

Les mauvaises conduites en matière de recherche et de publication scientifique et médicale

Jean-Paul Sculier
Institut Jules Bordet
ULB

Aucun conflit d'intérêt personnel à déclarer

- Bureau directeur ERS
- Président et membre du CA ELCWP
- Membre CMP IJB
- Membre Conseil à l'intégrité ULB

Les types de fraudes

Fraudes aux données

- Invention (fabrication)
- Falsification
- Vol (une sorte de plagiarisme)
- Embellissement (manipulation)
- Rétention de données

How Many Scientists Fabricate and Falsify Research? A Systematic Review and Meta-Analysis of Survey Data

Daniele Fanelli*

INNOGEN and ISSTI-Institute for the Study of Science, Technology & Innovation, The University of Edinburgh, Edinburgh, United Kingdom

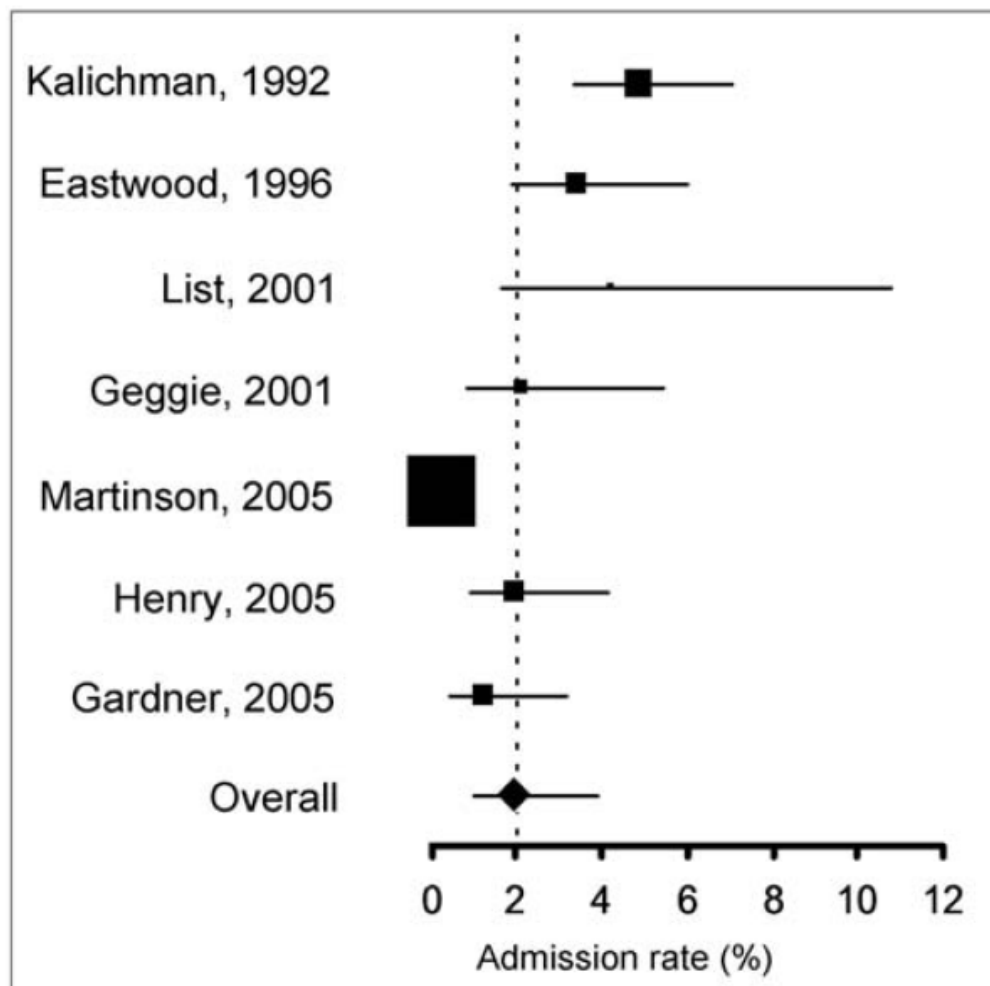


Figure 2. Forrest plot of admission rates of data fabrication, falsification and alteration in self reports. Area of squares represents sample size, horizontal lines are 95% confidence interval, diamond and vertical dotted line show the pooled weighted estimate. doi:10.1371/journal.pone.0005738.g002

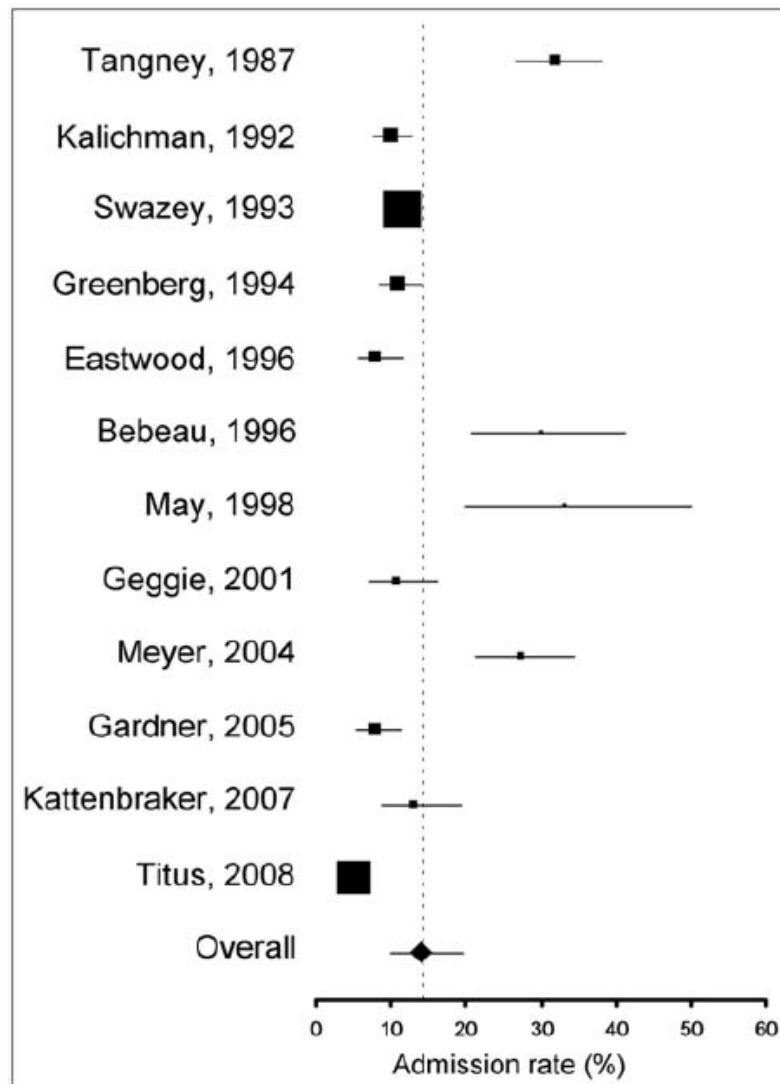


Figure 4. Forrest plot of admission rates of data fabrication, falsification and alteration in non-self reports. Area of squares represents sample size, horizontal lines are 95% confidence interval, diamond and vertical dotted line show the pooled weighted estimate. doi:10.1371/journal.pone.0005738.g004

1983 affaire Darsee

Vol. 308 No. 23

EDITORIALS

1415

The New England Journal of Medicine

Official Organ of
The Massachusetts Medical Society

Goodwill M. Stewart, M.D.
President

William B. Munier, M.D.
Executive Vice-president

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PUBLISHED WEEKLY BY THE COMMITTEE ON PUBLICATIONS
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LESSONS FROM THE DARSEE AFFAIR

It seems paradoxical that scientific research, in many ways one of the most questioning and skeptical of human activities, should be dependent on personal trust. But the fact is that without trust the research enterprise could not function. This trust is manifested in many ways. Scientists habitually challenge the validity and the interpretation of the experimental evidence reported by their colleagues at meetings or in the literature, but they trustingly assume that the evidence has been honestly gathered and reported. In their own work they are often dependent on raw data obtained by technicians, fellows, or collaborators. They may personally review the data and check the calculations, but unless they have made the primary observations themselves they must rely on the honesty of those who have. Likewise, editors and referees of scientific papers, even while they search for possible errors in the manuscripts they review, have no choice

1998 affaire Wakefield

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in seven. All 12 children had intestinal abnormalities ranging from lymphoid nodular hyperplasia to pseudotuberculosis. Histology showed patchy chronic inflammation. In 11 children and reactive ileal lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and EEG and EEG tests were normal. Abnormal laboratory results were significantly raised urinary methylmalonic acid compared with age-matched controls ($P=0.03$), low haemoglobin in four children, and low serum IgA in four children.

Interpretation We identify an associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.

Lancet 1998; **351**: 637-41

See Commentary page

Inflammatory Bowel Disease Study Group, University Departments of Medicine and Histopathology (A J Wakefield *lead*, A Anthony *ms*, J Linnell *ms*, A P Dhillon *micro*, S E Davies *micro*) and **the University Departments of Paediatric Gastroenterology** (S H Murch *ms*, D M Casson *micro*, M Malik *micro*), **M A Thomson *resp***, J A Walker-Smith *resp*, J Child and Adolescent Psychiatry (M Berelowitz *micro*), **Neurology** (P Harvey *resp*), and **Radiology** (A Valentine *resp*), **Royal Free Hospital and School of Medicine, London NW3 2QG, UK**
Correspondence to: Dr A J Wakefield

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features, of these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology with a history of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms (abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward at night, accompanied by their parents.

Clinical investigations

We took histories including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases the history was obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by consultant staff (PH, MB) with HMS-4 criteria.¹ Developmental assessments included a review of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum, ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary methylmalonic acid was measured in random urine samples from eight of the 12 children and 14 age-matched and sex-matched normal controls, by a modification of a technique described previously.² Chromatograms were scanned digitally on computer, to analyse the methylmalonic-acid zones from cases and controls. Urinary methylmalonic-acid concentrations in patients and controls were compared by a two-sample *t* test. Urinary creatinine was estimated by routine spectrophotometric assay.

Children were screened for antiendomyxal antibodies and boys were screened for fragile-X if this had not been done

2009 affaire Reuben

Retraction Notice

To the Editor:

Anesthesia & Analgesia has received a notice from Baystate Medical Center concerning research conducted by Dr. Scott Reuben. To quote from the notice we received:

"Baystate Medical Center ("BMC") conducted an investigation pursuant to the Baystate Health Policy on Misconduct in Research and Scholarly Activities (the "Policy"). Dr. Reuben cooperated fully in this investigation. BMC's investigation determined that Dr. Reuben fabricated data reported in the referenced articles, and that all fabricated data were created under the sole control of Dr. Reuben."

The following articles were specifically cited, and are hereby withdrawn:

1. Reuben SS, Connelly NR. Postarthroscopic meniscus repair analgesia with intraarticular ketorolac or morphine. *Anesth Analg* 1996; 82:1036-9.
2. Reuben SS, Connelly NR, Maciolek H. Postoperative analgesia with controlled-release oxycodone for outpatient anterior cruciate ligament surgery. *Anesth Analg* 1999; 88:1286-91.
3. Reuben SS, Reuben JP. Brachial plexus anesthesia with verapamil and/or morphine. *Anesth Analg* 2000; 91:379-83.
4. Reuben SS, Connelly NR. Postoperative analgesic effects of celecoxib or rofecoxib after spinal fusion surgery. *Anesth Analg*. 2000; 91:1221-5.
5. Reuben SS, Steinberg RB, Maciolek H, Manikantan P. An evaluation of the analgesic efficacy of IV regional anesthesia with lidocaine and ketorolac using a forearm versus upper arm tourniquet. *Anesth Analg* 2002; 95:457-60.
6. Reuben SS, Pristas R, Dixon D, Faruqi S, Madabhushi L, Wenner S. The incidence of complex regional pain syndrome after fasciotomy for Dupuytren's contracture: a prospective observational study of four techniques. *Anesth Analg* 2006; 102:499-503.
7. Reuben SS, Buvenendra Kroin JS, Raghunathan K. Analgesic efficacy of celecoxib, pregabalin, and their combination for spinal fusion surgery. *Anesth Analg* 2006; 103:127.
8. Reuben SS, Ekman EF, Chou D. Evaluating the analgesic efficacy of administering celecoxib as a component of multimodal analgesia for outpatient anterior cruciate ligament reconstruction surgery. *Anesth Analg* 2005; 105:222-7.
9. Reuben SS, Ekman EF. The efficacy of initiating a preventive multimodal analgesic regimen on long-term patient outcomes after outpatient anterior cruciate ligament reconstruction surgery. *Anesth Analg* 2007; 105:22.
10. Reuben SS, Buvenendra Kroin JS, Katz B, Kroin JS. A prospective randomized trial on the efficacy of perioperative celecoxib administration for total knee arthroplasty: improving clinical outcomes. *Anesth Analg* 2008; 106:1258-64.

The official withdrawal of articles is in this issue of *Anesthesia & Analgesia* (page 1350).

We appreciate the absolute dedication to academic integrity demonstrated by Baystate Medical Center in conducting this investigation and in sharing these findings with the journal.

Steven L. Shafer
Editor-in-Chief
Anesthesia & Analgesia
shafer@anes.anesthesia-analg

DOI: 10.1213/ane.0b013e318190d0e7

The Assessment of Sore Throat Following Nasotracheal Intubation

To the Editor:

In a recent study comparing the number of characteristics of nasotracheal intubation using either videolaryngoscopy with a Glidescope

2010 affaire Boldt

surgery patients were published by Boldt and co-authors. Despite limitations of many related clinical trials, colloid solutions containing HES 130/0.4 are now used widely for intravenous therapy. In their recent review of hydroxyethyl starches, Drs Reinhart and Takala conclude that “published clinical data are inadequate to support the conclusions that HES 130/0.4 is safer than other HES solutions in surgical and critically ill patients”.⁶ Thus, additional appropriately conducted clinical trials will be necessary to determine more conclusively the role of these intravenous colloid solutions in clinical practice. While the fallout from these article retractions continues to be analyzed, we await (and will eventually report) further results of the ongoing investigations at Klinikum Ludwigshafen in Germany. The *Journal's* editorial team remains steadfast in its ongoing commitment to ensure the integrity of the scientific record.

Mise à jour destinée aux lecteurs et aux auteurs concernant la malhonnêteté scientifique et les infractions aux règles d'éthique: la rétractation des articles du Dr Boldt

Tableau Articles de Joachim Boldt rétractés du *Journal canadien d'anesthésie*

- Piper SN, Kumle B, Maleck WH, Kiessling AH, Lehmann A, Röhm KD, Suttner SW, Boldt J.* Diltiazem may preserve renal tubular integrity after cardiac surgery. *Can J Anesth* 2003; 50: 285-92.
- Lang K, Suttner S, Boldt J, Kumle B, Nagel D.* Volume replacement with HES 130/0.4 may reduce the inflammatory response in patients undergoing major abdominal surgery. *Can J Anesth* 2003; 50: 1009-16.
- Piper SN, Suttner SW, Röhm KD, Maleck WH, Larbig E, Boldt J.* Dolasetron, but not metoclopramide prevents nausea and vomiting in patients undergoing laparoscopic cholecystectomy. *Can J Anesth* 2002; 49: 1021-8.
- Piper SN, Fent MT, Röhm KD, Maleck WH, Suttner SW, Boldt J.* Urapidil does not prevent postanesthetic shivering: a dose-ranging study. *Can J Anesth* 2001; 48: 742-7.
- Piper SN, Boldt J, Schmidt CC, Maleck WH, Brosch C, Kumle B.* Hemodynamics, intramucosal pH and regulators of circulation during perioperative epidural analgesia. *Can J Anesth* 2000; 47: 631-7.

données telles que découvertes par le comité d'enquête du Klinikum Ludwigshafen. »¹

La rétractation de ces articles est le résultat d'une enquête interne réalisée récemment au Klinikum Ludwigshafen en Allemagne, institution où le Dr Boldt a travaillé pendant plus de vingt ans. L'enquête s'est ouverte après que Dr Steven Shafer, rédacteur en chef de la revue *Anesthesia & Analgesia*, a eu connaissance d'inquiétudes exprimées par

2011 affaire Poldermans

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NOTICE OF CONCERN

Concern has been raised regarding the scientific integrity of several articles published in the Journal of the American College of Cardiology under the leadership of or collaboration of Dr. Don Poldermans. This concern has resulted in an extensive investigation both of papers published in *JACC* and other journals by an Investigation Committee of Erasmus Medical Center in Rotterdam, Netherlands. The Editors of *JACC* (Jeroen Bax recused himself) have carefully read the report of the Investigative Committee, http://www.erasmusmc.nl/5663/135857/3675250/3706798/Integrity_report_2012-10.pdf?lang=en&lang=en, and have concluded that it was performed with rigor, accurately, and objectively. Therefore, we wish to report our concern regarding the scientific integrity of these articles based upon the conclusions of the Investigative Committee of Erasmus Medical Center.

