

tive measures. This should also apply to other care procedures in hospitals and the community (3).

From alerts to risk assessment. When errors have serious consequences, such as accidental intrathecal or epidural injections (of cytotoxic drugs for example), a single accident is enough to sound the alert and trigger a reaction (4). This sentry function alone justifies the existence of medication error reporting programmes.

Global analysis of incident reports brings another dimension to our understanding of errors and their prevention. In other countries, risk assessment has led to the implementation of safety measures in hospitals, such as withdrawal of risky drugs from ward stocks (5).

This work must continue. This thesis shows clearly that the "human factor" must be tackled if we are to reduce medication errors and harm to patients.

©Prescrire International

c- Our systematic evaluation of drug packaging shows that the current legal framework does not guarantee its quality (refs 10,11). Proper premarketing risk analysis of drugs should cover use both in hospitals and the community.

Selected references from Prescrire's document watch.

- 1- Chatelain-Bernheim C "Analyse méthodologique du risque nosocomial d'erreur médicamenteuse: à propos de 319 notifications spontanées du Réseau REEM" Thèse mastère spécialisé Gestion des risques dans les établissements de santé. École Centrale Paris, 26 March 2003; 61 pages.
- 2- Schmitt E "Le risque médicamenteux nosocomial: circuit hospitalier du médicament et qualité des soins" Éditions Masson, Paris 1999; 288 pages. Presented in: *Rev Prescrire* 1999; 19 (197): 548.
- 3- Prescrire Editorial Staff "Errors in ambulatory medicine: research is in its infancy" *Prescrire Int* 2003; 12 (68): 236-237.
- 4- Prescrire Rédaction "Intrarachidiennes et épidurales: des voies d'administration à haut risque" *Rev Prescrire* 2003; 23 (242): 591-602.
- 5- Prescrire Rédaction "Gare au potassium injectable concentré!" *Rev Prescrire* 2003; 23 (244): 747.
- 6- Ashcroft DM et al. "When do medication errors occur and who reports them? Analysis of a web-based incident reporting scheme in secondary care" (Abstract R86) British Pharmaceutical Conference, Harrogate, 15-17 September 2003 *Int J Pharm Pract* 2003; 11: R86. Website <http://www.pjonline.com/IJPP/bpc2003/> consulted on 15 October 2003.
- 7- Prescrire Rédaction "Rapport. Une façon pragmatique d'éviter la iatrogénèse" *Rev Prescrire* 2000; 20 (208): 547-549.
- 8- Agence Nationale de Accréditation et d'Évaluation en Santé "Principes méthodologiques pour la gestion des risques en établissement de santé" Paris, January 2003; 110 pages.
- 9- Amalberti R and Pibarot ML "La sécurité du patient revisitée avec un regard systémique" *Gestions hosp* 2003; 18-25.
- 10- Prescrire Editorial Staff "Drug packaging: safety and convenience first" *Prescrire Int* 2002; 11 (57): 26-27.
- 11- Prescrire Rédaction "Médicament hospitaliers. À quoi sert l'agrément aux collectivités?" *Rev Prescrire* 2000; 20 (202): 68-71.

Each draft review intended for publication in our French edition is first submitted to large multidisciplinary panels of reviewers. This external review process is vital to the quality of our published articles.

Prescrire's review panels

The editorial process governing all *Prescrire's* systematic reviews includes a series of original procedures that have been gradually developed and improved over the years (1). There are four main types of actors: editors, literature search specialists, reviewers, and quality control specialists (fact checker) (a). The involvement of numerous external reviewers helps to ensure that all *Prescrire's* review articles are reliable and relevant to readers' daily practice.

Here, we describe in detail the contribution made by our external reviewers, and offer answers to such questions as how big is the pool of potential reviewers, exactly where in the editorial process they intervene, how they are selected, how the reviewers express their views, how these views are taken in account, what feedback they receive, and their global contribution to the editorial process.

A pool of more than 2000 reviewers covering all disciplines

Prescrire's external reviewers are of three basic types: specialists in the relevant subject; individuals capable of assessing the logic and consistency of the argument; and health care professionals representative of the *Prescrire* readership such as pharmacists, general practitioners and specialists working in the community and hospital setting, nurses, assistant pharmacists, dentists, physiotherapists.

As of 2 August 2003, about 2200 French and international reviewers were available to assess draft reviews for *Prescrire* (b).

