice has also grown. Examples of such influence include systematic reviews of the effectiveness and comparative effectiveness of pharmaceutical drugs and nondrug clinical interventions; care processes and service configurations; interventions to improve education, reduce poverty, and address the

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