Poldermans D, Bax JJ, Schouten O, Neskovic AN, Paelinck B, Rocci G, van Dortmont L, Durazzo A, van de Ven L, van Sambeek M, Kertai MD, Boersma E, for the Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echo Study Group. Should major vascular surgery be delayed because of preoperative cardiac testing in intermediate-risk patients receiving beta-blocker therapy with tight heart rate control? *J Am Coll Cardiol* 2006;48:964–9.

Embellissement des données

- les indices composites associant des événements de gravité différente pour montrer l'efficacité d'un traitement
- le rapport des résultats sur un objectif présenté comme primaire alors qu'il ne l'était pas dans le protocole de l'étude
- la modification de l'analyse en intention de traiter dans les études randomisées
- des interprétations et des conclusions inconsistantes avec les résultats

The effect of scientific misconduct on the results of clinical trials: A Delphi survey

Sanaa Al-Marzouki*, Ian Roberts, Tom Marshall, Stephen Evans

Table 2

Types of misconduct for which there was majority agreement (>50%) that they would be likely or very likely to distort the results, and that they would be likely or very likely to occur

Types of misconduct	Indicating likely or very likely to occur (%)
Over-interpretation of 'significant' findings in small trials	83
Selective reporting based on <i>p</i> -values	80
Selective reporting of outcomes in the abstract	76
Subgroup analyses done without interaction tests	75
Negative or detrimental studies not published	68
Putting undue stress on results from subgroup analysis	68
Inappropriate subgroup analyses	64
Selective reporting of (i) subgroups (ii) outcomes (iii) time points	64
Selective reporting of positive results or omission of adverse events data	60
Failure to report results or long delay in reporting	60
Post-hoc analysis not admitted	59
Giving incomplete information about analyses with non significant results	56
Analysis conducted by the sponsor of the trial	54

Rétention de données

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

Selective Publication of Antidepressant Trials and Its Influence on Apparent Efficacy

Erick H. Turner, M.D., Annette M. Matthews, M.D., Eftihia Linardatos, B.S.,
Robert A. Tell, L.C.S.W., and Robert Rosenthal, Ph.D.

ABSTRACT

From the Departments of Psychiatry (E.H.T., A.M.M.) and Pharmacology (E.H.T.), Oregon Health and Science University; and the Behavioral Health and Neurosciences Division, Portland Veterans Affairs Medical Center (E.H.T., A.M.M., R.A.T.) — both in Portland, OR; the Department of Psychology, Kent State University, Kent, OH (E.L.); the Department of Psychology, University of California—Riverside, Riverside (R.R.); and Harvard University, Cambridge, MA (R.R.). Address reprint requests to Dr. Turner at Portland VA Medical Center, P3MHDC, 3710 SW US Veterans Hospital Rd., Portland, OR 97239, or at turnere@ohsu.edu.

N Engl J Med 2008;358:252-60.
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BACKGROUND

Evidence-based medicine is valuable to the extent that the evidence base is complete and unbiased. Selective publication of clinical trials — and the outcomes within those trials — can lead to unrealistic estimates of drug effectiveness and alter the apparent risk–benefit ratio.

METHODS

We obtained reviews from the Food and Drug Administration (FDA) for studies of 12 antidepressant agents involving 12,564 patients. We conducted a systematic literature search to identify matching publications. For trials that were reported in the literature, we compared the published outcomes with the FDA outcomes. We also compared the effect size derived from the published reports with the effect size derived from the entire FDA data set.

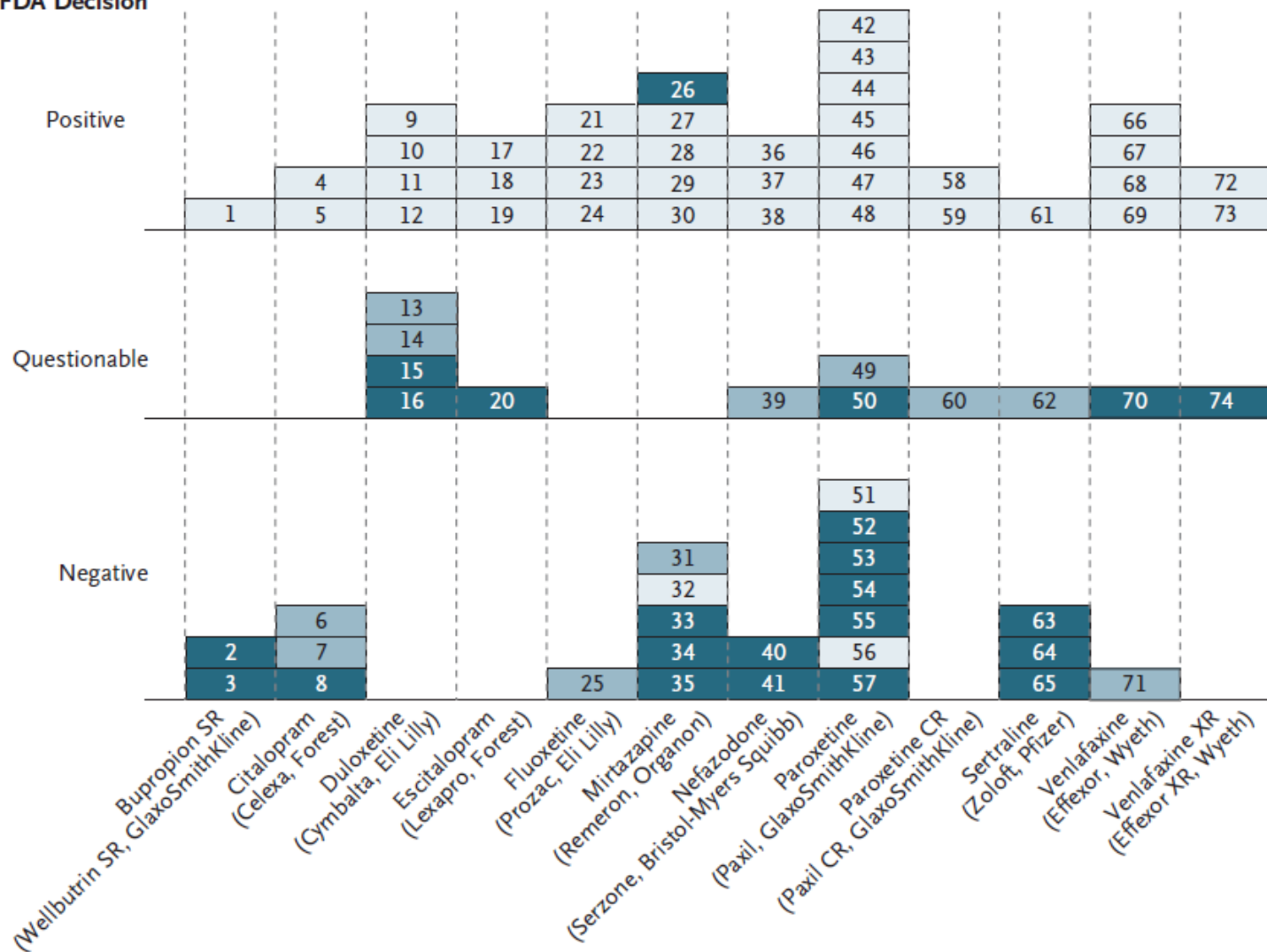
RESULTS

Among 74 FDA-registered studies, 31%, accounting for 3449 study participants, were

Published, agrees with FDA
 Published, conflicts with FDA
 Not published

A Studies

FDA Decision



Fraudes aux auteurs

Les publications médicales : vrais ou faux auteurs ?

Medical publications : real or false authors ?

J.-P. Sculier

Service des Soins Intensifs et Oncologie Thoracique, Institut Jules Bordet

RESUME

La littérature médicale a vu apparaître au cours des dix dernières années une série de publications sur le rôle réel des auteurs dans les travaux publiés. Le nombre d'auteurs honorifiques qui prêtent leur nom à la publication sans y avoir joué un rôle suffisant est loin d'être minime, même dans des revues prestigieuses. De plus, le recours à des «nègres», auteurs non mentionnés pour réaliser les analyses ou écrire le manuscrit, s'avère une pratique fréquente, particulièrement dans les essais promus par l'industrie pharmaceutique.

Rev Med Brux 2009 ; 30 : 115-7

ABSTRACT

There has been in the medical literature during the last decade a series of publications about the actual role of the authors in the published articles. The number of honorary authors, giving their name to a publication without a significant contribution to the study, is not negligible, even in prestigious journals. Moreover, the use of ghosts, which are non mentioned authors involved in the analysis or in the manuscript writing, appears to be frequent, particularly in trials sponsored by the pharmaceutical industry.

Rev Med Brux 2009 ; 30 : 115-7

Key words : medical publications, false authors

A Systematic Review of Research on the Meaning, Ethics and Practices of Authorship across Scholarly Disciplines

Ana Marušić^{1*}, Lana Bošnjak², Ana Jerončić¹

¹ Department of Research in Biomedicine and Health, University of Split School of Medicine, Split, Croatia, ² Office for Science and Department of Research in Biomedicine and Health, University of Split School of Medicine, Split, Croatia

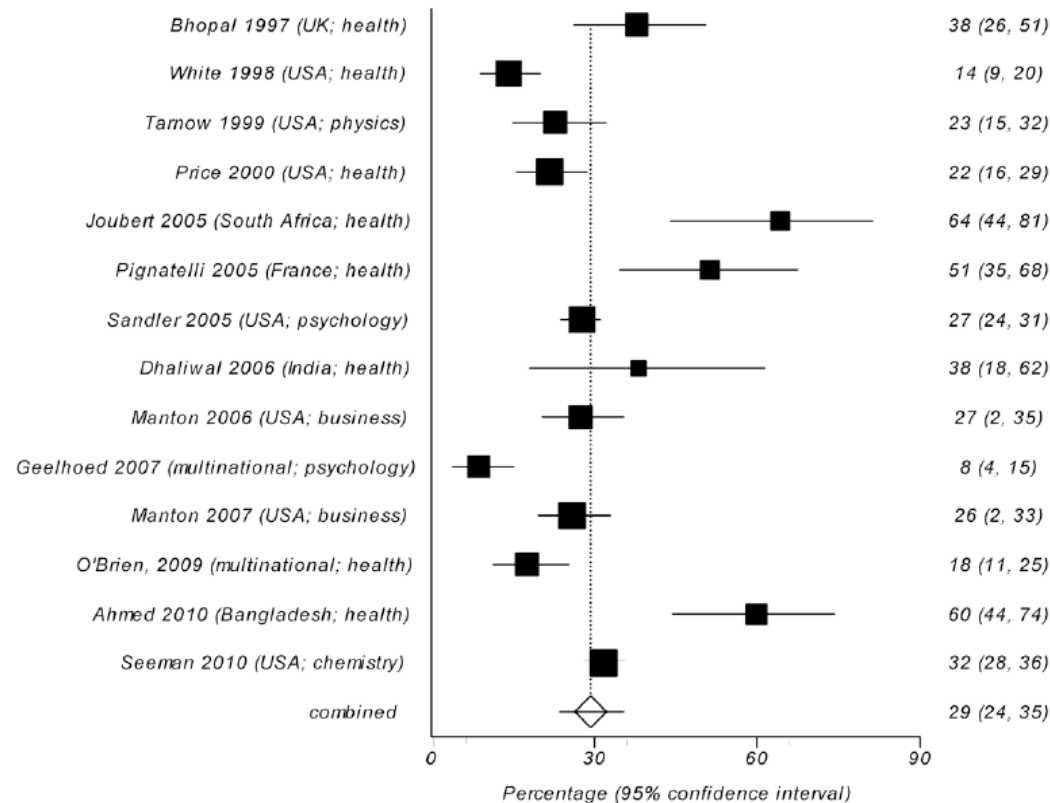


Figure 3. Forest plot of reported rates of problems with or misuse of authorship in self- or non-self reports in 14 survey studies [31,41,46,50,75,77,78,82,85,91,96,109,114,126]. The area of a square represent sample size, horizontal lines are 95% confidence interval, diamond and vertical dotted line show the pooled weighted estimate.
doi:10.1371/journal.pone.0023477.g003

Figure 4. October 1999 E-mail Between Representatives of Scientific Therapeutics Information Inc and Merck & Co Inc Discussing Contracted Publications Related to Rofecoxib

Dear Susan,

At the request of John Romankiewicz, I am providing you with an update on development and estimated delivery dates for various publications related to VIOXX that STI is working on.

1) Rofecoxib for the Treatment of Pain: Role of COX-2 Inhibitors for the Treatment of Nonmalignant Pain

- intended author: [REDACTED]
- intended journal: Analgesia
- estimated delivery of Draft 2 to Merck: 10/22

2) Clinical Implications of Drug Interactions with COX-2 Inhibitors

- intended author: [REDACTED]
- intended journal: Pharmacotherapy
- estimated delivery of Draft 2 to Merck: 10/22 (John Romankiewicz recently e-mailed you Draft 1 of this manuscript)

3) Overview of Clinical Pharmacology and Clinical Experience with Rofecoxib

- intended author: [REDACTED]
- intended journal: American Journal of Medicine or Archives of Internal Medicine
- estimated delivery of Draft 1 to Merck: 11/5

4) Review of Pharmacology and Clinical Experience with Rofecoxib for Osteoarthritis

- intended author: [REDACTED]
- intended journal: Journal of Rheumatology
- estimated delivery of Draft 1 to Merck: 10/29

5) Osteoarthritis in the Elderly: The Role of COX-2-Specific Inhibitors

- intended author: [REDACTED]
- intended journal: Geriatrics
- Draft 1 provided to Merck (C. Yarbrough) 9/27 - await comments; this manuscript cannot be sent via E-mail at this time as it is being actively edited based on additional internal comments; please call if you would like a copy FAXed to you

6) Changing Paradigm for Management of Osteoarthritis

- intended author: [REDACTED]
- intended journal: Journal of Osteopathic Medicine or Journal of Family Practice
- estimated delivery of Draft 1 to Merck: 11/12

7) Pharmacoeconomic Considerations in Treating Osteoarthritis: COX-2-Specific Inhibitors Versus NSAIDs

- author (confirmed): [REDACTED]
- intended journal: Journal of Managed Care
- extended outline provided to Merck (C. Yarbrough) and author 9/27 - copy attached for your reference. Outline approved by author; no comments received from Merck to date
- estimated delivery of Draft 1 of manuscript to Merck: 11/5

8) Managed Care Perspective on the COX-2 Inhibitors

- intended author: [REDACTED]
- intended journal: Managed Care
- estimated delivery of Draft 1 to Merck: 11/19

If you have any questions or require additional information at this time, please do not hesitate to contact me.

