

attracting readers' attention and influence the decision of whether to read an article.

A balance needs to be achieved between presenting high-quality information and communicating the message. Throwing away journals do not serve the same markets as peer-reviewed journals and are largely supported by advertising; therefore, their editors may choose to publish articles for which there are enthusiastic sponsors. In contrast, peer-reviewed journals may be more likely to tackle difficult and sometimes less popu-

lar topics. Although lower in methodologic and reporting quality, review articles published in throwaway journals possess characteristics that are appealing to physician readers.

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*Administrative, technical, or material support:* Gold, Dergal.

*Study supervision:* Rochon, Gurwitz.

**Review Article Study Group Members:** Nancy Byles, MD, Geoffrey Litner, MD, Ranjee Singh, MD, University of Toronto, Toronto, Ontario; Monidipa Dasgupta, MD, Sudeep Gill, MD, University of Western Ontario, London, Ontario; Linda Devore, MS, MLS, Amy Freedman, MD, Yael Karoly, Baycrest Centre for Geriatric Care, Toronto, Ontario.

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# Press Releases

## Translating Research Into News

Steven Woloshin, MD, MS

Lisa M. Schwartz, MD, MS

**M**EDICAL JOURNALS WORK hard to ensure that articles fairly represent study findings and to acknowledge important limitations, work that may be undone by the time research findings reach the news media. Medical journal press releases are perhaps the most direct way that

**Author Affiliations:** VA Outcomes Group, Department of Veterans Affairs Medical Center, White River Junction, Vt; Center for the Evaluative Clinical Sciences, Dartmouth Medical School, Hanover, NH; and Norris Cotton Cancer Center, Lebanon, NH.

**Corresponding Author and Reprints:** Lisa M. Schwartz, MD, MS, VA Outcomes Group (111B), Department of Veterans Affairs Medical Center, White River Junction, VT 05009.

**Context** While medical journals strive to ensure accuracy and the acknowledgment of limitations in articles, press releases may not reflect these efforts.

**Methods** Telephone interviews conducted in January 2001 with press officers at 9 prominent medical journals and analysis of press releases (n=127) about research articles for the 6 issues of each journal preceding the interviews.

**Results** Seven of the 9 journals routinely issue releases; in each case, the editor with the press office selects articles based on perceived newsworthiness and releases are written by press officers trained in communications. Journals have general guidelines (eg, length) but no standards for acknowledging limitations or for data presentation. Editorial input varies from none to intense. Of the 127 releases analyzed, 29 (23%) noted study limitations and 83 (65%) reported main effects using numbers; 58 reported differences between study groups and of these, 26 (55%) provided the corresponding base rate, the format least prone to exaggeration. Industry funding was noted in only 22% of 23 studies receiving such funding.

**Conclusions** Press releases do not routinely highlight study limitations or the role of industry funding. Data are often presented using formats that may exaggerate the perceived importance of findings.

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journals communicate with the media. Although releases provide an opportunity to help journalists get stories “right,” there has been little scrutiny of the release process or quality. Herein, we describe the press release process at several high-profile medical journals, and review recent releases to learn how study findings are presented and whether limitations and potential conflicts of interest are acknowledged.

## METHODS

We studied press releases at 9 high-profile journals (TABLE) selected for their professional influence (ie, they all rank at the top of the Institute for Scientific Information’s impact factor listings<sup>1</sup>), and because they are frequently cited by the news media.

## Process

In January 2001 we conducted 15-minute telephone interviews with press officers (identified via the journal Web sites, or by asking to speak with “the person dealing with the press”). All journals contacted agreed to participate. The interview covered policy (Are releases issued? If so, for

which articles? How are the articles chosen?) and production (Who writes releases? Are there explicit guidelines? How are study authors or journal editors involved?). Interview responses were entered into a database and tabulated.

## Content

We obtained all press releases (and source articles and corresponding editorials) for the 6 issues of each journal preceding the interviews either from the journal Web sites or from EurekAlert! (<http://www.eurekalert.org>), an electronic archive of releases for science writers. After excluding 15 releases about organizational policy or guideline announcements, we identified 127 releases about original research.

We created a simple coding scheme to assess press release quality. Quality measures relevant to all releases included whether study results were quantified, and whether limitations were mentioned. We also had quality measures relevant to specific release subgroups. For those presenting differences between study groups, we report whether the corresponding base rate was provided (eg, a measure of absolute frequency ex-

pressed as proportions, counts [numerator/denominator], or rates). For articles funded by industry (ie, those noting pharmaceutical or technology company funding), we report whether this support was mentioned in the release. For articles with accompanying editorials, we report whether the release noted the existence of the editorial and industry funding of editorialists.