Reviewers are selected collectively. Draft articles that are sent to reviewers have already been through several well defined editorial stages: the subject matter and editorial perspective are chosen collectively; a systematic literature search is carried out; one or several senior editors read the first draft; and the section editor checks each statement against the references. So the

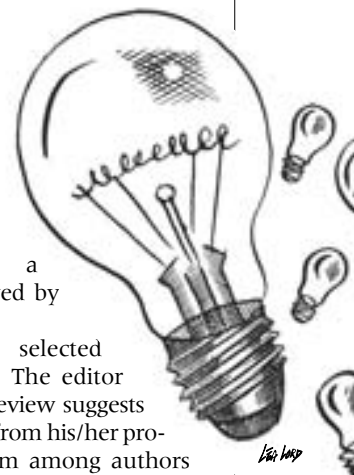
reviewers receive a mature draft approved by the section editor.

Reviewers are selected through teamwork. The editor responsible for the review suggests a panel of reviewers from his/her professional circles, from among authors mentioned in relevant publications and existing reviewers with a good track record. This list of potential reviewers is then completed by the section editor and by the team managing the reviewer pool.

Large panels. A specifically composed reviewer panel is recruited for each draft article. Reviewer panels include people who have made a significant contribution to other review articles on the same or a related subject; professionals in the relevant field; and new specialist and non specialist reviewers chosen specially for the article under consideration. New reviewers are chosen from an evolving list of potential reviewers, so the final panel is truly multidisciplinary. ▶▶

a- The editorial process for review articles published by Prescrire includes: joint selection of the subject matter by the editorial team, and designation of an editor in charge; refinement of the project (scope, and outstanding questions); a multistep systematic literature search; the opinions of one or several senior editors; initial control of the entire file by the section editor; submission of the draft article to a multidisciplinary review panel; rewriting of the draft by the editor; control of the new draft by the section head; verification by a quality control specialist (fact checker) who checks, one by one, that all statements are in line with the references. Finally, the deputy editor and editor-in-chief check the final draft. Before publication, a desk editor proofreads the pre-print for typographic errors. The final decision to print the issue is made by the editor-in-chief, with approval from the head of publications (president of Association Mieux Prescrire, which publishes la revue Prescrire). For further information, see reference 1 or "Le chemin d'un article de la revue Prescrire" on the Prescrire website (<http://www.prescrire.org/aLaUne/dossierCheminArticle.php>).

b- With rare exceptions, reviewers are given the draft article in French, and must therefore have a good grasp of this language (they can reply in another language, notably English).



a BOUT PRESCRIRE

► Each panel includes between 10 and 40 external reviewers, depending on the nature and size of the review. Members of the editorial team are also included, both for their editorial expertise and to maintain co-ordination between different sections of the Journal.

Note that drug company employees are not invited to participate.

External reviewers are not required to declare any conflicts of interest, including links with the pharmaceuticals industry. Our special review process (see below) rules out the possibility of bias caused by financial or other competing interests.

A unique process. The *Prescrire* review process is different from the peer review process used by journals publishing original research papers (2). In particular, these journals use far fewer reviewers per manuscript (c).

Quality control of content and style

The review process applied to draft articles is standardised, in order to facilitate the reviewers' task and to ensure their contributions are fully taken into account. Each

reviewer receives the draft article in paper form, signed collectively by the editorial team. A cover page is provided on which the reviewer can make general comments, and each page of text has a wide margin reserved for comments (d). Reviewers are usually given about 15 days to reply, depending on the size and urgency of the draft (e).

Reviewers are asked to criticise both content, quality of reference, and style.

What the editorial team wants most from the review panel is their opinion on the relevance of the subject to the readers, the quality of references, the soundness of reasoning, and relevance to clinical practice. Regarding matters of style, comments are particularly welcome on readability, lack of ambiguity, agreement with previous *Prescrire* articles on the same subject, the quality of the summary, and overall consistency (f).

Reviewers are invited to make both specific and general comments. New references are particularly welcome.

All comments are carefully appraised.

About three weeks after the draft article is sent out for review, the reviewers' comments are given, together with the entire file (references, etc.), to the editor in charge.

Each point is commented on in writing by the editor in charge, so that team members working downstream can check that each comment has been incorporated into the article (or why it was rejected).

Reviewers' comments are accepted only if they are well substantiated by references. This prevents any potential biases caused by reviewers' competing interests. The draft article is carefully checked to ensure that the data in it are sound. Misleading comments are usually obvious, because they are at odds with the available data.

The editor in charge then produces a new draft. Using a standard form, he/she assesses the contribution of each reviewer, and writes a draft letter (later completed by the section head) explaining to the reviewers whether and how their comments were taken into account. The entire file then enters the next phase of the editorial process.

Evaluation of reviewers' contributions

Reviewers' contributions vary according to the topic and the reviewers. Their contribution can be important, and even decisive, especially for lengthy and complex review articles, papers dealing with controversial subjects, and areas in which data are sparse or difficult to access.

Since 1999, each reviewer's contribution has been systematically assessed by the editorial team, using a scoring system (see inset page 157).