Plagiarisme

VOLUME 29 · NUMBER 15 · MAY 20 2011

JOURNAL OF CLINICAL ONCOLOGY

E D I T O R I A L S

This article was retracted on October 31, 2011

Lymphocyte Infiltration in Breast Cancer: A Key Prognostic Factor That Should Not Be Ignored

Roger Mouawad, Jean-Philippe Spano, and David Khayat, *Salpêtrière Hospital, University of Pierre & Marie Curie Paris 6, Paris, France*

« copier-coller »

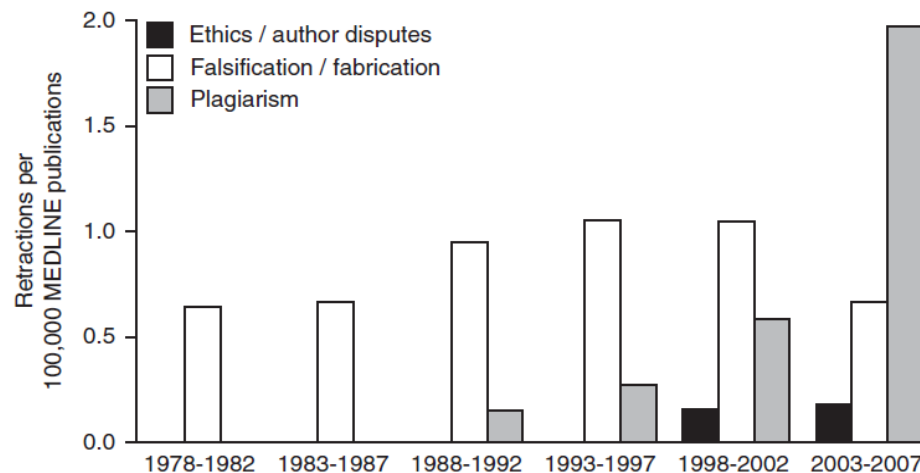


Figure 2. The proportion of misconduct retractions per 100,000 MEDLINE publications for each 5-year period from 1978 onwards (search filters: English, human, date range). The first year that a publication was retracted from MEDLINE was 1978. In the current dataset, the last year that a publication was retracted from MEDLINE was 2007.

Fraudes liées aux conflits d'intérêt

Conflits d'intérêt : une notion souvent (volontairement) ignorée des médecins

Conflicts of interest : a concept often (voluntary) ignored by physicians

J.-P. Sculier

Service des Soins Intensifs et d'Oncologie Thoracique, Institut Jules Bordet, Centre des Tumeurs de l'Université libre de Bruxelles

RESUME

Un conflit d'intérêt est une situation délicate dans laquelle une personne ayant un poste de confiance, comme un médecin, a des intérêts professionnels ou personnels en concurrence avec la mission qui lui est confiée, le mettant en difficulté pour accomplir sa tâche avec impartialité. Les conflits d'intérêt commerciaux ou financiers d'un médecin peuvent être personnels et directs (cadeaux, voyages, honoraires, consultation, etc.) ou indirects (en rapport avec ceux de sa famille ou de son institution). Il existe également des conflits d'intérêt non financiers comme, par exemple, l'expertise anonyme de travaux d'un concurrent ou d'un ami. Une abondante littérature traite surtout des liens avec l'industrie pharmaceutique qui peuvent s'accompagner de restriction à la publication et à l'accès aux données générées par la recherche. Les médecins ont des difficultés à accepter de déclarer leurs conflits d'intérêt. Dans cet article, la littérature publiée sur le sujet est revue ainsi que les principaux biais que les conflits d'intérêt peuvent induire et les fautes que les médecins commettent en ne les déclarant pas. Les mesures qui peuvent être prises pour en réduire l'impact comme la déclaration des conflits d'intérêt sont envisagées.

Rev Med Brux 2010 ; 31 : 199-205

ABSTRACT

A conflict of interest is a delicate situation where a person with a confidence role like a physician has professional or personal interests competing with the mission he/she has received, making him difficult to perform his/her duty with impartiality. Commercial or financial conflicts of interest of a physician can be personal and direct (gifts, travels, honoraries, consultant fees, etc.) or indirect (in relationship with those of the family or of the institution). There are also non financial conflicts of interest such as the anonymous peer review of the work performed by a friend or a competitor. An abundant literature mainly deals with the links to the pharmaceutical industry. Those links may lead to restrictions for publication and access to the data obtained by the research. The physicians have difficulties for accepting disclosing their conflict of interest. In this article, the literature published on the topic is reviewed as well as the main biases they can induce and the mistakes made by the physicians who do not declare their conflicts. Measures that can be taken to reduce their impact such as the declaration of conflicts of interest are discussed.

Rev Med Brux 2010 ; 31 : 199-205

Key words : conflict of interest

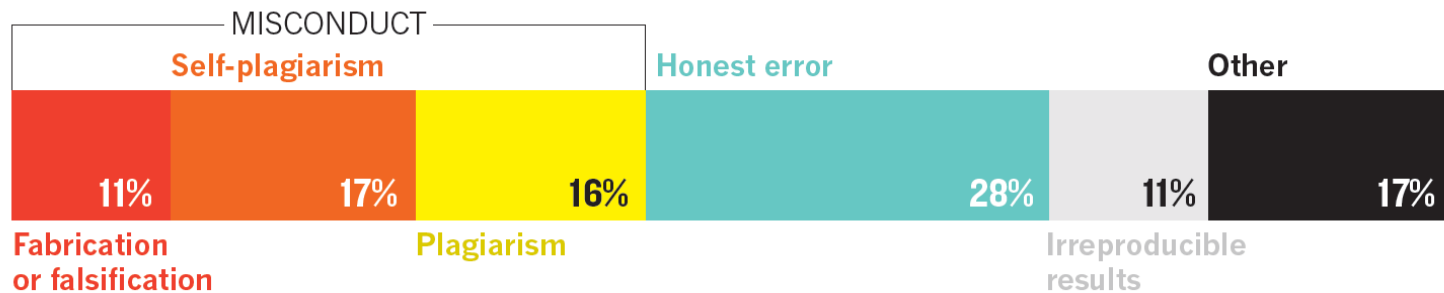
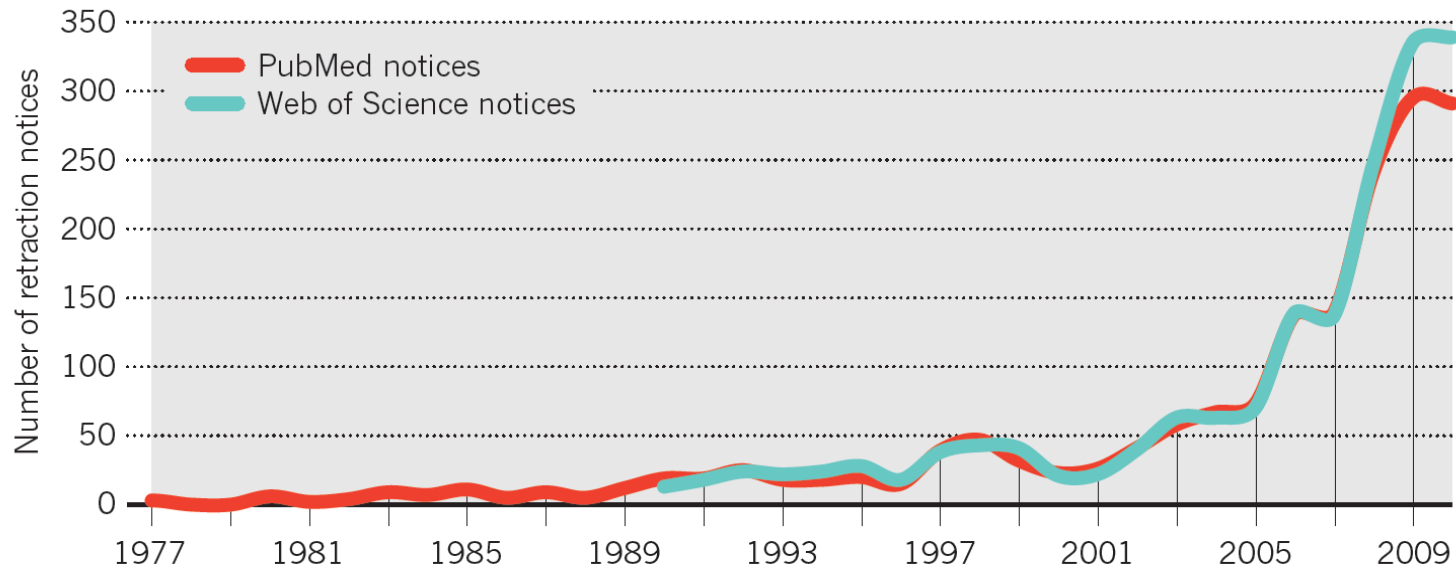
L'importance du problème

Scientific dishonesty: European reflections

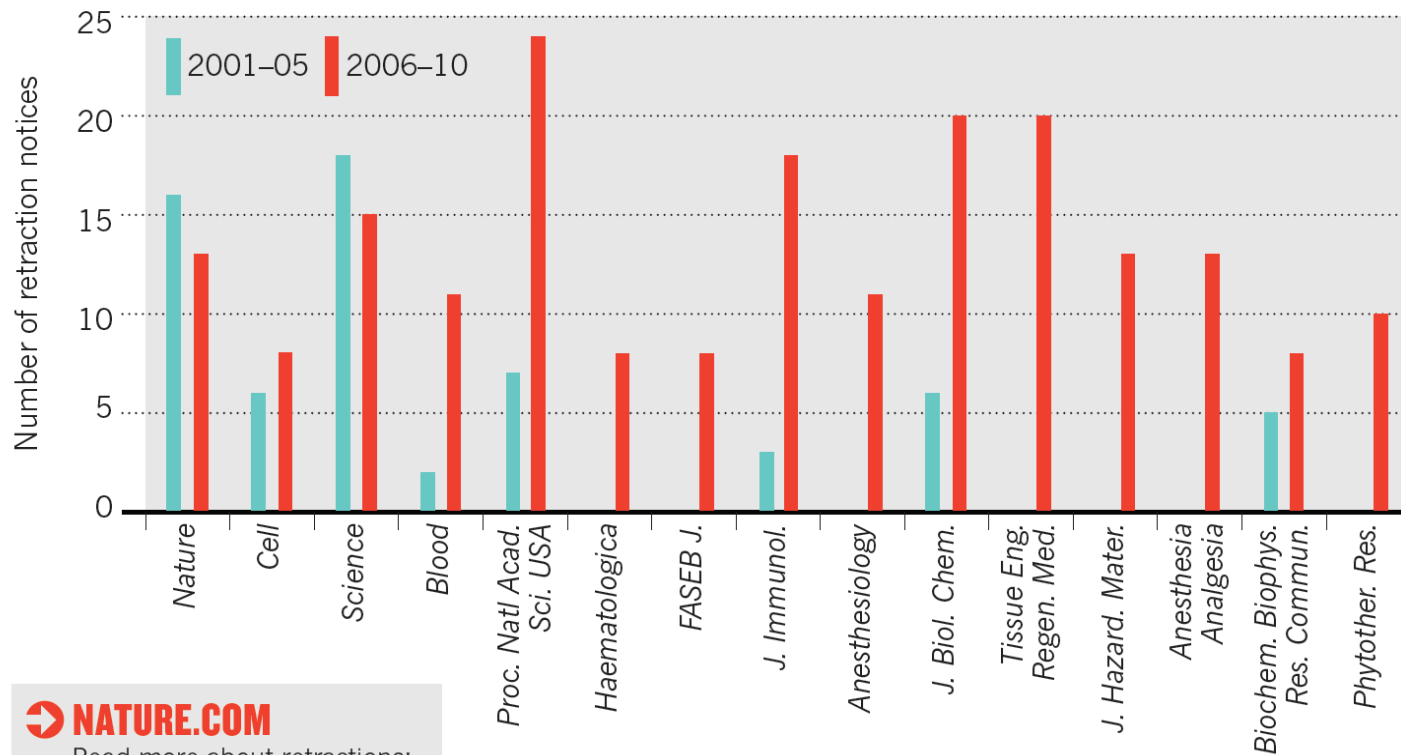
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ported by public money. The prevalence of the problem can only be calculated indirectly by referring to population figures as denominators. Measured this way, figures from Denmark as a whole show: 1-2 cases referred/million inhabitants/year, 1 case treated/million inhabitants/year, 1 case of scientific dishonesty/million inhabitants/5 years. For Finland, 1-2 cases were referred/million inhabitants/1-2 years; for Norway, similar figures of 1/4 million inhabitants/year were calculated. Figures from the Danish national independent control body 1993-7 show the distribution of the types of cases that were charged, with numbers of confirmed cases in parentheses: fabrication, 2 (1); plagiarism, 3 (0); theft, 2 (0); ghost authorship, 2 (1); false methodological description, 3 (1); twisted statistics, 2 (0); suppression of existing data, 4 (0); unwarranted use of data, 4 (0); and authorship problems, 8 (1). This survey emphasises the need for national guidelines, an independent national control body, and initiatives for strong preventive actions.

- Ne pas confondre fraude et erreur



JOURNALS WITH MORE THAN 7 RETRACTION NOTICES IN WEB OF SCIENCE*, 2006–10
(journals ordered by decreasing impact factor for 2010)



Read more about retractions:
go.nature.com/2uweek

*Not shown: *Acta Crystallographica E* saw 81 retractions during 2006–10.

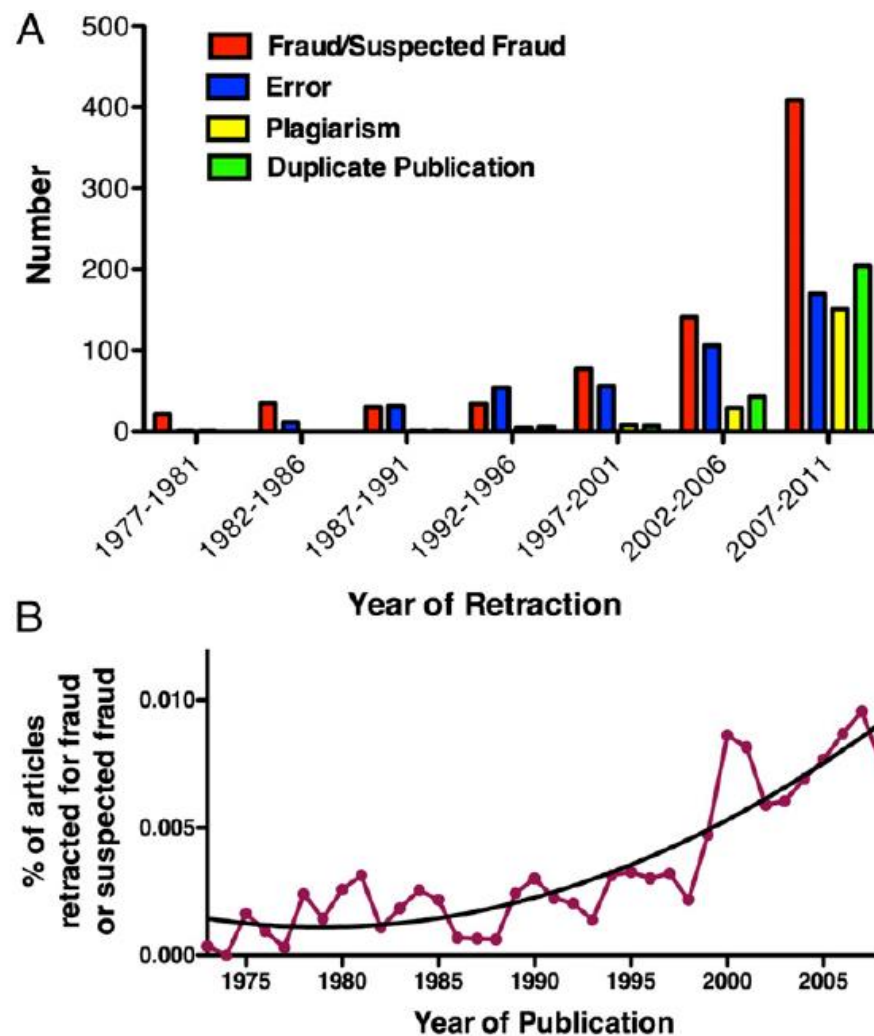


Fig. 1. (A) Number of retracted articles for specific causes by year of retraction. (B) Percentage of published articles retracted for fraud or suspected fraud by year of publication.

