FURTHER MEDLINE REJECTION OF *FLUORIDE*

SUMMARY: The further rejection by the US National Library of Medicine of *Fluoride* from inclusion in MEDLINE is reported. After reviewing the explanations offered for the continued exclusion from MEDLINE, the editor-in-chief of *Fluoride* concludes that this negative decision appears to stem more from the unyielding endorsement of water fluoridation and dental fluoride use as completely safe by the US Department of Health & Human Services than from any appropriate objective criteria.

Keywords: MEDLINE exclusion of *Fluoride*; National Library of Medicine; US federal endorsement of water fluoridation.

Over the years, a number of attempts have made to have *Fluoride* included in MEDLINE with the most recent application being made on 2 July 2013 with the sending in hardcopy for review, to the National Library of Medicine Literature Selection Technical Review Committee (LSTRC), *Fluoride* 45(1, 2, 3 Pt 2, and 4) and subsequently, after publication, *Fluoride* 46(1-3).[1-5] On 5 December 2013, Joyce Backus, Associate Director, Library Operations, advised that unfortunately *Fluoride* did not score high enough to be recommended for inclusion in MEDLINE. The score of 1.5 out of 5 was below the 3.75 or greater required for selection for indexing. A summary of the LSTRC's assessment is shown below.

Literature Selection Technical Review Committee
--- Journal Review Summary ---

Title: Fluoride **Date of Review: 10/24/13**

Scope: __ Core biomedical subjects _X_ Related to medicine __ More appropriate in another database

Coverage: ___ Predominantly U.S. _X_ International __ Regional __ Local

1. Quality	Poor 0	Fair 1	Moderate 2	Good 3	Excellent 4	Outstanding 5	N/A
Scientific Merit (validity, currency of information & references, originality, contribution to field)							
Review Articles		X					
Clinical Research		X					
Basic Research			X				
Other (Case Reports, Editorials, etc.)			X				
Authors/Institutions		X					
Editorial Work (credibility of contents)							
Editorial Board Quality			X				
External Peer Review		X					
Production Quality (layout, printing, readability, usability, graphics; number and location of advertisements)							
Print Quality		X					
Online Quality	X						

2. Importance	None 0	Little 1	Moderate 2	High 3	Very High 4	Essential 5	N/A
Researchers			X				
Clinicians in the Field		X					
Clinicians not in the Field		X					
Educators		X					
Administrators	X						
Allied Health Professionals	X						
Students		X					
Policy Makers	X						

3. Ethics Policies/Statements	Policy Exists			Policy is Adequate		Policy Consistently Followed	
	N/A	Yes	No	Yes	No	Yes	No
Conflict of Interest			X				
Human/Animal Rights		X		X			X
Informed Consent			X				

	None	Little	Moderate	High	Very High	Essential	N/A
Ethics Policies		X					

Area(s) for Improvement: The online version is very difficult to use and needs much improvement.

Overall Comments: Articles seem to emphasize fluoride as a biological or toxicological detriment. The majority of papers are reports of original basic science, animal and plant research. Many articles are brief. Black-and-white illustrations and figures lack sufficient detail/clarity. The editorial board and authors are international. There are 4-5 abstracts at the end of each issue. (However, it is unclear why they were included and where they came from?) Clicking-on links to ethics forms brings-up an NLM error that is a security risk. The guidelines for authors could not be found.

	Lowest					Highest
OVERALL RATING	0	1	2	3	4	5

[Score = 1.5]

Comments on the summary:

QUALITY AND AREA FOR IMPROVEMENT: The LSTRC found the scientific merit, editorial work, and production quality to be fair to moderate apart from the online quality which was rated as poor. In addition, the online version was noted to be very difficult to use and needed much improvement. The Society's website and the online version have now been reviewed by a professional website designer. The use of pdf files to retain the article formatting was seen to be appropriate and the naming and storage of the files on the server was assessed as being done in a

systematic manner and not needing to be changed. The index page has been redesigned to make it easier to use.

IMPORTANCE: The importance of *Fluoride* was seen to be moderate for researchers in the field but of little relevance to clinicians, educators, or students, and of no importance to administrators, allied health professionals, or policy makers. Why basic information on the toxicology of fluoride, such as is contained in many of the articles published in *Fluoride*, is of no importance to the makers of some public health policies, e.g., the addition of sodium fluoride or sodium silicofluoride to drinking water to prevent dental decay, the use of sulfuryl fluoride for food fumigation, and air pollution standards, is not elaborated on by the LTSRC.

ETHICS POLICIES AND STATEMENTS: The LTSRC found that an adequate policy existed for human and animal rights, but that the policy was not consistently followed, and that there was little policy for ethics. They found that no policies existed for conflict of interest and informed consent.

