



to include additional authors inappropriately. Is it time to create some disincentives to counter the incentives for authorship inflation? In particular, academic institutions could adopt more formal evaluation criteria for authorship.

One possible quantitative measure is a numerical score for each of an author's published articles. A score should have desirable mathematical properties and should be simple to calculate, explicit and widely accepted. As an example, let N be the rank order of the author in question on an article and let M be the total number of authors of that article. The score could be $1/N+1/M$. The sole author of an article would receive a score of 2 ($1/1+1/1=2$). Two authors would share a total score of 2.5 ($1/1+1/2=1.5$ for the first author, and $1/2+1/2=1$ for the second). As more authors are added, the total score to be divided among them would increase slowly, so that the score assigned to each preceding author would decline. A score like this could be summed for all of an author's articles in various publications, perhaps weighted according to the types of publications, and the total score could be converted to a rate by dividing it by the period under consideration (e.g., 3 years, or an entire career). Because scoring methods such as this one emphasize the number of articles published over the substance of those articles, perhaps a factor representing the importance of the articles should be included in the calculation. The number of citations of each article, who cited it and why, could help determine importance.

Clearly, refinements in measuring productivity could provide disincentives to authorship inflation and incentives to make better use of acknowledgements in articles. However, such measures do not address the more fundamental issue: why authors should publish. Perhaps authors should challenge themselves to sub-

mit manuscripts only when they have something to share that is unique, mature and important. They should resist the culture of "publish or perish" and should be supported in this by their colleagues, peers and managers.

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[The authors reply:]

Dr. Jones agrees that we need a uniform and objective means of rating contributions that includes such factors as authorship position and the role of the investigator. He has given a tantalizing scoring method for assigning contributions. Although we agree that some formal method of evaluation is needed, we can identify some problems with his proposal. The person listed last may be the senior author who may (or may not) have been responsible for the intellectual content and overall supervision of the study. Furthermore, the method may not address the authorship styles in which a few authors are listed along with the group or in which members of the group are simply listed in alphabetical order or in the order of total number of patients enrolled. We feel that any scoring method would be more valuable if the investigators were asked to indicate (1) the role they played in the study (principal, coprincipal or co-investigator), (2) the percentage of the overall study they feel they were responsible for and time they put into the study and (3) perhaps (for major promotions) even a formal report of their role in the study. This would allow each author to be more explicit about his or her role in each study and would allow independent confirmation of the stated roles.

Jones raises the separate and com-

plex issue of the challenge to academics to "publish or perish." He suggests that only unique, mature and important information be submitted for publication. Medical progress is generally made in small steps, and even well-designed negative studies may be informative to medical readers. The peer review process employed by most journals should, at least in theory, weed out studies that lack the importance or quality required for publication. As well, the significance of some research is identified only many years after it is reported. This issue continues to pose important challenges and warrants continued discussion. Perhaps it should be a topic for a national consensus conference of academics, scientists, department chairs and deans. Such a conference could be expanded to address the value of participation in symposia, presentations at meetings and educational activities.

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**for the Pediatric Investigators'
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Action long overdue on drug labelling

Iwould like to add some comments about the letter "Drug packaging," (*Can Med Assoc J* 1997;156:764-5), in which Dr. D. John Doyle made some excellent recommendations. As a family physician who has been in practice