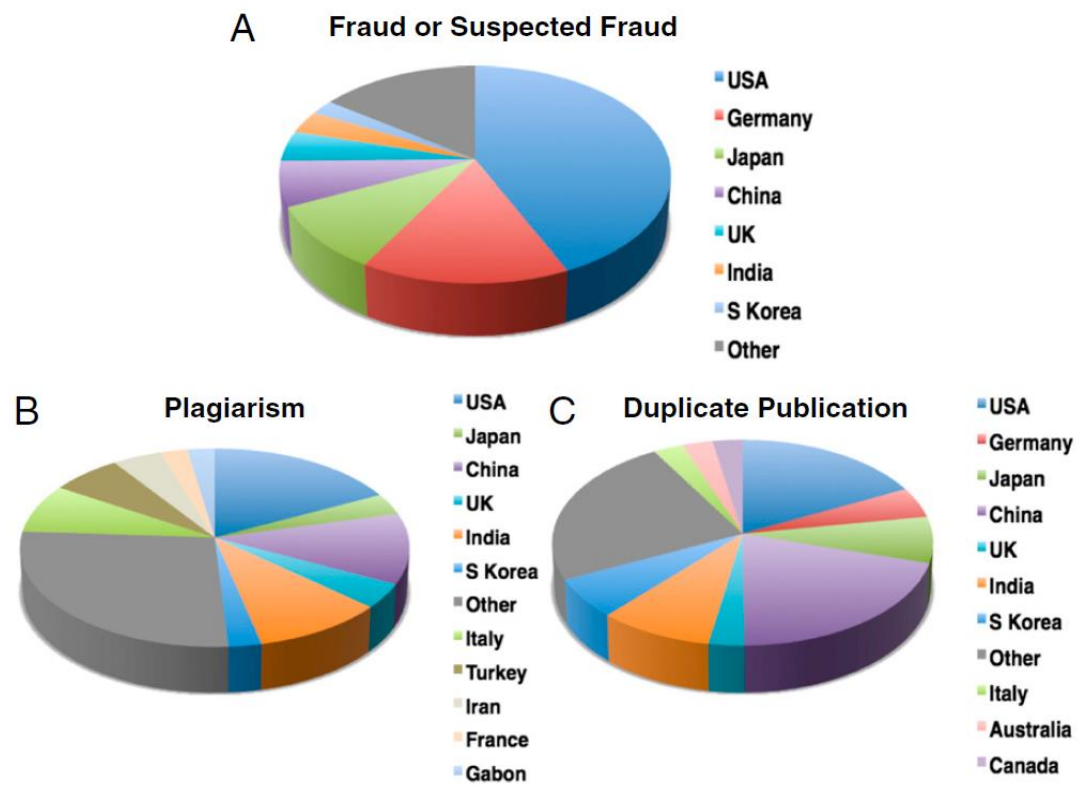
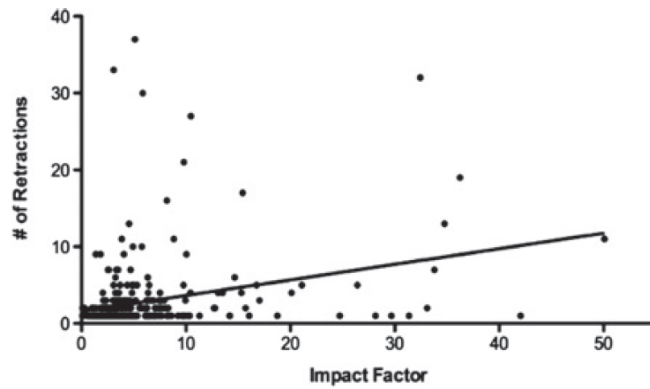
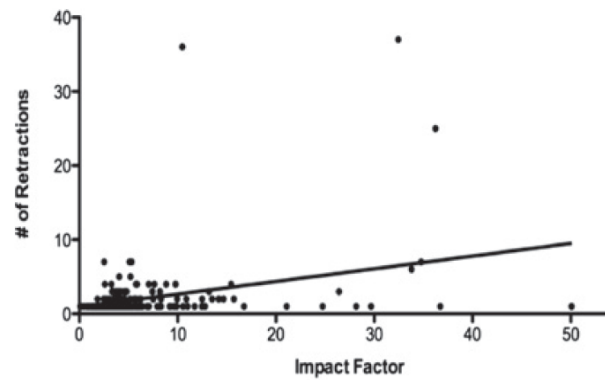


Fig. 2. Country of origin of publications retracted for fraud or suspected fraud (A), plagiarism (B), or duplicate publication (C).

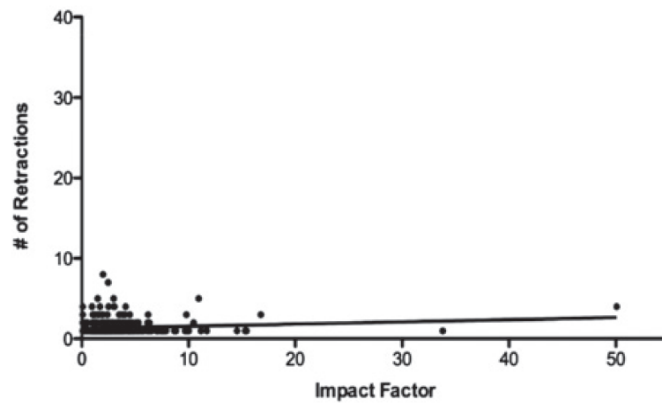
A Fraud or Suspected Fraud



B Error



C Plagiarism or Duplicate Publication



D Mean IF by Cause

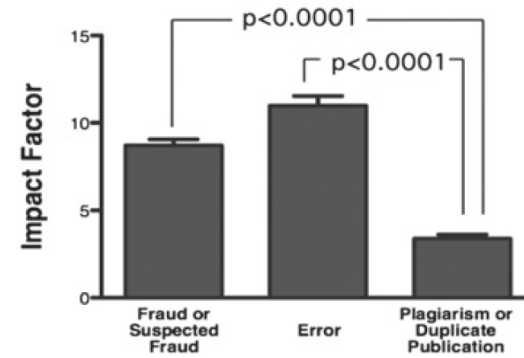


Table 1. Journals with most retracted articles

Journal	No. of articles	IF	Journal	No. of articles	IF
Total			Fraud/suspected fraud		
<i>Science</i>	70	32.45	<i>The Journal of Biological Chemistry</i>	37	5.12
<i>Proceedings of the National Academy of Sciences</i>	69	10.47	<i>Anesthesia & Analgesia</i>	33	3.07
<i>The Journal of Biological Chemistry</i>	54	5.12	<i>Science</i>	32	32.45
<i>Nature</i>	44	36.24	<i>The Journal of Immunology</i>	30	5.86
<i>Anesthesia & Analgesia</i>	40	3.07	<i>Proceedings of the National Academy of Sciences</i>	27	10.47
<i>The Journal of Immunology</i>	34	5.86	<i>Blood</i>	21	9.79
<i>Blood</i>	28	9.79	<i>Nature</i>	19	36.24
<i>The Journal of Clinical Investigation</i>	23	15.43	<i>The Journal of Clinical Investigation</i>	17	15.43
<i>Cell</i>	22	34.77	<i>Cancer Research</i>	16	8.16
<i>Biochemical and Biophysical Research Communications</i>	18	2.52	<i>Cell</i>	13	34.77
<i>The New England Journal of Medicine</i>	16	50.08	<i>Journal of Hazardous Materials</i>	13	4.55
<i>The EMBO Journal</i>	15	8.83	<i>British Journal of Anaesthesia</i>	11	3.85
<i>Journal of Hazardous Materials</i>	15	4.55	<i>The EMBO Journal</i>	11	8.83
<i>Molecular and Cellular Biology</i>	15	5.77	<i>The New England Journal of Medicine</i>	11	50.08
<i>Infection and Immunity</i>	14	4.06	<i>International Journal of Cancer</i>	10	4.92
			<i>Molecular and Cellular Biology</i>	10	5.77

Table 3. Most cited retracted articles

First author	Journal	Year published	Year retracted	Times cited*	Reason for retraction
Wakefield	<i>Lancet</i>	1998	2004; 2010	758	Fraud
Reyes	<i>Blood</i>	2001	2009	740	Error
Fukuhara	<i>Science</i>	2005	2007	686	Error
Nakao	<i>Lancet</i>	2003	2009	626	Fraud
Chang	<i>Science</i>	2001	2006	512	Error
Kugler	<i>Nature Medicine</i>	2000	2003	494	Fraud
Rubio	<i>Cancer Research</i>	2005	2010	457	Error
Gowen	<i>Science</i>	1998	2003	395	Fraud
Makarova	<i>Nature</i>	2001	2006	375	Error
Hwang	<i>Science</i>	2004	2006	368	Fraud
Potti	<i>The New England Journal of Medicine</i>	2006	2011	361	Fraud
Brugger	<i>The New England Journal of Medicine</i>	1995	2001	336	Fraud
Van Parijs	<i>Immunity</i>	1999	2009	330	Fraud
Potti	<i>Nature Medicine</i>	2006	2011	328	Fraud
Schön	<i>Science</i>	2000	2002	297	Fraud
Chiu	<i>Nature</i>	2005	2010	281	Error
Cooper	<i>Science</i>	1997	2005	264	Fraud
Le Page	<i>Cell</i>	2000	2005	262	Error
Kawasaki	<i>Nature</i>	2004	2006	243	Fraud
Hwang	<i>Science</i>	2005	2006	234	Error

*As of June 22, 2012.

RESEARCH

Honorary and ghost authorship in high impact biomedical journals: a cross sectional survey



OPEN ACCESS

Joseph S Wislar *survey research specialist, JAMA*, Annette Flanagin *managing deputy editor, JAMA*, Phil B Fontanarosa *executive editor, JAMA*, Catherine D DeAngelis *editor emerita, JAMA*

Table 1| Prevalence of honorary and ghost authors in a sample of 630 research, review, and editorial articles published in six general medical journals with high impact factors in 2008, by journal and article type

Journal	Total*		Research		Reviews		Editorials	
	No of articles	% (95% CI) of articles	No of articles	% (95% CI) of articles	No of articles	% (95% CI) of articles	No of articles	% (95% CI) of articles
Honorary author	(n=545)		(n=220)		(n=120)		(n=205)	
<i>Ann Intern Med</i>	9/58	15.5 (8.2 to 27.2)	6/26	23.1 (10.7 to 42.4)	2/23	8.7 (1.3 to 28.0)	1/9	11.1 (0 to 45.7)
<i>JAMA</i>	20/120	16.7 (11.0 to 24.4)	13/54	24.1 (14.5 to 37.1)	5/20	25.0 (10.8 to 47.3)	2/46	4.3 (0.4 to 15.3)
<i>Lancet</i>	24/122	19.7 (13.5 to 27.7)	5/30	16.7 (6.9 to 34.0)	4/24	16.7 (6.1 to 36.5)	15/68	22.1 (13.7 to 33.4)
<i>Nature Med</i> †	12/41	29.3 (17.5 to 44.6)	11/27	40.7 (24.5 to 59.3)		NA	1/14	7.1 (0 to 33.5)
<i>N Engl J Med</i>	18/147	12.2 (7.8 to 18.6)	13/58	24.1 (13.5 to 34.8)	3/36	8.3 (2.1 to 22.6)	2/53	3.8 (0.3 to 13.5)
<i>PLoS Med</i>	13/57	22.8 (13.7 to 35.3)	7/25	32.0 (17.1 to 51.7)	4/17	23.5 (9.1 to 47.8)	2/15	13.3 (2.5 to 39.1)
Total	96/545	17.6 (14.6 to 21.0)	55/220	25.0 (19.7 to 31.1)	18/120	15.0 (9.6 to 22.6)	23/205	11.2 (7.5 to 16.3)
Ghost author	(n=622)		(n=226)		(n=134)		(n=262)	
<i>Ann Intern Med</i>	3/61	4.9 (1.1 to 14.0)	2/26	7.7 (1.0 to 25.3)	1/25	4.0 (0 to 21.1)	0/10	0 (0 to 24.9)
<i>JAMA</i>	11/140	7.9 (4.3 to 13.7)	8/56	14.3 (7.2 to 26.0)	1/24	4.2 (0 to 21.9)	2/60	3.3 (0.3 to 12.0)
<i>Lancet</i>	11/145	7.6 (4.2 to 13.2)	4/30	13.3 (4.7 to 30.3)	1/28	3.6 (0 to 19.2)	6/87	6.9 (2.9 to 14.5)
<i>Nature Med</i>	1/48	2.1 (0 to 11.9)	1/26	3.8 (0 to 20.5)	0/1	0	0/21	0 (0 to 13.5)
<i>N Engl J Med</i>	18/163	11.0 (7.0 to 16.9)	9/60	15.0 (7.9 to 26.3)	5/39	12.8 (5.1 to 27.2)	4/64	6.3 (2.0 to 15.4)
<i>PLoS Med</i>	5/65	7.7 (3.0 to 17.2)	3/28	10.7 (2.9 to 28.0)	0/17	0 (0 to 16.2)	2/20	10.0 (1.6 to 31.3)
Total	49/622	7.9 (6.0 to 10.3)	27/226	11.9 (8.3 to 16.9)	8/134	6.0 (2.9 to 11.5)	14/262	5.3 (3.1 to 8.8)

*Honorary author analyses are based on 545 articles with usable data; ghost author analyses are based on 622 articles with usable data.

†No review articles were eligible for honorary author analyses in *Nature Medicine*.

Hofmann et al. *BMC Medical Ethics* 2013, **14**:3
<http://www.biomedcentral.com/1472-6939/14/3>



RESEARCH ARTICLE

Open Access

Scientific dishonesty—a nationwide survey of doctoral students in Norway

Bjørn Hofmann^{1,2*}, Anne Ingeborg Myhr³ and Søren Holm^{1,4}

Table 1 Total number of questionnaires distributed and returned, together with the participants' answers to questions about academic background

Site: Questions	Bergen	Oslo 1	Oslo 2	Tromsø	Trondheim	All in Norway	All in Sweden
Returned/distributed (n)	38/56	47/48	31/39 [†]	32/39	41/80	189/262	134/230
Response rate (%)	67,9	97,9	79,5	82,1	51,3	72,1	58,3
Undergraduate studies in Norway n (%)	27 (71)	39 (83)	15 (47)	25 (78)	31 (76)	137 (72)	-
Doing Clinical/Basic/Other research	20/11/6	24/12/10	7/18/6	14/8/10	20/5/16	85/54/48	-
Years of experience: <1yr/1-2yrs/>2yrs	23/11/4	34/9/4	17/8/6	11/15/6	33/7/1	118/50/21	-
Lectures or courses in science ethics as part of undergraduate studies (Yes/No/I do not remember)	21/12/5	31/11/5	25/4/2	22/7/3	25/12/4	124/66/20	-
Obligatory course (Yes/No)	YES	YES	YES	YES	YES	262/262 [‡]	128/6
Obligatory exam (Yes/No)	YES	YES	YES	YES	YES	262/262	91/43

Data from Sweden reproduced from Nilstun 2010.

[†]One was returned blank (and is not counted in the response rate as it does not contribute with information).

