

# The Quality Checklists for Health Professions Blogs and Podcasts

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April 17, 2023

## Abstract

Blog and podcast use is rising among learners in the health professions. The lack of a standardized method to assess the quality of these resources prompted a research agenda aimed at solving this problem. Through a rigorous research process, a list of 151 quality indicators for blogs and podcasts was formed and subsequently refined to elicit the most important quality indicators. These indicators are presented as Quality Checklists to assist with quality appraisal of medical blogs and podcasts.



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## ABSTRACT

Blog and podcast use is rising among learners in the health professions. The lack of a standardized method to assess the quality of these resources prompted a research agenda aimed at solving this problem. Through a rigorous research process, a list of 151 quality indicators for blogs and podcasts was formed and subsequently refined to elicit the most important quality indicators. These indicators are presented as *Quality Checklists* to assist with quality appraisal of medical blogs and podcasts.

### READ REVIEWS

### WRITE A REVIEW

#### CORRESPONDENCE:

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#### DATE RECEIVED:

November 13, 2015

#### DOI:

10.15200/winn.144720.08769

#### ARCHIVED:

November 10, 2015

#### KEYWORDS:

digital scholarship, medical education, open educational resources

#### CITATION:

Isabelle N Colmers, Quinten S Paterson, Michelle Lin, Brent Thoma, Teresa M Chan, The Quality Checklists for Health Professions Blogs and Podcasts, *The Winnower* 2:e144720.08769, 2015, DOI: 10.15200/winn.144720.08769

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## INTRODUCTION

Blog and podcast use in the realm of medical education is rapidly increasing (Thoma et al. 2014), especially among emergency medicine and critical care learners (Cadogan et al. 2014; Loeb et al. 2014; Mallin et al. 2014; Purdy et al. 2015). However, there is no standardized method to assess the quality of these resources. This dilemma prompted research aimed at determining which quality indicators are important for medical education blogs and podcasts. The resulting work spanned three studies and resulted in a list of quality indicators deemed valuable by content producers and general medical educators. This paper describes the research agenda and the development of two quality-appraisal tools from the results of these studies. It is hoped that these tools will facilitate the application of this literature in the evaluation of blogs and podcasts.

## METHODS

### Study #1

A systematic review of the literature was conducted and quality indicators for secondary educational resources were extracted. These quality indicators underwent a qualitative analysis to identify and categorize those that were relevant for blogs and/or podcasts. This process resulted in a list of 151 quality indicators in three main categories (credibility, content, and design) (Paterson, Thoma, et al. 2015). This list, though comprehensive, was too lengthy to be utilized in practice.

### Study #2

A modified Delphi study was conducted to develop consensus on the most important quality indicators. A large, internationally representative panel of expert content producers of online medical education

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resources completed two iterative surveys. From the list of 151 quality indicators, 14 quality indicators for blogs and 26 quality indicators for podcasts were endorsed by  $\geq 90\%$  of the participants (Thoma et al. 2015).

### Study #3

Recognizing the potential bias of content producers, a group of general medical education experts was sought to conduct a second modified Delphi study. Expert medical educators attending the Social Media summit, which preceded the International Conference on Residency Education in 2014 (Toronto), participated in two iterative surveys. From the list of 151 quality indicators, 3 quality indicators for blogs, 1 quality indicator for podcasts, and 9 quality indicators for both blogs and podcasts were endorsed by  $\geq 90\%$  of expert medical educators (Lin et al. 2015).

### RESULTS

The results of this research were analyzed and amalgamated to create the *Quality Checklist for Blogs* (Figure 1) and the *Quality Checklist for Podcasts* (Figure 2), which were disseminated on the ALiEM blog (Paterson, Colmers, et al. 2015). Quality indicators that were endorsed by  $\geq 90\%$  of either expert content producers (Thoma et al. 2015) or medical educators (Lin et al. 2015) were included within each checklist. The combined list of endorsed quality indicators, accounting for overlapping endorsements and similarly worded quality indicators, contains 19 quality indicators for blogs and 20 quality indicators for podcasts. The resulting platform-specific tools outline the quality indicators that are of utmost importance in the appraisal of health professions blogs and podcasts. To facilitate interpretation of overall educational resource quality by end-users, the tool has stratified the checklist into 'yes', 'no', and 'unclear' and leaves space for further subjective comments. Currently, no evidence-based criteria differentiate quality from non-quality resources – user gestalt is currently the best guide and can be enhanced by consideration of these checklists. Further research is required to establish potential 'cut-offs' for checklist scores that correlate with the quality of a resource.