The information given in the general information pages of *Fluoride* 45(1) to *Fluoride* 46(3), apart from in *Fluoride* 45(3 Pt 2) where reference is made to *Fluoride* 45(3 Pt 1), states:

> The Editorial Officers of *Fluoride* strongly support the maintenance of the highest standards of animal care and the control of discomforts to animals in research. Authors must indicate whether their institutional and national guidelines for the care and use of laboratory animals were followed. When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. JAMA 2000 Dec 20;284(23):3043-5).

The above statement is also repeated in the guidelines for authors in *Fluoride* 45(1) and 46(1). It is not clear how the LTSRC found that there was little policy for ethics and that no policies existed for conflict of interest and informed consent. The Helsinki Declaration of 1975 and its subsequent revisions, which is referred to in both the general information pages and the guidelines for authors, is regarded as a standard for the ethical principles for medical research involving human subjects and has a section on informed consent which includes reference to any possible conflicts of interest.

Nonetheless, the information in the general information pages was updated and expanded in *Fluoride* 46(4) to state:

> The Editorial Officers of *Fluoride* strongly support the maintenance of the highest standards of animal care and the control of discomforts to animals in research. Authors must indicate whether their institutional and national guidelines for the care and use of laboratory animals were followed. When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964, as revised in 2013, available from http://www.wma.net/en/30publications/10policies/b3/index.html. *Fluoride* follows the recommendations of the International Committee of Medical Journal Editors (ICMJE), Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals, updated

December 2013, and available from: http://www.icmje.org/about-icmje/faqs/icmje-recommendations/. The recommendations describe author responsibilities for conflicts of interest, human and animal rights, informed consent, and ethical policies. Authors should state if the ICMJE recommendations have been followed.

The instructions for authors in the general information pages of the current issue have been changed to require each author to complete the ICMJE conflict of interest disclosure form by including the following:

Fluoride follows the recommendations of the International Committee of Medical Journal Editors (ICMJE), and their Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals, updated December 2013, and the ICMJE form for disclosure of potential conflicts of interest are available from: www.icmje.org. The recommendations describe author responsibilities for conflicts of interest, human and animal rights, informed consent, and ethical policies. The ICMJE conflict of interest disclosure form should be downloaded, completed electronically by each author, and then submitted to *Fluoride* with the manuscript. Authors should state if the ICMJE recommendations have been followed.

OVERALL COMMENTS: The LSTRC notes that the articles seem to emphasize fluoride as a biological or toxicological detriment. *Fluoride* publishes articles based on their scientific merit. The adverse biological and toxicological effects described for fluoride reflects the reality of its actions. Fluoride has not been demonstrated to be an essential trace element or to be required for the healthy development of teeth or bones. Papers making the contrary assertions, that fluoride is an essential trace element or is required for healthy teeth or bones, in the absence of proper supportive documentation, would not be seen as meeting the necessary scientific standard to merit publication. Similarly, it would not be remarkable for papers on mercury, lead, or arsenic to emphasize the detrimental biological or toxicological actions of these elements.

The LSTRC correctly notes that the majority of papers are reports of original basic science, including both animal research and plant research. It also observes that many articles are brief. This is in accordance with the guidelines for authors in *Fluoride* 45(1) and 46(1) where it is noted:

In order to publish as many acceptable research reports and reviews as possible within the framework of budgetary limitations and the necessary all-volunteer editing and typesetting of *Fluoride*, manuscripts need to be written as concisely as possible, omitting nonessential background information familiar to most of our readers and excluding unsupported claims.

Because far more manuscripts are being received than we have space to publish, research reports should be kept as short as possible, generally limited to 5 or 6 manuscript pages, including figures and tables (but exclusive of references). Exceptions will be made, however, for longer papers of unusually high quality and novelty. For work of limited scope or studies dealing with well-known or well-studied phenomena, submissions as shorter research notes of 2, 3, or 4 manuscript pages are required.

Manuscripts dealing with fluoride levels in drinking water, water defluoridation, dental restoratives, and methods to counter-act fluoride toxicity have become too numerous to publish unless they are very short and concisely written. Even then, if they do not present distinctly novel findings, such reports are often more appropriate for publication in environmental geochemical, water management, dental, and toxicology journals.

It is noted by the LSTRC that the black-and-white illustrations and figures lack sufficient detail/clarity but no specific examples of this are given. Considerable care is taken in typesetting to achieve the best clarity possible and captions are

often retyped to improve clarity when required. Examples where the detail and clarity are quite sufficient are Figures 1–2 in *Fluoride* 45(4):343-8, Figures 1–10 in *Fluoride* 45(4);371-6, and Figures 1–4 in *Fluoride* 46(1):19-24.