[‡]The doctoral courses covering science ethics were obligatory at all universities in Norway, but the participation in the teaching every day was not obligatory.

**Table 2 Answers to questions about scientific dishonesty and other unethical behaviour in connection with research
(Those who have answered YES in percent)**

Questions	Bergen	Oslo 1	Oslo 2	Tromsø	Trondheim	All Norway	All Sweden
Have you, nationally or internationally, heard about anyone who during the last 12 months that has							
Fabricated data	21,1	28,3	33,3	36,7	29,3	29,2	29
Falsified data	18,4	23,9	23,3	30	24,4	23,8	31,8
Plagiarised data	13,2	19,6	20	23,3	29,3	21,1	24,2
Plagiarised publications	5,3	17,4	16,1	31,3	29,3	19,7	-
Have you yourself during the last 12 months been the object of pressure to							
Fabricate data	0	2,1	0	0	0	0,5	0
Falsify data	0	2,1	0	0	0	0,5	5,4
Plagiarise data	0	0	3,2	0	0	0,5	0
Plagiarise publications	0	0	0	0	0	0	-
Have you during the last 12 months been exposed to unethical pressure concerning							
Ordering of authors	13,2	8,7	12,9	12,5	7,3	10,6	8,5
Design/method	0	2,2	6,5	3,1	2,4	2,7	3,1
Results	0	0	12,9	0	2,4	2,7	0,8
Harassment	0	0	0	3,1	0	0,5	0,8
Have you during the last 12 months been affected by any consequences of scientific dishonesty							
Ethical	0	6,5	3,2	12,5	7,3	5,9	0
Legal	0	0	3,2	3,1	0	1,1	0
Methodological	0	4,3	0	3,1	7,3	3,2	-
Any other aspect	2,6	4,3	3,2	0	4,9	3,2	0

Data from Sweden reproduced from Nilstun 2010.

Table 4 Proportion who answer that they *strongly agree* or *agree* with claims about actions and behavior in scientific research given in percent

Questions	Bergen	Oslo 1	Oslo 2	Tromsø	Trondheim	All Norway
It is never appropriate to report experimental data that have been created without actually having conducted the experiment.	94,7	91,1	83,3	93,8	87,5	90,3
It is never appropriate to alter experimental data to make an experiment look better than it actually was.	100	93,5	90,3	100	97,5	96,3
It is never appropriate to try a variety of different methods of analysis until one is found that yields a result that is statistically significant.	68,4	47,8	51,6	73,3	71,8	62
It is never appropriate to take credit for the words or writing of someone else.	91,9	91,3	96,8	100	97,5	95,2
It is never appropriate to take credit for the data generated by someone else.	81,6	82,2	90,3	93,5	95	88,1
It is never appropriate to take credit for the ideas generated by someone else.	92,1	84,4	96,7	96,9	92,3	91,8
If you were confident of your findings, it is acceptable to selectively omit contradictory results to expedite publication.	8,1	14,3	23,3	12,9	7,7	12,8
If you were confident of your findings, it is acceptable to falsify or fabricate data to expedite publication.	2,6	17,8	6,5	13,3	10	10,3
It is more important that data reporting be completely truthful in a publication than in a grant application.	28,9	38,6	30	36,7	12,8	29,3
If you witness someone committing research misconduct, you have an ethical obligation to act.	81,6	80,4	96,8	87,1	92,5	87,1
If you had witnessed a co-worker or peer committing research misconduct, you would be willing to report that misconduct to a responsible official.	78,9	78,3	80,6	80,6	77,5	79
If you had witnessed a supervisor or principal investigator committing research misconduct, you would be willing to report that misconduct to a responsible official.	71,1	75,6	80	67,7	77,5	74,5
If fabricated data are discovered in a published paper, all co-authors must equally share in the blame.	60,5	28,3	51,6	48,4	45	45,7
If fabricated data are discovered in a published paper, all co-authors must receive the same punishment.	39,5	15,2	38,7	30	25,6	28,8

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JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Disclosure of Conflicts of Interest by Authors of Clinical Trials and Editorials in Oncology

Rachel P. Riechelmann, Lisa Wang, Aoife O'Carroll, and Monika K. Krzyzanowska

Table 4. Factors Associated With Conflict of Interest Disclosure by Any Author of Clinical Trials (n = 289)*

Variable	Unadjusted			Adjusted		
	Odds Ratio	95% CI	<i>P</i>	Odds Ratio	95% CI	<i>P</i>
Type of sponsorship						
Nonprofit organization only	Referent			Referent		
Industry sponsorship only	10.5	4.6 to 24	< .001	13.8	5.7 to 33	< .001
Both	5.6	2.3 to 14		5.8	2.3 to 14.7	
Not reported	1.6	0.8 to 3		2.2	1.1 to 4.4	
Continent of origin						
Europe	Referent		.04	Referent		.007
North America	1.9	1.1 to 3.4		2.9	1.4 to 5.7	
Asia/multinational/other	1	0.5 to 2.2		1.3	0.6 to 3.0	
Type of study						
Phase II	Referent		.26			
Phase I/phase I/II	1.7	0.8 to 3.3				
Randomized clinical trial	4	0.8 to 2.5				

*Adjusted for number of authors.



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Journal of
Cancer

www.ejconline.com

Disclosure of competing financial interests and role of sponsors in phase III cancer trials

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Table 2
Disclosure of the sponsor's role in 21 papers

Ref.	Design	Data collection	Data analysis	Data interpretation	Writing the report	Acknowledged role of sponsor
Icon [7]	Mixed	Ind	Ind	Ind	Ind	Sponsor only knew the allocated treatment Treatment assignments were kept in sealed envelopes by the sponsor
Langman [8]	NA	NA	NA	NA	NA	
Bramhall [9]	NA	NA	NA	NA	NA	
Rosell [10]	NA	NA	NA	NA	NA	Randomisation was performed centrally by the sponsor 'We thank' the sponsor 'for his extensive participation in the design and analysis of this study'
Littlewood [11]	Mixed	Mixed	NA	NA	NA	
Kurie [12]	NA	NA	NA	NA	NA	Sponsor approved the final draft of the article 'We thank' the sponsor 'for superb study management' Sponsor and authors agreed at the outset to publish the results at the earliest opportunity
Rothenberg [13]	NA	NA	NA	NA	NA	
Faiss [14]	Mixed	Mixed	Ind	Ind	NA	
Schouten [15]	Ind	Mixed	Ind	Ind	NA	'We thank' the sponsor 'for technical assistance' Randomisation was performed centrally by the sponsor 'We thank' the sponsor 'who managed this trial'
Cardenal [16]	NA	NA	NA	NA	NA	
Nabholtz [17]	NA	NA	NA	NA	NA	
Agarwala [18]	NA	NA	NA	NA	NA	The submitted manuscript was approved by the sponsor The source data verification was performed by the sponsor Internal sponsor data evaluation committee reviewed in a blinded all tumour assessment and overall response data
Cummings [19]	Ind	Mixed	Mixed	Ind	Mixed	
Sjöström [20]	NA	NA	NA	NA	NA	
Mouridsen [21]	NA	Mixed	NA	NA	NA	The decision to submit the paper for publication was determined by the study sponsor and was made in collaboration with principal researchers
FASG [22]	NA	NA	Mixed	NA	NA	
Kantarrjian [23]	Mixed	Mixed	Mixed	Mixed	Mixed	
Demetri [24]	Mixed	Mixed	Mixed	NA	Mixed	
Smith [25]	NA	Mixed	Mixed	NA	NA	
O'Brien [26]	Mixed	Mixed	Mixed	Mixed	Mixed	
Punt [27]	Mixed	Mixed	Sponsor	Mixed	Mixed	

NA, not available; Ind, independently (only by researcher); Mixed, performed by researcher and sponsor.

Reporting of Conflicts of Interest in Meta-analyses of Trials of Pharmacological Treatments

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ONFLICTS OF INTEREST (COIs) related to the funding of biomedical research by phar-

Context Disclosure of conflicts of interest (COIs) from pharmaceutical industry study funding and author-industry financial relationships is sometimes recommended for randomized controlled trials (RCTs) published in biomedical journals. Authors of meta-analyses, however, are not required to report COIs disclosed in original reports of included RCTs.

Objective To investigate whether meta-analyses of pharmacological treatments published in high-impact biomedical journals report COIs disclosed in included RCTs.

Data Sources and Study Selection We selected the 3 most recent meta-analyses of patented pharmacological treatments published January 2009 through October 2009 in each general medicine journal with an impact factor of at least 10; in high-impact journals in each of the 5 specialty medicine areas with the greatest 2008 global therapeutic sales (oncology, cardiology, respiratory medicine, endocrinology, and gastroenterology); and in the Cochrane Database of Systematic Reviews.

JAMA. 2011;305(10):1008-1017

Results Of 29 meta-analyses reviewed, which included 509 RCTs, only 2 meta-analyses (7%) reported RCT funding sources; and 0 reported RCT author-industry ties or employment by the pharmaceutical industry. Of 318 meta-analyzed RCTs that reported funding sources, 219 (69%) were industry funded; and 91 of 132 (69%) that reported author financial disclosures had 1 or more authors with pharmaceutical industry financial ties. In 7 of the 29 meta-analyses reviewed, 100% of included RCTs had at least 1 form of disclosed COI (pharmaceutical industry funding, author-industry financial ties, or employment), yet only 1 of these 7 meta-analyses reported RCT funding sources, and 0 reported RCT author-industry ties or employment.

Richard Doll. Une surprenante histoire de conflits d'intérêt

Richard Doll. A surprising story of conflicts of interest

J.-P. Sculier

Service des Soins intensifs et Urgences oncologiques & Oncologie thoracique,
Institut Jules Bordet, Centre des Tumeurs de l'ULB

RESUME

Richard Doll est un médecin épidémiologiste anglais très célèbre. On lui attribue la découverte du lien entre tabagisme et cancer bronchique. Sa réputation a été récemment entachée par deux faits, l'ignorance des études allemandes antérieures à ses travaux et l'existence de conflits d'intérêt majeurs avec l'industrie l'ayant conduit à minimiser le rôle des produits chimiques dans la carcinogenèse.

Rev Med Brux 2012 ; 33 : 487-90

ABSTRACT

Richard Doll is a very famous English physician epidemiologist. He is credited with discovering the link between smoking and lung cancer. His reputation was recently vitiated by two facts, ignorance of German studies prior to his work and the existence of major conflicts of interest with industry that led him to minimize the role of chemical products in carcinogenesis.

Rev Med Brux 2012 ; 33 : 487-90

Key words : conflicts of interest, Richard Doll

Opinion leaders

Intensive Care Med (2012) 38:1258–1271
DOI 10.1007/s00134-012-2614-0

SYSTEMATIC REVIEW

Christiane S. Hartog
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Charles Natanson
Junfeng Sun
Konrad Reinhart

Systematic analysis of hydroxyethyl starch (HES) reviews: proliferation of low-quality reviews overwhelms the results of well-performed meta-analyses

Fig. 1 Study flow. *Excluded languages: Japanese, Russian, Serbocroatian, Polish, Danish, Swedish, Spanish, Portuguese, Chinese, Lithuanian, Czech, Italian. †Unrelated conditions: ovarian hyperstimulation syndrome, retinal vein occlusion, small-volume resuscitation, idiopathic sensorineural hearing loss, eclampsia, diabetic ketoacidosis, chronic obstructive lung disease, polymer science, pharmacokinetics, apheresis, cell harvest, blood component harvest and organ preservation

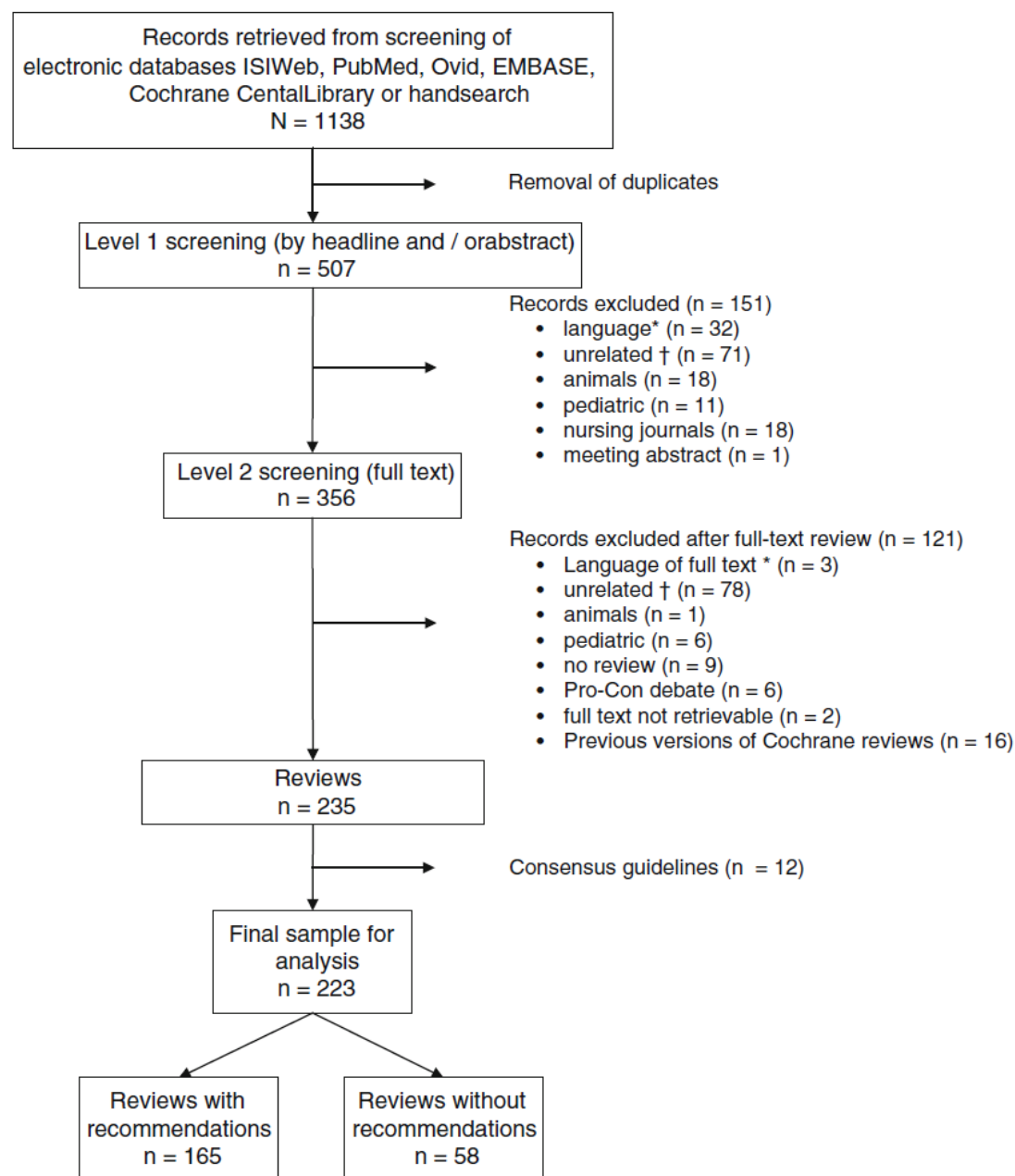
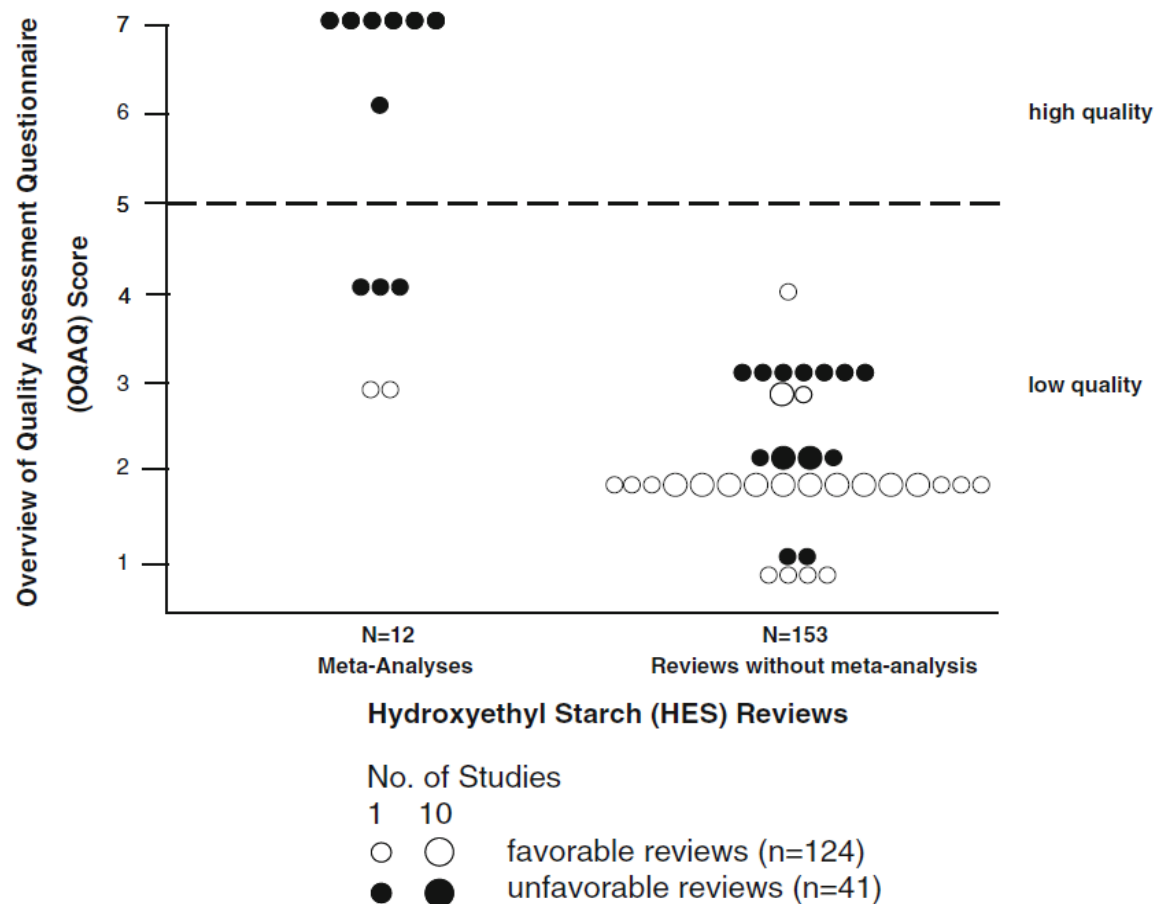
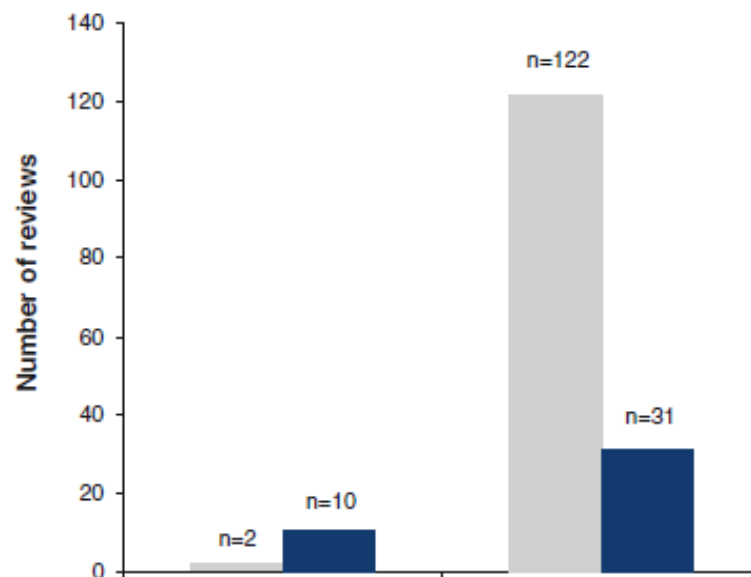