Potential reviewers who have never replied to requests or who regularly under-perform are deleted from the list. This system also allows selection of reviewers who have made a valuable contribution to similar articles.

Health professional representatives of the *Prescrire* readership are expected to comment on the readability and practical relevance of the text. Specialists in the relevant field are asked to focus on content and style, and to offer comments backed up by references.

Comments that are relevant but fall outside the scope of the review article may give rise to another review article with a different slant, or may be published in "*Prescrire en questions*" (*Forum in Prescrire International*).

More than 100 reviewers per issue, more than 600 reviewers per year

For each issue of *la revue Prescrire*, the management team for external reviewers ensures that each reviewer's performance has been scored, and prepares the list of reviewers who

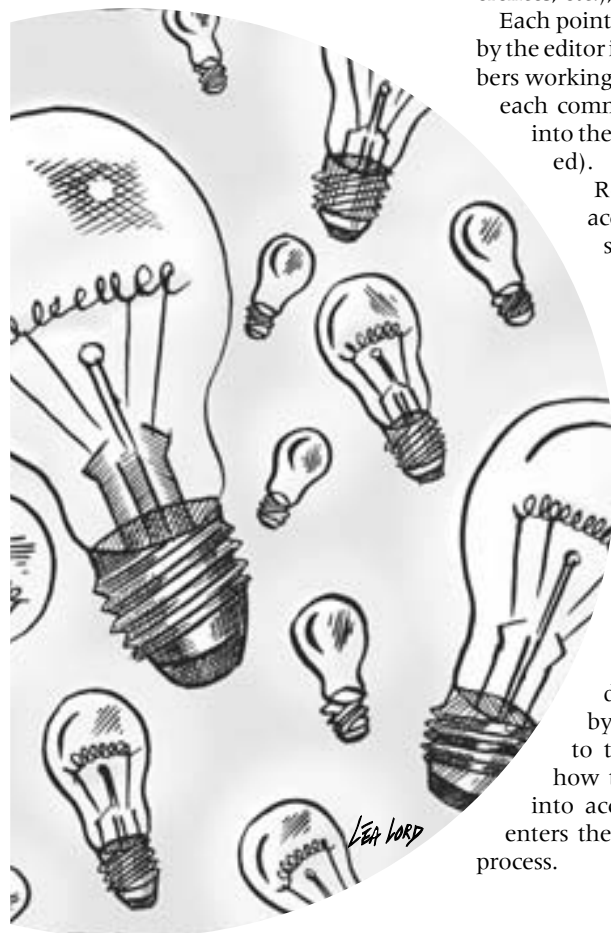
c- Scientific journals receive far more manuscripts than they can publish. The selection process is generally based on an internal assessment by board editors followed by external peer review. These peer reviewers are requested to criticise the content, to help the journal editors take their final decision on publication, and possibly to ask the authors for modifications (ref 2-4).

Each manuscript is generally reviewed by a limited number of reviewers: "one or more" for the British Medical Journal (ref 5), "two or more" for the New England Journal of Medicine (ref 4), and generally "at least two" for the Annals of Internal Medicine (ref 6) and The Lancet (ref 7). All these journals are actively seeking to optimise the system, but have not yet made any major improvement (ref 8).

d- The cover page of the draft article submitted for review informs the reviewer that his/her name will be mentioned in the corresponding issue (masthead), unless otherwise requested.

e- The reviewers can return the text and their criticisms in a prepaid envelope provided with the draft article. Each new reviewer also receives a practical guide to reviewing draft articles, a description of the editorial process, a questionnaire to optimise subsequent reviews, and a sample of the Journal.

f- Reviewers are not asked to check the text "references in hand": this important phase of the control process is the responsibility of the section editor and quality control specialists, who use a precise, standardised procedure. Similarly, typing errors are the responsibility of the desk editors.



contributed to at least one article published in the issue. On average, more than 100 external reviewers read at least one review article published in each issue, and are mentioned on the inside front cover of our French edition (last page in *Prescrire International*). Each year, more than 600 external reviewers check at least one published review article (g).

At the time of publication, the reviewers receive a letter explaining how they contributed, and a copy of the relevant issue.

Each year, after the December issue has been published, the reviewer panels' overall contribution to the year's issues is evaluated. In 2002, 167 published articles gave rise to more than 1600 external reviews. Each year, a summary letter of the review process is sent to each reviewer, together with a small gift commensurate with his or her contribution (back issues of *Prescrire*, etc.).

Added value to review articles

The overall assessment of the quality of reviewers' comments on articles published between 1999 and 2002 shows that more than three-quarters of the external reviewers contributed to the quality of the articles in one way or another. 17% of reviewers' comments made a major contribution to the quality of the article.