## ☑ Quality Checklist for Blogs

A tool for appraising the quality of online health professions education resources

*This tool exists to assist podcast producers, editors, curators, users and researchers in assessing and improving the overall quality of online health professions educational resources.*

***It does not replace common sense – still consider your clinical gestalt!***

Producers 	Editors & curators 	Users 
<ul style="list-style-type: none"> <li>• Use the checklist to prompt you to consider elements you may have overlooked.</li> <li>• Use the checklist as a guide when creating an educational resource.</li> <li>• Note on the blog post whether the checklist was applied and met.</li> </ul>	<ul style="list-style-type: none"> <li>• Compare your blog to the points in the list. Can you make any improvements?</li> <li>• Apply checklist before publishing resources.</li> <li>• Encourage producers and users to utilize the checklist.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the quality of a blog using the checklist.</li> <li>• Determine if you trust the information and content enough to change your practice.</li> <li>• Engage with producers and editors. Ask questions, and suggest improvements.</li> </ul>


*Note: Users may answer "Yes", "No" or "Unclear" (Y/N/U) in order to facilitate overall interpretation of quality.*

### Credibility

#### Is the resource credible?

Bias and conflict of interest		Criteria met?
B1	Is the editorial process independent from sponsors, conflict of interest, and other sources of bias?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B2	Do the creators (authors, editors, publisher) list their conflicts of interest?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B3	Are the creators (authors, editors, publisher) free of any financial conflict of interest?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B4	Does the resource clearly differentiate between advertisement and content?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Authors		Criteria met?
B5	Is the identity of the resource's author clear?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B6	Is the resource transparent about who was involved in its creation and does it list all entities that contributed?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B7	Is the author well qualified to provide information on the topic?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Scholarship		Criteria met?
B8	Does the resource cite its references?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B9	Are there comments from other learners/contributors that endorse or refute the information presented in the resource?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>

Content		
<b>Is the content of this educational resource of good quality?</b>		
Accuracy		Criteria met?
B10	Is the information presented in the resource accurate?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B11	Does the resource make a clear distinction between fact and opinion?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B12	Are the resource's statements consistent with its references?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B13	Does the resource use correct grammar and spelling?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Didactic approach		Criteria met?
B14	Is the content of the resource presented in a logical, clear and coherent way?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B15	Is the topic of the resource well defined and labeled appropriately?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B16	Does the content meet generally accepted standards for journalistic professionalism?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Design		
<b>Is the resource well designed?</b>		
Accessibility & layout		Criteria met?
B17	Is the information presented in the resource of a consistent quality?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
B18	Is the resource stable (i.e., does not crash, links work, etc.)?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Didactic value		Criteria met?
B19	Is the resource useful and relevant for its intended audience?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Additional notes:		Overall gestalt:
<p><b>Created by:</b> Colmers IN<sup>1</sup>, Paterson QS<sup>2</sup>, Lin M<sup>3,4</sup>, Thoma B<sup>4,5</sup>, Chan T<sup>4,6*</sup></p> <p><sup>1</sup>MD (candidate, 2016), University of Alberta; <sup>2</sup>MD (candidate, 2016), University of Saskatchewan; <sup>3</sup>Professor, Department of Emergency Medicine, University of California, San Francisco, founder of Academic Life in Emergency Medicine (ALiEM) blog; <sup>4</sup>MedEdLIFE Research Collaborative, San Francisco, CA; <sup>5</sup>Assistant Professor and Research Director, Department of Emergency Medicine, University of Saskatchewan, founder of Boring EM; <sup>6</sup>Assistant Professor, Division of Emergency Medicine, McMaster University, active contributor to various blogs, including Boring EM, ALiEM, ICENet.</p> <p>*Corresponding author: <a href="mailto:teresa.chan@medportal.ca">teresa.chan@medportal.ca</a> @TChanMD. None of the authors have financial or other conflicts of interest to declare.</p> <p><b>Please cite this checklist as:</b> Colmers IN, Paterson QS, Lin M, Thoma B, Chan T. The Quality Checklists for Health Professions Blogs and Podcasts. <i>The Winnower</i> 2:e144720.08769 (2015). DOI: <a href="https://doi.org/10.15200/winn.144720.08769">10.15200/winn.144720.08769</a></p> <p><b>References</b></p> <ol style="list-style-type: none"> <li>Paterson QS, Thoma B, Lin M, Chan T. A systematic review and qualitative analysis to determine quality indicators for medical education blogs and podcasts. <i>J Grad Med Educ</i>. 2015. Epub ahead of print. DOI: <a href="https://doi.org/10.4300/JGME-D-14-00728.1">10.4300/JGME-D-14-00728.1</a></li> <li>Lin M, Thoma B, Trueger S et al. Quality indicators for blogs and podcasts used in medical education: modified Delphi consensus recommendations from an international cohort of health professions educators. <i>Postgrad Med J</i>. 2015;91(1080):546-50. (PMID <a href="https://pubmed.ncbi.nlm.nih.gov/26275428/">26275428</a>)</li> <li>Thoma B, Chan T, Paterson QS et al. Emergency medicine and critical care blogs and podcasts: Establishing an international consensus on quality. <i>Ann Emerg Med</i>. 2015;66(4):396-402. (PMID <a href="https://pubmed.ncbi.nlm.nih.gov/25840846/">25840846</a>)</li> </ol>		