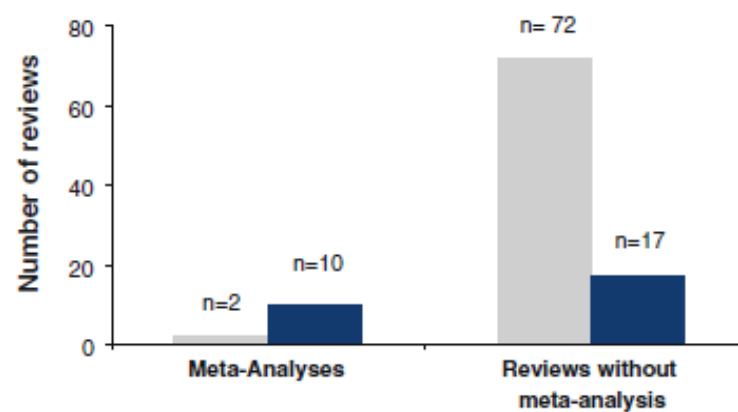
Fig. 2 Quality assessment of hydroxyethyl starch (HES) reviews by *OQAAQ* score. Reviews with an overall Overview of Quality Assessment Questionnaire (OQAAQ) score of ≥ 5 are regarded as having minor or minimal flaws, i.e., being of high quality. HES meta-analyses achieved significantly higher OQAAQ scores [$n = 12$; median (range) 6.5 (3–7)] than HES reviews without a meta-analysis [$n = 153$; 2 (1–4); $p < 0.0001$]. Meta-analyses that were not in favor of HES use achieved significantly higher OQAAQ scores [$n = 10$, 7 (4–7)] than favorable meta-analyses [$n = 2$, 3 (3–3); $p = 0.02$]



Reviews published 1970 to 2010



Reviews published 2000 to 2010



HES recommendations

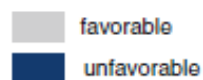


Table 2 The 14 most prolific authors of 124 favorable HES reviews and their potential conflict of interest with fluid manufacturers

Author	pCOI declared/ HES reviews by this author (<i>n</i>)	Years in which HES reviews were published	Years in which a pCOI related to a fluid manufacturer was declared by the author
1	1/21	1998–2009	2009 (“past research activities were funded by...”) [19]
2	1/5	2005, 2007–2009	2008 (lead author of a meta-analysis funded by and co-authored by a salaried employee of a fluid manufacturer) [70]; 2010 (“has received honoraria as a speaker and research support from...”) [86]
3	0/5	1997–2000	2003 (“unrestricted grant by fluid manufacturer”) [87]
4	0/4	1998, 2001, 2003	2006 (“received honoraria from ...”) [88]
5	1/4	2007–2009	2008 (“recipient of travel grants” and an “unrestricted educational grant”) [89]
6	0/4	1993, 2003–2005	2008 (“honoraria and unrestricted grants from...”) [54]
7	0/4	1991, 2000, 2004	2006 (“has received unrestricted grants”) [90]; see correction published [Br Med J 2006; 333 doi:10.1136/bmj.39041.739479.68]
8	0/3	1998, 2000, 2002	2002 (recipient of salary from fluid manufacturer) [91]
9	0/3	2008, 2009	2011 (recipient of salary from fluid manufacturer) [92]
10	3/3	2005, 2007–2008	2002–2008 (recipient of salary from fluid manufacturer) [70, 92]
11	0/4	1993, 1998, 2007, 2009	No pCOI identified
12	0/4	1982, 1986, 1996, 2002	No pCOI identified
13	0/3	1986, 1996, 2007	No pCOI identified
14	0/3	2004–2006	No pCOI identified

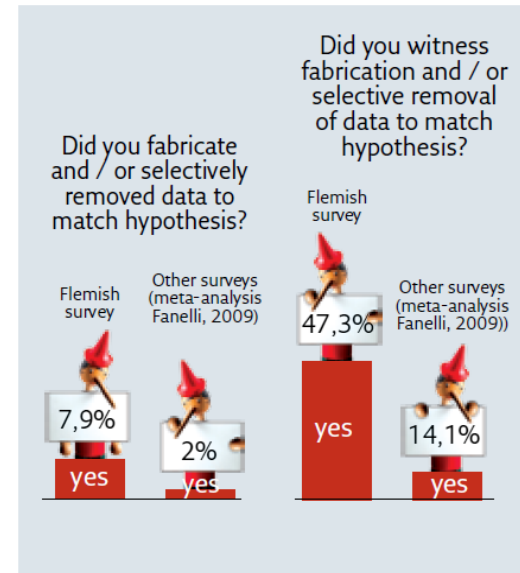
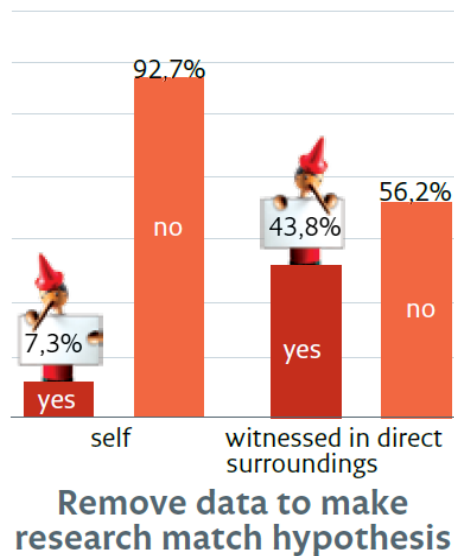
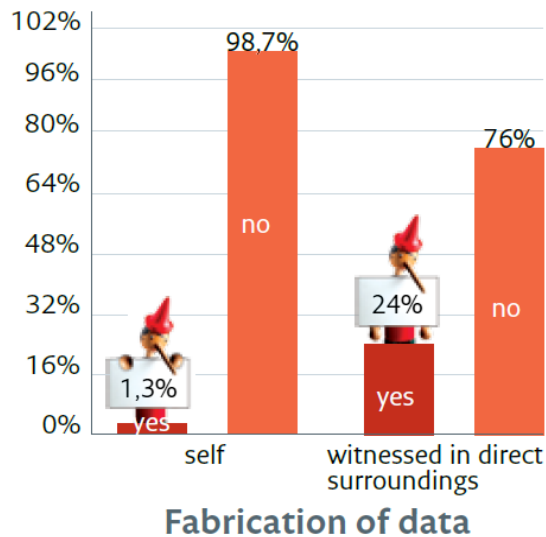
A potential conflict of interest (pCOI) was declared by four authors in six of these reviews. A pCOI with a fluid manufacturer was declared by additional six authors in other publications at the time or up to 3 years after their last HES review was published. Three authors (9/124 reviews) served as salaried Medical Officers for a

fluid manufacturing company at the time of writing or soon thereafter

Fourteen authors wrote 56 % (70/124) of all favorable reviews. The three most prolific authors (authors 1, 2 and 3) wrote 25 % (31/124) of these reviews; the remaining 11 authors wrote 31 % (39/124)

En Flandre

Fraud: black area (last three years)



Discovered Fraud

The number of well-founded complaints since the instalment of the commissions of scientific integrity (CWI) at the Flemish universities. As a comparison: Dutch journalist Frank van Kolfschooten has counted 35 well-founded cases (at 20 research institutes) in the Netherlands since 2005, 26 of which were penalised. (Book: *Ontspoorde wetenschap*).

University	Plagiarism	Fraud	Authorship	Other* ¹	Remark
University of Antwerp (2008-2012)	1	0	0	0	sanction: deprived of doctorate
University of Ghent (2011-2012)	1	1	0	0	sanction: none / under consideration
University of Leuven (2007-2012)	-	-	-	-	12 well-founded complaints, no further information
Free University of Brussels* ² (2002-2012)	1	0	0	0	sanction: reprimand in writing
University of Hasselt* ³	0	0	0	0	
Other research institutes: VIB: no information, VITO (2008-2012): 0, INBO: 2x conflict of interest, sanctions: limitation of issuing project advice, BIRA: 0, KBIN (2005-2012): 0, SOMA: 0, IMEC (2010-2012): 0, KMI: 0					

*1e.g. conflict of interest • *2 VUB has procedures to handle integrity complaints, but is now planning the instalment of a commission • *3 In 2013 a commission was installed at UHasselt. No complaints filed before.

DOI 10.1002/art.37874

Notice of Retraction of Two Articles (“Infliximab in patients with primary Sjögren’s syndrome: a pilot study” and “Infliximab in patients with primary Sjögren’s syndrome: one-year followup”)

Two articles from *Arthritis & Rheumatism*, “Infliximab in patients with primary Sjögren’s syndrome: a pilot study” by Steinfeld SD, Demols P, Salmon I, Kiss R, and Appelboom T (published online on October 12, 2001) and “Infliximab in patients with primary Sjögren’s syndrome: one-year followup” by Steinfeld SD, Demols P, and Appelboom T (published online on December 12, 2002) in Wiley Online Library (wileyonlinelibrary.com) have been retracted by agreement between the authors, the American College of Rheumatology, the journal Editor-in-Chief, and Wiley Periodicals, Inc.

In these articles we reported on an open-label study that appeared to demonstrate that infliximab treatment was effective in patients with primary Sjögren’s syndrome. We regretfully report that some methodologic errors in the treatment of the data were discovered. In fact, the results of the study did not demonstrate an effect of infliximab in Sjögren’s syndrome. Consequently, the results reported in these articles should be disregarded.

Serge D. Steinfeld, MD, PhD
Paul Demols, MD
Isabelle Salmon, MD, PhD
Robert Kiss, PhD
Thierry Appelboom, MD, PhD

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- Steinfeld SD, Demols P, Salmon I, Kiss R, Appelboom T. Infliximab in patients with primary Sjögren’s syndrome: a pilot study. *Arthritis Rheum* 2001;44:2371–5.
- Steinfeld SD, Demols P, Appelboom T. Infliximab in patients with primary Sjögren’s syndrome: one-year followup. *Arthritis Rheum* 2002;46:3301–3.

Les raisons pour frauder

Causes possibles

- Compétition scientifique
- Carriérisme
- Notoriété
- Volonté de convaincre
- Immoralité
- Perturbations psychopathologiques



Retractions in the scientific literature: do authors deliberately commit research fraud?

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ABSTRACT

Background Papers retracted for fraud (data fabrication or data falsification) may represent a deliberate effort to deceive, a motivation fundamentally different from papers retracted for error. It is hypothesised that fraudulent authors target journals with a high impact factor (IF), have other fraudulent publications, diffuse responsibility across many co-authors, delay retracting fraudulent papers and publish from countries with a weak research infrastructure.

random and to focus on a few dishonest authors or a few poorly-edited journals or a few countries in which research infrastructure is weak. We tested the ‘inadvertent error’ hypothesis by determining whether retractions are randomly distributed throughout the literature and found evidence that retractions are, in fact, clustered. Retracted papers are more likely to appear in journals with a high impact factor (IF), are more likely to involve certain ‘repeat offender’ authors and are more likely to

Fraud: causes and culprits as perceived by science and the media

Institutional changes, rather than individual motivations, encourage misconduct

Martina Franzen, Simone Rödder & Peter Weingart

CHARACTERISTICS OF BIOMEDICAL RESEARCH THAT MIGHT ENCOURAGE MISCONDUCT

In biomedical research, scrutiny—usually by peer review—is complicated by the specificities of biological material. It is not easy to replicate results from another research group without also obtaining the same materials, such as specific cell cultures. More generally, biomedical research depends to a large extent on experimental conditions and researchers' skills; therefore, the methods and techniques developed and refined in one laboratory might be difficult to adopt elsewhere. In fact, exact reproducibility of individual experiments is not even expected and therefore "may provide some apparent cover for a biologist who is tempted to cheat" (Goodstein, 2002). Papers on experimental results are examined for the consistency of the argument rather than for details of the underlying methodology. Even where replication of an experiment, or parts of it, would be feasible, this has little appeal to a peer pressured for time, resources and originality: "A chef cannot make a reputation for himself by demonstrating bad recipes" (Broad & Wade, 1982).