The study authors jointly coded each release. A research assistant, blinded to the purpose of the study, also coded each release; agreement between the study author’s coding and the blinded coder was “almost perfect” (overall  $\kappa=0.9$ ).<sup>2</sup>

## RESULTS

### Press Release Process

Seven of the 9 study journals routinely issue press releases (*New England Journal of Medicine* and *Annals of Surgery* do not). All 7 use the same basic approach: the journal editor or press office selects articles on the basis of perceived newsworthiness, and releases are written by press officers typically trained in communications (3 had science degrees). Each journal provides these officers with general guidance about length, but not with standards for

**Table.** Quality of Press Releases Issued by 7 High-Profile Journals\*

	<i>Annals of Internal Medicine</i>	<i>BMJ</i>	<i>Circulation</i>	<i>JAMA</i>	<i>JNCI</i>	<i>Lancet</i>	<i>Pediatrics</i>	All
<b>Description</b>								
No. of articles	33	43	107	33	47	58	223	544
No. of press releases	15	23	10	19	12	23	25	127
Median No. of sentences	3	7	27	25	17	10	4	9
<b>Quality measures</b>								
All press releases, No.	15	23	10	19	12	23	25	127
Study results quantified, %	20	74	70	100	92	74	36	65
Limitations noted, %	13	22	40	16	33	48	0	23
Selected press releases								
Differences between groups, No. †	3	11	5	17	9	11	2	58
Base rate provided, %	33	63	60	53	56	73	0	55
Industry-funded study, No.	3	2	2	4	2	8	2	23
Funding noted in release, %	0	0	0	100	0	13	0	22
Editorial accompanied study, No.	6	5	1	7	7	9	1	36
Editorial noted in release, %	100	0	100	100	100	89	0	81
Editorialist conflict of interest, No.	1	0	1	1	1	1	0	5
Conflict noted in release, % ‡	0	0	0	0	0	0	0	0

\*Two high-profile journals (*New England Journal of Medicine*, *Annals of Surgery*) contacted do not issue press releases. All results are the proportion of press releases with a particular characteristic. *JNCI* indicates *Journal of the National Cancer Institute*.

†Difference presented without base rates can lead to exaggerated perceptions of the magnitude of findings.<sup>3-5</sup> We excluded 4 case control studies from this analysis since base rates are not available.

‡Seven of the 29 editorials noted in press releases had funding source statements in the journal; 5 were disclosures of industry support or direct financial conflicts of interest (eg, patent).

acknowledging limitations or for data presentation. Editorial input varies: at one extreme the journal editors are uninvolved (eg, *Circulation*); at the other, the manuscript editor works with the study author and press office to edit the release which is then approved by the editor-in-chief (eg, *Journal of the National Cancer Institute*).

### Press Release Content

The 7 journals issued 127 press releases (and published 544 articles) during the study period. The number and length of releases varied widely. For example, *Circulation* generated the fewest releases (10), but these were the longest (typically 27 sentences long); in contrast, *Pediatrics* generated the most releases (25), but these were among the shortest (typically 4 sentences long).

Only 23% (29/127) of press releases included any mention of study limitations; 65% (83/127) quantified study results. Fifty-eight reported on differences between study groups or presented ratio measures (eg, relative risk or odds ratios in a cohort study); of these, 32 (55%) included the corresponding base rate, a format recognized as least likely to generate exaggerated perceptions of the magnitude of findings.<sup>3-5</sup>

Twenty-three studies were industry funded, yet only 22% of the corresponding releases noted this support. Thirty-six studies were accompanied by an editorial; most releases (29/36) noted the

editorial (typically providing context, validating findings, or raising concerns). Five editorialists were industry supported or reported direct financial conflicts (eg, holding a relevant patent); none of these disclosures were noted in the press releases.

### COMMENT

A number of authors have criticized the accuracy and balance of the news media in reporting on medical science.<sup>3,4,6</sup> As a direct means of communication between medical journals and the media, press releases provide an opportunity for journals to influence how the research is translated into news. Our findings suggest journals could make more of this opportunity; the press releases we studied frequently presented data in exaggerated formats, and failed to highlight study limitations or conflicts of interest.

Our study has several limitations. First, we examined only a small number of journals and a limited sample of releases. Nonetheless, the journals included are among the most influential in the world; they possibly set standards for many others. Second, our criteria for release quality are subjective. While other measures might be chosen, we believe ours capture a minimal quality standard: releases should quantify findings in a balanced way, and note limitations and conflicts of interest. Finally, we did not assess the relationship between releases and media coverage. Releases do seem to draw

journalists' attention and increase the chance that an article receives press coverage.<sup>7</sup> However, most journalists say they do not rely solely on the release for information, but go to the article.<sup>8</sup>

The most direct way to improve the quality of journal press releases lies in enhanced editorial oversight of the process. Editors might develop presentation standards for releases analogous to the structured abstract format used by many journals, and might include a section putting results in context (eg, are the results consistent with other studies, is there a corresponding editorial), a limitations section, and a statement about potential conflicts of interest. Moreover, quantitative results might be reported in a standardized way, eg, in a table using absolute event rates for intervention and control groups.

The public<sup>9</sup> and many physicians<sup>10</sup> often learn about new medical research through the news media, rather than medical journals. We think that journals can and should do more to enhance the quality of medical reporting.

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