The LSTRC correctly notes that the editorial board and authors are international. They state that 4–5 abstracts are at the end of each issue and that it is unclear why they were included or where they came from. The range for the number of abstracts from the literature in *Fluoride* 45(1) to 46(3) was 0–15 apart from 92 abstracts in the special issue of *Fluoride* 45(3 Pt 1) which were submitted for presentation at the XXXth Conference of the International Society for Fluoride Research, *Advances in Fluoride Research*, 2010 Sep 5–8, Szczecin, Poland. Abstracts began to be included in *Fluoride* with the second issue *Fluoride* 1968;1(2) and, as noted by Foulkes, have been included to provide easy access to many studies published elsewhere.[2] For example, the *Chinese Journal of Endemiology, Zhonghua Difangbingxue Zazhi*, has many articles on fluoride research but is not currently indexed for MEDLINE. Similarly, one of the abstracts in this issue of *Fluoride*, on page 98, on the effects of fluoride exposure on the intelligence of school children in Madhya Pradesh, India, is on a topic of current interest but is from *Journal of Neurosciences in Rural Practice*, a journal not currently indexed by MEDLINE.[6]

The LSTRC notes that clicking on the links to ethics forms brought up a NLM error that was a security risk. The link to the site for the International Committee of Medical Journal Editors (ICMJE) in the guidelines to authors in *Fluoride* 45(1) and 46(1) of www.icmje.org/urm_main.html is no longer current and the new address of www.icmje.org for downloading the *Recommendations for the conduct, reporting, editing and publication of scholarly work in medical journals* and *ICMJE form for disclosure of potential conflicts of interest* will now be given in the general information pages and the guidelines for authors.

The LSTRC notes that the guidelines for authors could not be found. The guidelines were included in the issues sent to the LSTRC, in *Fluoride* 2013;45(1):67-74 and *Fluoride* 2014;46(1):40-8. The location of the guidelines is also mentioned in the instructions to authors section of the general information pages of *Fluoride* 45(1) to 46(3) apart from in 45(3 Pt 2) where 45(3 Pt 1) is referred to and in 46(2) where the page numbers 40–48 are correct but it incorrectly refers to “this issue” rather than to the “previous issue.” A link to the guidelines is also present on the index page of the website at www.fluorideresearch.org. The LSTRC’s failure to find the guidelines suggests that their scrutiny of the issues supplied and of the website was less than thorough.

The LSTRC found that *Fluoride*, with a score of 1.5 out of 5 did not come close to the level required for MEDLINE indexing of 3.75.[7] The decision whether or not to index a journal is made by the Director of the National Library of Medicine, based on considerations of both scientific policy and scientific quality.[8] The MEDLINE® Journal Selection fact sheet notes that the scientific merit of a journal’s content is the primary consideration in selecting journal for indexing.[8] The validity, importance, originality, and contribution to the coverage of the field

of the overall contents of each title are the key factors considered in recommending a title for indexing, whatever the intended purpose or audience.[8] As previously noted,[5] in making this decision not to index *Fluoride* in MEDLINE, the National Library of Medicine clearly appears to be out of step with the National Research Council of the US National Academies whose 2006 report on *Fluoride in drinking water: a scientific review of EPA's standards* [9] contains far more citations (57) of research published in *Fluoride* than in any other journal among its 1077 references.[4] The NRC report calls for further research in many health-related areas including the effects of fluoride on intellectual abilities.[10] The present issue of *Fluoride* has such a paper, on pages 9–14, but its not being indexed in MEDLINE will impede its consideration among biomedical researchers.[11]

Although the LSTRC's summary suggests that *Fluoride* was rejected for inclusion in MEDLINE because of professional shortcomings and insufficient scientific quality, the rejection really appears to stem from the fact that peer-reviewed reports in *Fluoride* by well-qualified researchers deal with toxic effects of fluoride that call into question the credibility of the unwavering endorsement of water fluoridation and dental fluoride use as completely safe by the US Department of Health & Human Services. This observation has been made previously[1-5,12-14] but the further MEDLINE rejection of *Fluoride* does little to undermine it as being a valid interpretation. Shooting the messenger by rejecting *Fluoride* from MEDLINE indexing is not a constructive way to resolve this dilemma. It remains true that paradigm shift is a slow process, a conversion process that cannot be forced, and that "Science advances funeral by funeral."[14] As noted by Max Plank, "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it."[14]