Biomedical research increasingly occurs in large compartmentalized laboratories, such as the sequencing centres of genome projects. This increases efficiency, but the mass production of data and publications with scores of authors dilutes the responsibility for integrity. In addition, co-authorship of a paper with fraudulent data usually has—beyond embarrassment—no major consequences (Wormer, 2006).

Biomedical research is increasingly characterized by its interdisciplinary and transdisciplinary nature. Working in multidisciplinary teams makes it more difficult to assess the quality of colleagues' work. Quality standards might not always be shared across disciplines, and mutual control is complicated.

Biomedical research is a highly competitive field in which everybody is aware of where the 'cutting edge' lies. The importance of publishing initially shapes the research: "Work must be rushed out to minimize the danger of being scooped" (Lawrence, 2003). What started as a competitive intellectual enterprise has turned into an intense competition for scarce resources. In trying to get ahead, individual scientists "invest substantial resources [...] and incur substantial opportunity costs" (Martinson *et al.*, 2006).

In biomedical research, publicly and privately funded endeavours are more intertwined than in most other fields. Scientific results need to satisfy financial interests. Issues of ownership create intense discussions, especially if the intellectual property at stake is worth a great deal. Industry has funded an increasing proportion of frequently cited studies in medical research: "Clinical research is dictated by the need to promote products of industry. In this sense, academics might have indeed lost control of the clinical research agenda" (Patsopoulos *et al.*, 2006).

Additional pressure comes from societal expectations, as in the Hwang case. The pressure to produce positive findings can prevent scientists from publicizing potential adverse effects (Mayntz, 1999). Highlighting diagnostic and therapeutic prospects from basic research is a convenient tool to attract both public attention and funding. Although most biomedical work is basic research, results are often linked to potential clinical applications.

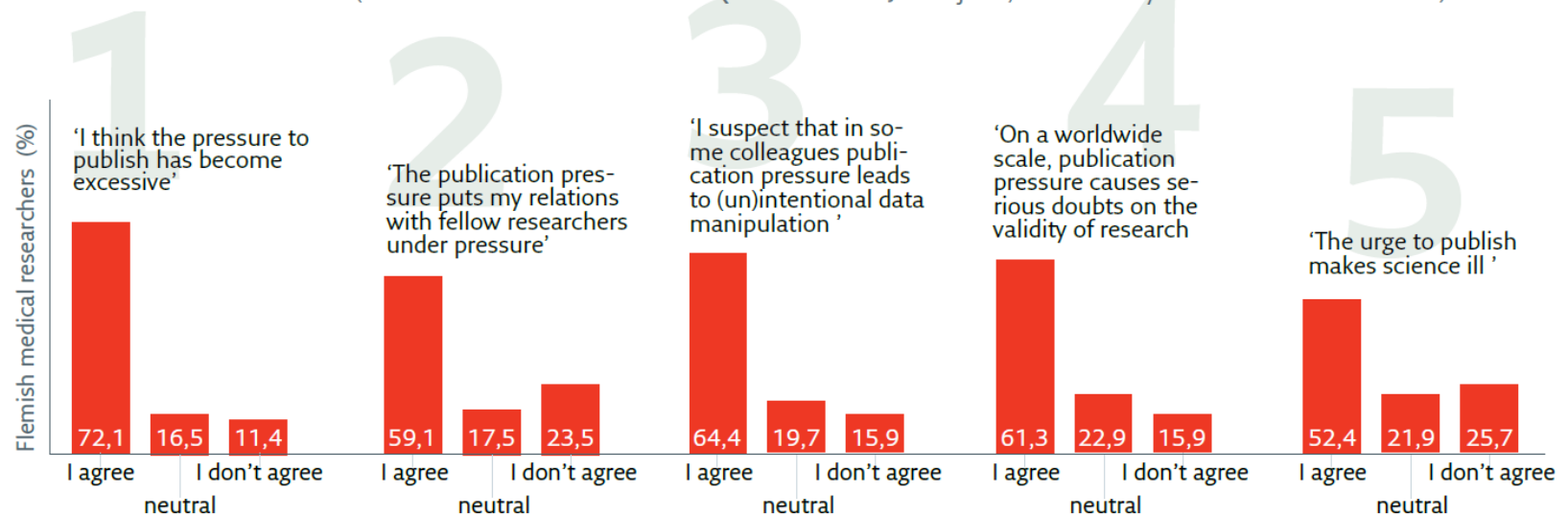
A more general phenomenon is the 'publish or perish' mentality in modern science. The number of publications and the impact factors of the journals in which one publishes have become crucial career factors. "Findings are sliced as thin as salami and submitted to different journals to produce more papers" (Lawrence, 2003). Such 'least publishable units' have caused an explosion of scientific publications in past decades. From 1998 to 2003, the number of new publications increased by 5% worldwide, with medical research and fundamental biology as the most prolific disciplines (Observatoire des Sciences et des Techniques, 2006). This increase is exacerbated by performance measures, which are based on publications and citation scores.

This also creates an intense pressure to publish in the top-tier journals. Having a paper published in *Science* or *Nature* has become an end in itself, the symbolic equivalent of a scientific achievement: "Although there are good reasons for publishing papers where they are more likely to be read, when we give the journal priority over the science we turn ourselves into philistines in our own world" (Lawrence, 2003). *Science* receives 12,000 submissions per year—and the number is rising—of which less than 8% are accepted (McCook, 2006). To capture the increasingly scarce attention of editors, scientists might be tempted to exaggerate results. The deluge of papers submitted to high-impact journals puts reviewers under extraordinary stress and might weaken the quality of the peer review process.

Publishing a paper in a high-impact journal is just the first step towards attaining visibility within both the scientific community and the general public. Journalists who cover science in the mass media almost exclusively rely on leading journals for story ideas (Pahl, 1998). Scientific institutions, individual scientists and even scientific journals join in today's "craze for publicity" (Lawrence, 2003). Given the high levels of research funding from the public sector, there is a need for societal accountability in addition to the traditional legitimation by peers. Media visibility justifies research expenditures and is therefore actively propagated by universities and funding bodies.

Publication pressure

(Based on the Publication Pressure Questionnaire of Joeri Tijdkink, VU University Medical Center Amsterdam)



Prévention et sanctions

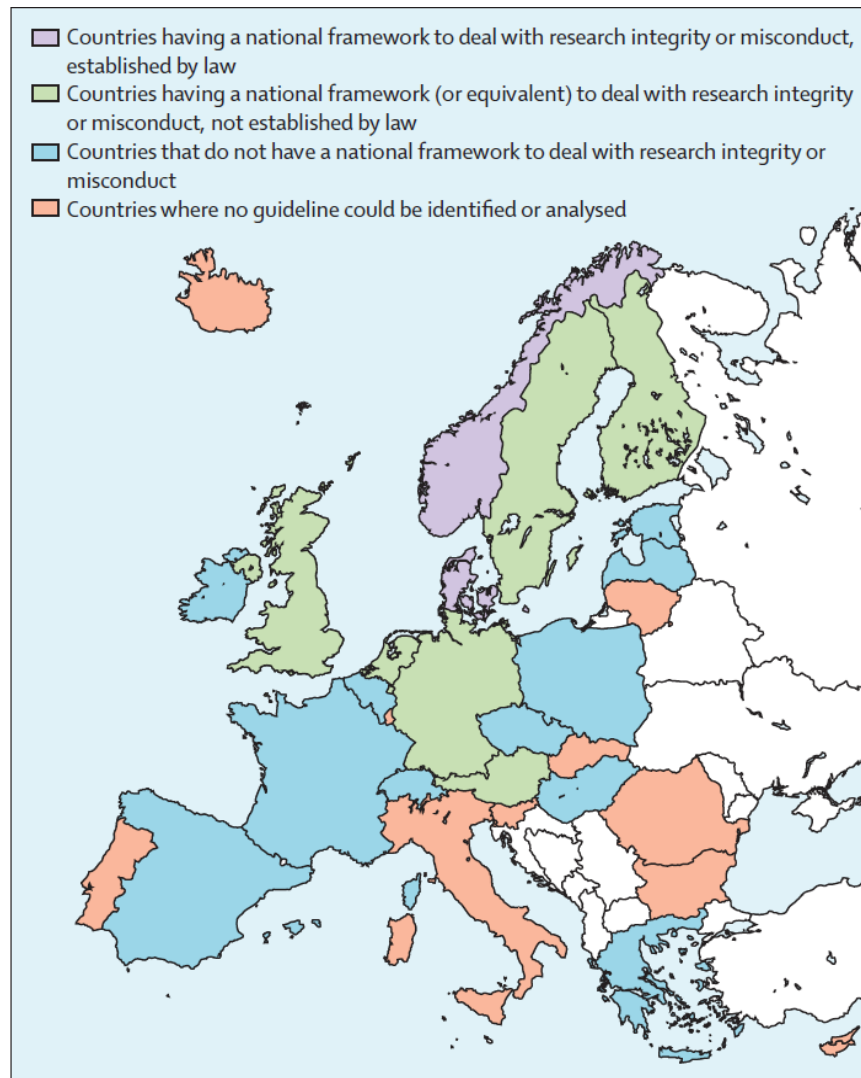


Figure: Classification of countries belonging to the European Union and European Free Trade Association according to some broad categories defined by how they deal with scientific integrity

Adapted from http://europa.eu/europedirect/meet_us/interactive_map/index_en.htm.

Table 1: Overview of the guidelines ranked according to the first date of publication within the country, guideline developer, year, title, word count (only English guidelines), and URL.

Country		Guideline developer	Year	Title	Word count	URL
LV		Latvian Academy of Sciences	1997	Scientist's Code of Ethics	2383	http://www.lzp.gov.lv/index.php?mylang=english
DE		German Research Foundation	1998	Recommendations of the Commission on Professional Self-Regulation in Science	16864	http://www.dfg.de/en/research_funding/legal_conditions/good_scientific_practice/index.html
FR	A	National Institute for Health and Medical Research	2000	Responding to Allegation of Scientific Misconduct: the Procedure at the French National Health and Medical Research Institute	3068	http://www.ncbi.nlm.nih.gov/pubmed/11273435
	B	National Centre for Scientific Research	2006	Scientific fraud at the National Centre for Scientific Research	442	http://www.cnrs.fr/fr/organisme/ethique/comets/avis.htm
	C	National Alliance for Life and Health Sciences	2011	Recommendations for the signing of scientific papers in the field of life sciences and health	929	http://www.inserm.fr/qu-est-ce-que-l-inserm/organigramme/comites/dis
NL	A	Royal Netherlands Academy of Arts and Sciences	2001	Note on Scientific Integrity	4632	http://www.knaw.nl/smartsite.dws?id=26101&lang=NL&pub=20011082
	B	Royal Netherlands Academy of Arts and Sciences and All European Academies	2003	Memorandum on Scientific Integrity	4776	http://www.allea.org/Pages/ALL/12/727.bGFuZz1FTkc.html
	C	Association of Universities in the Netherlands	2004	The Netherlands Code of Conduct for Scientific Practice. Principles of good scientific teaching and research (additions added in 2012)	3419	http://www.vsnl.nl/Universities/Quality-assurance/Code-of-conduct-for-scientific-practice-1.htm
PL	A	Polish Academy of Sciences	2001	Good manners in science. A set of principles and guidelines	7319	http://www.ken.pan.pl/images/stories/pliki/goodmanners.pdf
	B	Ministry of Science and Information Technology	2004	Good scientific research practice	5301	http://www.nauka.gov.pl/fileadmin/user_upload/37/23/37237/20080505_Good_practice_for_scientific_research_EN.pdf
EE		Estonian Academy of Sciences	2002	Code of Ethics for Estonian Scientists	1376	http://www.akadeemia.ee/en/documents/
FI	A	The National Advisory Board on Research Ethics	2002	Good scientific practice and procedures for handling misconduct and fraud in science	3980	http://www.tenk.fi/en/good_scientific_practice/printable.html
	B	The National Academy of Finland	2005	Guidelines on research ethics	2467	http://www.tenk.fi/en/links.html
UK	A	Wellcome Trust	2002	Guidelines on good research practice (updated in 2005)	1377	http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTD002753.htm
	B	Wellcome Trust	2002	Statement on the handling of allegations of research misconduct (updated in 2005)	2453	http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTD002756.htm
	C	Medical Research Council	2002	Good Research Practice	3904	http://www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC002415
	D	Medical Research Council	2009	Scientific Misconduct Policy and Procedure	5124	http://www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC005820
	E	UK Research Integrity Office	2008	Procedure for the investigation of misconduct in research	18759	http://www.ukrio.org/publications/
	F	UK Research Integrity Office	2009	Code of Practice for Research. Promoting good practice and preventing misconduct	10170	http://www.ukrio.org/publications/
	G	Universities UK	2012	The concordat to support research integrity	5795	http://www.universitiesuk.ac.uk/Publications/Pages/concordatatosupportresearchintegrity.aspx
NO	A	Law	2006	Act of 30 June 2006 No. 56 on ethics and integrity in research	572	http://www.etikkom.no/In-English/Act-on-ethics-and-integrity-in-research/
	B	The National Committee for Research Ethics in Science and Technology	2008	Guidelines for research ethics in science and technology	5876	http://www.etikkom.no/Documents/English-publications/Guidelines%20for%20research%20ethics%20in%20science%20and%20technology%20(2008).pdf

EL	A	Hellenic National Bioethics Commission	2008	National Commission of Bioethics. Opinion on research ethics in the biological science	925	http://www.bioethics.gr/document.php?category_id=55&document_id=601
	B	Hellenic National Bioethics Commission	2008	Report on research ethics in the biological sciences	4723	http://www.bioethics.gr/document.php?category_id=55&document_id=601
	C	Hellenic National Bioethics Commission	2009	Template of Code of Research Ethics for Biological Sciences	1545	http://www.bioethics.gr/document.php?category_id=55&document_id=760
	D	Hellenic National Bioethics Commission	2011	Opinion on conflict of interest in biomedical research	1289	http://www.bioethics.gr/document.php?category_id=55&document_id=1288
CH		Swiss Academies of Arts and Sciences	2008	Integrity in scientific research. Principles and procedures	6207	http://www.akademien-schweiz.ch/en/index/Portrait/Kommissionen-AG/Wissenschaftliche-Integritaet.html
BE		National Academy of Science	2009	Code of ethics for scientific research in Belgium	2650	http://www.kuleuven.be/cwi/english/Nationale%20code%20Belspo_en.pdf
DK	A	Danish Committees on Scientific Dishonesty	2009	Guidelines for Good Scientific Practice	14535	http://en.fi.dk/publications/2009/the-danish-committees-on-scientific-guidelines-for-good-scientific-practice/
	B	Law	2009	Consolidated Act No 306	1976	http://en.fi.dk/acts/executive-order-no.-306-of-20-april-2009
	C	Law	2010	Consolidated Act No 1064	6049	http://en.fi.dk/acts/act-on-the-research-advisory-system-etc/
LT		Lithuanian Academy of Sciences	2010	Science Ethics Code of the Lithuanian Academy of Sciences	10621	http://www.etas.lt/Content/ATT/EA/Scientific/2010/Integrity/ScienceEthicsCode

CODE D'ÉTHIQUE

DE LA RECHERCHE SCIENTIFIQUE EN BELGIQUE



Académie Royale des
Sciences, des Lettres
et des Beaux Arts de
Belgique



Koninklijke Vlaamse
Academie van België
voor Wetenschappen
en Kunsten



Académie Royale de
Médecine de Belgique



Koninklijke Academie
voor Geneeskunde
van België

Table 2: Overview of the sources referred to by at least three different European guidelines. The countries are ranked horizontally according to how frequent their guidelines refer to the organisations listed vertically. The sources are ranked according to how frequent they are referred to by the guidelines of the countries.