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Figure 1: Quality Checklist for Blogs

## ☑ Quality Checklist for Podcasts

A tool for appraising the quality of online health professions education resources

*This tool exists to assist podcast producers, editors, curators, users and researchers in assessing and improving the overall quality of online health professions education resources.*

***It does not replace common sense – still consider your clinical gestalt!***

### Producers



- Use the checklist to prompt you to consider elements you may have overlooked.
- Use the checklist as a guide when creating an educational resource.
- Note on the podcast whether the checklist was applied and met.

### Editors & curators



- Compare your podcast to the points in the list. Can you make any improvements?
- Apply checklist before publishing resources.
- Encourage producers and users to utilize the checklist.

### Users



- Assess the quality of a podcast using the checklist.
- Determine if you trust the information and content enough to change your practice.
- Engage with producers and editors. Ask questions, and suggest improvements.

*Note: Users may answer "Yes", "No" or "Unclear" (Y/N/U) in order to facilitate overall interpretation of quality.*

## Credibility

### Is the resource credible?

Bias and conflict of interest		Criteria met?
P1	Is the editorial process independent from sponsors, conflict of interest, and other sources of bias?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P2	Do the creators (authors, editors, publisher) list their conflicts of interest?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P3	Are the creators (authors, editors, publisher) free of any financial conflict of interest?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P4	Does the resource clearly differentiate between advertisement and content?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Authors		Criteria met?
P5	Is the identity of the resource's author clear?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P6	Is the resource transparent about who was involved in its creation and does it list all entities that contributed?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P7	Is contact information (including email addresses) of the resource's authority (author, editor, publisher) listed?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Scholarship		Criteria met?
P8	Does the resource cite its references?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>



Content		
<b>Is the content of this educational resource of good quality?</b>		
Accuracy		Criteria met?
P9	Is the information presented in the resource accurate?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P10	Does the resource make a clear distinction between fact and opinion?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P11	Does the resource identify the areas at the limits of what is known within a field and acknowledge limitations?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Didactic approach		Criteria met?
P12	Is the content of the resource presented in a logical, clear and coherent way?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P13	Is the topic of the resource well defined and labeled appropriately?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P14	Does the content meet generally accepted standards for journalistic professionalism?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Design		
<b>Is the resource well designed?</b>		
Accessibility & layout		Criteria met?
P15	Does the resource employ universally accessible technologies for learners with standard equipment and software using mobile and non-mobile devices?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Didactic value		Criteria met?
P16	Is the resource useful and relevant for its intended audience?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P17	Does the resource motivate and interest its intended audience?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P18	Is the functionality of the resource self-evident?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P19	Does the resource refer learners to additional resources?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
P20	Is there a way to provide feedback on the resource?	Y <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>
Additional notes:		Overall gestalt:
<p>Created by: Colmers IN<sup>1</sup>, Paterson QS<sup>2</sup>, Lin M<sup>3,4</sup>, Thoma B<sup>4,5</sup>, Chan T<sup>4,6*</sup></p> <p><sup>1</sup>MD (candidate, 2016), University of Alberta; <sup>2</sup>MD (candidate, 2016), University of Saskatchewan; <sup>3</sup>Professor, Department of Emergency Medicine, University of California, San Francisco, founder of Academic Life in Emergency Medicine (ALiEM) blog; <sup>4</sup>MedEdLIFE Research Collaborative, San Francisco, CA; <sup>5</sup>Assistant Professor and Research Director, Department of Emergency Medicine, University of Saskatchewan, founder of Boring EM; <sup>6</sup>Assistant Professor, Division of Emergency Medicine, McMaster University, active contributor to various blogs, including Boring EM, ALiEM, ICENet.</p> <p>*Corresponding author: <a href="mailto:teresa.chan@medportal.ca">teresa.chan@medportal.ca</a> @TChanMD. None of the authors have financial or other conflicts of interest to declare.</p> <p>Please cite this checklist as: Colmers IN, Paterson QS, Lin M, Thoma B, Chan T. The Quality Checklists for Health Professions Blogs and Podcasts. <i>The Winnower</i> 2:e144720.08769 (2015). DOI:10.15200/winn.144720.08769</p>		
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Figure 2: Quality Checklist for Podcasts

## DISCUSSION

The *Quality Checklists* were designed with medical education resource producers, editors, end-users, and researchers in mind. General principles of good design were employed to make the checklists user-friendly and functional, and the author group piloted both checklists prior to publication. As with other critical appraisal tools and reporting guidelines, these checklists should guide rather than replace one's clinical judgment and gestalt.

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