External reviewers make a vital contribution to *Prescrire's* quality assurance. Thanks to the efforts of the people at each stage in our editorial process, readers are guaranteed the most reliable information available.

©Prescrire International

g- The list of the reviewers who checked at least one review article published in the revue *Prescrire* in 2003 is available on our website (<http://www.prescrire.org/aLaUne/dossierRelecteurs2003.php>).

Selected references from *Prescrire's* document watch

- 1- *Prescrire* Rédaction "Le chemin d'un article. Première partie: la revue *Prescrire*, revue de formation" *Rev Prescrire* 2000; **20** (206): 386-388.
- 2- *Prescrire* Rédaction "Le chemin d'un article. Deuxième partie: les revues de publications primaires" *Rev Prescrire* 2000; **20** (207): 466-468.
- 3- Lynne MS and Herbel JL "Manuscript peer review - a guide for health care professionals" *Pharmacotherapy* 2001; **21** (4): 395-404.
- 4- "Help for authors". Website <http://www.nejm.org> consulted on 5 November 2003 + Campion EW et al. "Tracking the peer review process" *N Engl J Med* 2000; **343** (20): 1485-1486.
- 5- "Our peer review process". Website <http://bmj.com> consulted on 5 November 2003.
- 6- "Information for authors - Internal review by editors and peer review". Website <http://www.annals.org> consulted on 5 November 2003.
- 7- "Information for authors - Peer review". Website <http://www.thelancet.com> consulted on 5 November 2003.
- 8- Jefferson T et al. "Effects of editorial peer review - a systematic review" *JAMA* 2002; **287** (21): 2784-2786.

Prescrire's review panels: a summary of contributions, 1999-2002

Since 1999, we have evaluated the quality of the comments made by all external reviewers of published articles.

A standardised scoring system has been devised to assess the contribution of each external reviewer:

- P = NO REPLY:** the reviewer failed to answer the editorial team's request;
- E = EXCUSED:** the reviewer informed the editorial team that he/she was unavailable;
- N = IRRELEVANT:** the reviewer's comments were irrelevant, or would have reduced the quality of the text;
- 0 = NO PROPOSAL:** the reviewer made few if any comments, adding nothing to the quality of the text;
- 1 = WELL-BASED BUT MINOR COMMENTS** or suggestions that did not challenge the substance of the text but improved its readability (spelling mistakes, style errors, etc.);
- 2 = PERTINENT COMMENTS:** the reviewer made comments that increased our understanding of the topic, or offered new ideas, information or references, or raised theoretical or practical questions. The comments led to important changes being made to the text, and substantially improved the quality of the article;
- 3 = EXCEPTIONAL QUALITY:** the reviewer made an exceptional contribution by pointing to a potentially important error for clinical practice, preventing unnecessary letters to the editors, or raising major questions.

Reviewer contributions. Between 1999 and 2002, more than 950 review articles were checked by an ad hoc review panel. During this period, nearly 13 300 reviewers were contacted (including about 300 outside France); an average of 14 per article. Nearly 9800 responses (including excuses) were received by the editorial team, giving a response rate of about 75%.

The reviewers' quality between 1999 and 2002 was assessed by grouping scores 0 (no relevant comments) and 1 (well-based but minor suggestions) under the heading "minor contribution", and scores 2 (pertinent comments) and 3 (exceptional contribution) under "major contribution", taking into account all responses received by the editorial team. The results are summarised in the table below.

'Major' contributions were made by all categories of reviewers. However, hospital professionals (usually specialists) made twice as many major contributions as professionals working in the community (usually general practitioners); these latter reviewers nonetheless made hundreds of major contributions.

An open and evolving process. All *Prescrire* readers can volunteer to review draft articles and thereby contribute to the quality of the Journal. Simply write to the editorial team, with your postal address, telephone number and e-mail address, mentioning any areas of specific expertise.

©PI

Evaluation of external reviewers from 1999 to 2002

	Number of responses (1)	Major contribution (%)	Minor contribution (%)
France	9 586	1 597 (17%)	7 405 (77%)
• primary care	3 790	366 (10%)	3 293 (87%)
general practitioners	1 801	118 (7%)	1 646 (91%)
pharmacists	927	50 (6%)	836 (90%)
other	1 062	198 (19%)	811 (76%)
• hospital care	4 860	1 021 (21%)	3 457 (71%)
academic hospital	2 891	666 (23%)	1 939 (67%)
non academic hospital	1 969	355 (18%)	1 518 (77%)
• other setting	936	210 (22%)	655 (70%)
Outside France	197	58 (29%)	127 (64%)
Total	9 783	1 655 (17%)	7 532 (77%)

1- Including responses classified as 'excused', i.e. 6% of responses received.