Organisations referred to by the guidelines			Guidelines referring to organisations															
National organisations			IE	SE	UK	DE	PL	ES	FR	NL	CH	BE	EL	HU	CZ	DK	NO	AT
Country	Organisation	URL																
USA	Office of Research Integrity	http://www.ori.dhhs.gov/	x	x	x	x	x		x	x							x	x
	National Academy of Sciences	http://www.nasonline.org/	x			x	x			x								
	National Science Foundation	http://www.nsf.gov/	x	x		x												
UK	Medical Research Council	http://www.mrc.ac.uk/index.htm	x		x	x	x	x	x									
	Wellcome Trust	http://www.wellcome.ac.uk/	x		x			x										
	Committee on Publication Ethics	http://publicationethics.org/	x		x				x									
	Research Councils UK	http://www.rcuk.ac.uk/Pages/Home.aspx	x		x		x											
DE	German Research Foundation	http://www.dfg.de/en/index.jsp	x			x	x	x	x		x							
	Max Planck Society	http://www.mpg.de/en				x	x								x			
DK	Danish Committees on Scientific Dishonesty	http://en.fi.dk/councils-commissions/the-danish-committees-on-scientific-dishonesty	x	x	x	x	x											
International organisations																		
Organisation		URL																
European Science Foundation		http://www.esf.org/home.html	x	x	x		x	x		x	x	x		x				
International Committee of Medical Journal Editors		http://www.icmje.org/	x	x	x	x			x							x	x	
World Medical Association		http://www.wma.net/en/10home/index.html		x	x	x	x	x									x	
All European Academies		http://www.allea.org/Pages/ALL/4/731.bGFuZz1FTkc.htm	x								x		x	x	x			
Unesco		http://www.unesco.org/new/en/unesco/	x	x				x					x				x	
Economic Co-operation and Development		http://www.oecd.org/	x	x	x							x						
Council of Europe		http://hub.coe.int/	x	x				x					x					
European Commission		http://ec.europa.eu/index_en.htm	x	x								x	x					

Table 3: Principles of integrity and the elements and actions incorporated in the definitions of misconduct of the European guidelines. The countries are ranked horizontally, firstly the countries that only refer to certain principles, according to how frequently their guidelines incorporate the elements listed vertically.

	Countries																		
Positive approach: principles of integrity	CZ	BE	EL	LV	IE	AT	FR	DE	UK	NO	HU	EE	CH	SE	ES	NL	DK	FI	PL
Honesty	x		x	x	x	x		x	x	x	x	x		x	x				x
Reliability	x	x			x					x	x	x		x		x	x		x
Impartiality		x		x	x						x	x		x	x	x			
Objectivity	x		x	x	x					x	x	x		x	x				
Openness or open communication	x				x				x	x	x				x		x	x	
Responsibility for future generations through education or training and skills	x				x				x		x	x		x	x				
Independence		x								x		x		x	x	x			
Integrity	x		x						x	x		x						x	
Duty of care					x				x		x		x						
Verifiability	x	x			x							x				x			
Accountability	x								x	x									
Rigour		x							x										
Negative approach: actions or events incorporated in clear definitions of misconduct																			
Fabrication					x	x	x	x	x	x	x	x			x		x	x	x
Falsification					x	x	x	x	x	x		x		x	x	x	x	x	x
Plagiarism					x	x	x	x	x	x	x	x			x		x	x	x
Possible intention					x		x		x	x			x	x			x		
Deception					x				x				x	x		x			
Mismanagement of primary data and/or materials					x	x			x		x		x						
Violation of the law							x		x		x		x						
Violation of intellectual property						x							x			x			
Misrepresentation									x	x								x	
Fraud										x		x						x	
Fraudulent claims of authorship													x				x		
Misconduct regarding publication					x						x		x						
Facilitating misconduct									x				x						
Breach of confidence as a reviewer or supervisor								x				x							

TABLE 2 Retraction problems and some suggested solutions

Problem	Reform	Suggested solutions
Honest retractions	Methodological	Embracing philosophy with formal training in logic, epistemology, and metaphysics Rigorous training in probability and statistics Increased use of checklists
Dishonest retractions	Cultural	Development of new reward systems with an emphasis on quality and a recognition of team science Reconsideration of the priority rule Establishment of a centralized database of scientific misconduct Enhanced focus on ethics

Du bon et du mauvais usage d'un indice bibliométrique, l'*Impact Factor*

Good and bad uses of the Impact Factor, a bibliometric tool

J.P. Sculier

Service de Médecine Interne, Institut Jules Bordet, Centre des Tumeurs de l'U.L.B.

RESUME

L'Impact Factor (IF) est un outil bibliométrique devenu très populaire dans les milieux académiques. Il a été inventé par les éditeurs de journaux scientifiques pour déterminer l'impact de ceux-ci dans la communauté scientifique et médicale en se basant sur le principe suivant : au plus les articles d'une revue sont cités en référence, au plus cette revue est lue et donc vendue. Diverses applications secondaires ont été trouvées à l'IF dont l'évaluation du curriculum académique d'un chercheur ou d'une équipe de recherche. Cette dernière approche n'est cependant pas validée et ce d'autant plus qu'un travail méthodologique a démontré l'absence de bonne corrélation entre l'IF d'une revue et les scores de qualité des articles y publiés.

Rev Med Brux 2004 ; 25 : 51-4

ABSTRACT

The Impact Factor (IF) is a bibliometric tool that has become very popular among the academic people. It has been developed by the publishers of scientific reviews to determine the impact of their journal among the scientific and medical community. It is based on the following principle : more often are cited the articles of a journal, more often is that journal read and thus sold. Various secondary applications have been performed with the IF, including the evaluation of the academic curriculum of a scientist or of a research group. That approach is however not validated, a recent methodological study having demonstrated a lack of good correlation between the IF of a given review and the quality scores of its published articles.

Rev Med Brux 2004 ; 25 : 51-4

Key words : Impact factor, bibliometric tool

Ferric C. Fang and Arturo Casadevall

Infect. Immun. 2011, 79(10):3855. DOI: 10.1128/IAI.05661-11.

Published Ahead of Print 8 August 2011.

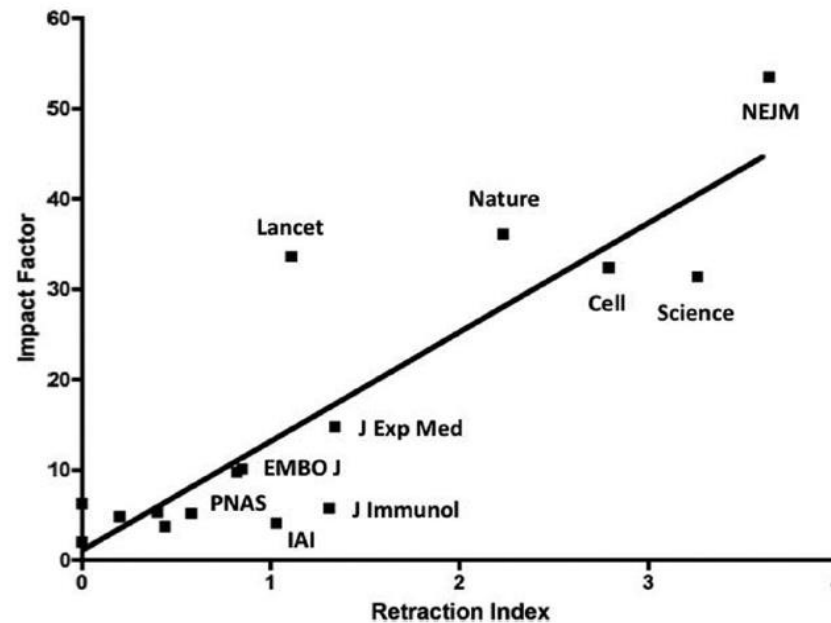


FIG. 1. Correlation between impact factor and retraction index. The 2010 journal impact factor (37) is plotted against the retraction index as a measure of the frequency of retracted articles from 2001 to 2010 (see text for details). Journals analyzed were *Cell*, *EMBO Journal*, *FEMS Microbiology Letters*, *Infection and Immunity*, *Journal of Bacteriology*, *Journal of Biological Chemistry*, *Journal of Experimental Medicine*, *Journal of Immunology*, *Journal of Infectious Diseases*, *Journal of Virology*, *Lancet*, *Microbial Pathogenesis*, *Molecular Microbiology*, *Nature*, *New England Journal of Medicine*, *PNAS*, and *Science*.

San Francisco Declaration on Research Assessment

Putting science into the assessment of research

There is a pressing need to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties.

To address this issue, a group of editors and publishers of scholarly journals met during the Annual Meeting of The American Society for Cell Biology (ASCB) in San Francisco, CA, on December 16, 2012. The group developed a set of recommendations, referred to as the *San Francisco Declaration on Research Assessment*. We invite interested parties across all scientific disciplines to indicate their support by adding their names to this Declaration.

General Recommendation

1. Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.

For funding agencies

2. Be explicit about the criteria used in evaluating the scientific productivity of grant applicants and clearly highlight, especially for early-stage investigators, that the scientific content of a paper is much more important than publication metrics or the identity of the journal in which it was published.
3. For the purposes of research assessment, consider the value and impact of all research outputs (including datasets and software) in addition to research publications, and consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

For institutions

4. Be explicit about the criteria used to reach hiring, tenure, and promotion decisions, clearly highlighting, especially for early-stage investigators, that the scientific content of a paper is much more important than publication metrics or the identity of the journal in which it was published.
5. For the purposes of research assessment, consider the value and impact of all research outputs (including datasets and software) in addition to research publications, and consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

For publishers

6. Greatly reduce emphasis on the journal impact factor as a promotional tool, ideally by ceasing to promote the impact factor or by presenting the metric in the context of a variety of journal-based metrics (e.g., 5-year impact factor, EigenFactor [8], SCImago [9], *h*-index, editorial and publication times, etc.) that provide a richer view of journal performance.
7. Make available a range of article-level metrics to encourage a shift toward assessment based on the scientific content of an article rather than publication metrics of the journal in which it was published.
8. Encourage responsible authorship practices and the provision of information about the specific contributions of each author.

For researchers

15. When involved in committees making decisions about funding, hiring, tenure, or promotion, make assessments based on scientific content rather than publication metrics.
16. Wherever appropriate, cite primary literature in which observations are first reported rather than reviews in order to give credit where credit is due.
17. Use a range of article metrics and indicators on personal/supporting statements, as evidence of the impact of individual published articles and other research outputs [11].
18. Challenge research assessment practices that rely inappropriately on Journal Impact Factors and promote and teach best practice that focuses on the value and influence of specific research outputs.

Reforming Science: Structural Reforms

Science has a critical role to play in addressing humanity's most important challenges in the twenty-first century. However, the contemporary scientific enterprise has developed in ways that prevent it from reaching maximum effectiveness and detract from the appeal of a research career. To be effective, the methodological and culture reforms discussed in the accompanying essay must be accompanied by fundamental structural reforms that include a renewed vigorous societal investment in science and scientists.

"There are three basic flavors of incentive: economic, social and moral."—Steven D. Levitt and Stephen J. Dubner, *Freakonomics* (31)

excessive competition is demoralizing, destructive, and counter-productive. Funding agencies cannot continue to reject more than nine-tenths of grant applications without seriously damaging science. In the current climate, good ideas are going unsupported

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Conflits d'intérêt : une notion souvent (volontairement) ignorée des médecins

Conflicts of interest : a concept often (voluntary) ignored by physicians

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RESUME

Un conflit d'intérêt est une situation délicate dans laquelle une personne ayant un poste de confiance, comme un médecin, a des intérêts professionnels ou personnels en concurrence avec la mission qui lui est confiée, le mettant en difficulté pour accomplir sa tâche avec impartialité. Les conflits d'intérêt commerciaux ou financiers d'un médecin peuvent être personnels et directs (cadeaux, voyages, honoraires, consultation, etc.) ou indirects (en rapport avec ceux de sa famille ou de son institution). Il existe également des conflits d'intérêt non financiers comme, par exemple, l'expertise anonyme de travaux d'un concurrent ou d'un ami. Une abondante littérature traite surtout des liens avec l'industrie pharmaceutique qui peuvent s'accompagner de restriction à la publication et à l'accès aux données générées par la recherche. Les médecins ont des difficultés à accepter de déclarer leurs conflits d'intérêt. Dans cet article, la littérature publiée sur le sujet est revue ainsi que les principaux biais que les conflits d'intérêt peuvent induire et les fautes que les médecins commettent en ne les déclarant pas. Les mesures qui peuvent être prises pour en réduire l'impact comme la déclaration des conflits d'intérêt sont envisagées.

Rev Med Brux 2010 ; 31 : 199-205

ABSTRACT

A conflict of interest is a delicate situation where a person with a confidence role like a physician has professional or personal interests competing with the mission he/she has received, making him difficult to perform his/her duty with impartiality. Commercial or financial conflicts of interest of a physician can be personal and direct (gifts, travels, honoraries, consultant fees, etc.) or indirect (in relationship with those of the family or of the institution). There are also non financial conflicts of interest such as the anonymous peer review of the work performed by a friend or a competitor. An abundant literature mainly deals with the links to the pharmaceutical industry. Those links may lead to restrictions for publication and access to the data obtained by the research. The physicians have difficulties for accepting disclosing their conflict of interest. In this article, the literature published on the topic is reviewed as well as the main biases they can induce and the mistakes made by the physicians who do not declare their conflicts. Measures that can be taken to reduce their impact such as the declaration of conflicts of interest are discussed.

Rev Med Brux 2010 ; 31 : 199-205

Key words : conflict of interest

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**CODE DE DÉONTOLOGIE ET D'INTÉGRITÉ EN MATIÈRE DE RECHERCHE,
DE VALORISATION ET DE CRÉATION DE SPIN-OFFS**

(approuvé par le Conseil d'administration en sa séance du 22 novembre 2010, modifié par lui en sa séance du 18 mars 2013)

- **Manquements en matière d'obtention de connaissances scientifiques** : l'invention de résultats de recherche, la falsification de données de base, la présentation et le traitement intentionnellement trompeurs de résultats de recherche, l'exclusion ou la suppression de données de base, la dissimulation de données, le refus d'accorder le droit de consulter les données de base à un tiers dûment autorisé à la faire.
- **Manquements relatifs à la collaboration et la publication** : la copie de données de bases sans l'accord du responsable concerné (piratage), le sabotage du travail d'autres chercheurs, le plagiat, l'obtention abusive du statut de co-auteur, l'omission délibérée de noms de collaborateurs ou de contributions essentielles d'autres auteurs, les citations intentionnellement erronées et les indications incorrectes sur le stade d'avancement de ses propres travaux.
- **Manquements liés au financement de la recherche** : la dissimulation de conflits d'intérêts ou d'arrangements qui pourraient influencer l'évaluation de résultats scientifiques, l'acceptation d'accords de collaboration mettant en péril l'indépendance de jugement du chercheur ou sa liberté de publier, l'acceptation de sources de financement éthiquement incompatibles avec le rôle du chercheur au sein de l'ULB.
- **Manquements liés à des missions d'expertise scientifique réalisées pour le compte de tiers** : la violation du devoir de discrétion et de réserve; la critique erronée de projets, programmes ou manuscrits; le jugement sans fondement dans le but d'obtenir des avantages.

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COMMISSION DE DEONTOLOGIE ET INTEGRITE EN RECHERCHE
CONSEIL A L'INTEGRITE

Composition 2012 et 2013¹

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ETHIQUE

Les mauvaises conduites en matière de recherche et de publication scientifique et médicale

Bad behaviors regarding research and scientific and medical publication

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