Grandjean described how a misleading fusillade was aimed at the authors of a careful meta-analysis of 27 different studies on fluoride neurotoxicity by worried fluoridation proponents and regulators and wondered what it would take to convince critics like that.[15] As awareness of the deleterious effects on biological functioning of fluoride, the leader on a list of "demolition and death elements" becomes more widespread young people will come to grow up with the knowledge that fluoride is best avoided along with arsenic, mercury, lead, and uranium.[16] Arthur Schopenhauer noted that "All truth passes through three stages: first it is ridiculed, second it is violently opposed, third it is accepted as being self-evident."[14] Despite opposition by the Director of the National Library of Medicine to *Fluoride* being indexed in MEDLINE, the International Society for Fluoride Research will continue to publish peer-reviewed research papers from qualified researchers in its open access journal, without an embargo period or an author fee, for as long as the need for such a journal exists and it will be sought out by those wishing to be fully informed on all aspects of fluoride research. We will heed the call of Hans Moolenburgh to "Therefore, keep enlightening the public! Keep your

integrity, keep publishing honest science, and let the truth eventually do the rest!"[12]

Bruce Spittle, Editor-in-Chief

REFERENCES

1 Burgstahler AW. George L Waldbott—a pre-eminent leader in Fluoride research [Waldbott Commemoration]. Fluoride 1998;31(1):2-4.
2 Foulkes RG. Thirty-five years of *Fluoride* [guest editorial]. Fluoride 2002;35(4 Pt 1):213-27.
3 Waldbott GL, Burgstahler AW, McKinney HL. Fluoridation: the great dilemma. Lawrence, Kansas: Coronado Press; 1978. p. 344-7.
4 Spittle B. Fluoride Fatigue. 3rd edition. Dunedin, NZ: Paua Press; 2008. p. 48.
5 Burgstahler AW, Spittle B. MEDLINE again rejects *Fluoride* [editorial]. Fluoride 2009;42(4);256-9.
6 Saxena S, Sahay A, Goel P. Effect of fluoride exposure on the intelligence of school children in Madhya Pradesh, India. J Neurosci Rural Pract 2012;3(2):144-9.
7 US National Library of Medicine. FAQ: Journal Selection for MEDLINE® Indexing at NLM. Bethesda, MD: US National Library of Medicine; 2013. [updated 2013 Oct 22; cited 2014 May 4]. Available from: file:///F:/FAQ%20%20Journal%20Selection%20for%20MEDLINE%20Indexing%20at%20NLM.htm
8 US National Library of Medicine. Fact Sheet. MEDLINE® journal selection. Bethesda, MD: US National Library of Medicine; 2013. [updated 2013 Nov 6; cited 2014 May 4]. Available from: file:///F:/MEDLINE%C2%AE%20Journal%20Selection%20Fact%20Sheet.htm
9 Doull J, Boekelheide K, Farishian BG, Isaacson RL, Klotz JB, Kumar JV, Limeback H, Poole C, Puzas JE, Reed N-MR, Thiessen KM, Webster TF, Committee on Fluoride in Drinking Water, Board on Environmental Studies and Toxicology, Division on Earth and Life Studies, National Research Council of the National Academies. Fluoride in drinking water: a scientific review of EPA's standards. Washington, DC: The National Academies Press; 2006.
10 Doull J, Boekelheide K, Farishian BG, Isaacson RL, Klotz JB, Kumar JV, Limeback H, Poole C, Puzas JE, Reed N-MR, Thiessen KM, Webster TF, Committee on Fluoride in Drinking Water, Board on Environmental Studies and Toxicology, Division on Earth and Life Studies, National Research Council of the National Academies. Fluoride in drinking water: a scientific review of EPA's standards. Washington, DC: The National Academies Press; 2006. pp. 222-3.
11 Karimzade S, Aghaei M, Mahvi AH. Investigation of intelligence quotient in 9–12-year-old children exposed to high- and low-drinking water fluoride in west Azerbaijan province, Iran. Fluoride 2014;47(1):9-14.
12 Moolenburgh H. Comment on editorial report: MEDLINE again rejects *Fluoride* [letter to the editor]. Fluoride 2010;43(1);81-4.
13 Krook L. Comment on editorial report: MEDLINE again rejects *Fluoride* [letter to the editor]. Fluoride 2010;43(10:85.
14 Spittle B. Fluoridation promotion by scientists in 2006: an example of "tardive photopsia [editorial]. Fluoride 2006;39(30:157-62.
15 Grandjean P. Only one chance: how environmental pollution impairs brain development—and how to protect the brains of the next generation. In: Environmental ethics and science policy series. Shrader-Frechette K, general editor. New York: Oxford University Press; 2013. p. 146.
16 Meiers P. U kunt meer dan u denkt. Aanvullende maatregelen om kanker te helpen voorkomen en genezen [You can accomplish more than you think you can: supplementary measures to help prevent and heal cancer][book review editorial of Moolenburgh HC. U kunt meer dan u denkt. Aanvullende maatregelen om kanker te helpen voorkomen en genezen (You can accomplish more than you think you can: supplementary measures to help prevent and heal cancer, in Dutch). Rotterdam, The Netherlands: Lemniscaat; 2011].