African Journal of Emergency Medicine (2014) xxx, xxx–xxx

African Federation for Emergency Medicine

African Journal of Emergency Medicine

www.afjem.com
www.sciencedirect.com

EDITORIAL

Resource tiered reviews – A provisional reporting checklist

Errors in research are perniciously unavoidable. These errors, both knowingly and unknowingly, span from initial fundamental data collection mishaps all the way through to reporting blunders. Avoiding them is an illusion best admitted early on in your research career. Attempting to work harder to avoid these "minor" slip-ups in today's ever increasingly critical scientific environment is neither effective, nor efficient. Atul Gawande (author of '*The checklist manifesto*') explains that we are up against two things when either performing a high volume of simple tasks or performing a variety of complex tasks.[1] Firstly, human memory and attention is fallible; and secondly we tend to skip tasks even when we remember them simply because we think that the specific step does not matter. A basic checklist helps us to perform complex tasks not only correctly, but also consistently and safely. A large number of checklists are currently available to help report and/or critically appraise nearly every type of research design. To name only a few, the AGREE II tool for clinical guidelines;[2] and AMSTAR, PRISMA and CASP for systematic reviews.[3–5] It is not so much the specific checklist used, but rather the use of a validated checklist that ensures that reporting happens consistently and includes all relevant information.

Or so we thought, until we started to commission systematic reviews for AFJEM. It soon became clear that simply reporting on current international best practice was not always appropriate in African acute care settings; in fact it was often quite the opposite. Various resource restrictions ranging from cost-restrictions, to non-availability of essential drugs or equipment, to lack of local expertise exist in the African acute care setting. To illustrate, say a middle aged patient presents with gripping chest pain to a scantily-resourced emergency centre. Besides history and examination, none of the diagnostic tests required to work up a suspected acute coronary syndrome (electrocardiogram, cardiac enzymes, etc.) are available. What does current literature recommend in this setting if an electrocardiogram or cardiac enzymes are not readily available? Who knows? Even if acute care staff were able to diagnose a ST-elevated myocardial infarction (STEMI), best practice treatment might not be offered locally; or transport to a centre which can provide best practice treatment may be inadequate or lacking. Connecting best evidence to available resources is thus of vital importance in the African acute care context.

AFJEM is committed to publishing review articles that will benefit acute care providers, independent of the resources available to them. As a result we have compiled a checklist aimed specifically at best evidence in the resource-restricted setting (Table 1). The aim is to guide authors in producing a report which is a combination between a clinical guideline and a systematic review. Best available evidence, using a transparent and systematic approach to find and evaluate relevant studies, is still key; but with additional focus on resource availability. In effect it will be more rigorous than a narrative review but less time-consuming than a systematic review or meta-analysis. In order to apply the content to different resource levels, authors are advised to start by describing the very best evidence available; then assume the resources for this level are not available and describe the next tier of evidence until all options are exhausted. For example, if we return to our patient with chest pain: the recommended treatment for a patient with STEMI is primary percutaneous coronary intervention;[6] if this treatment is not available, then thrombolytics should be considered; if that is not available then antiplatelet therapy and anticoagulation should be used, and so on and so forth.

As this checklist is currently in the trial phase, we would value feedback from our readers, reviewers and authors. We would like to publish a final version after considering all the feedback by the end of 2015.

Peer review under responsibility of African Federation for Emergency Medicine.

ELSEVIER Production and hosting by Elsevier

Conflict of interest statement

The authors declare no conflict of interest.

http://dx.doi.org/10.1016/j.afjem.2014.06.001

Table 1 Checklist for resource tiered review.
Objective: To summarise the best available research on a specific topic (using a transparent and systematic approach to find and evaluate relevant studies), with the additional focus of applicability according to resource availability.
Checklist:

Section	Checklist item	Y/N/NA (explain if N)
Title		
Title	Does the title indicate that it is a review article?	
Abstract		
Structured summary	Is a structured summary included? Max 300 words. (Headings: *Introduction; Objectives; Methods; Key recommendations*)	
Introduction		
Rationale	Is the problem the review aims to address placed in context? Is the motivation/justification of the review included?	
Objectives	Are the objectives of the review explicitly described? Are the objectives applicable to Africa or other resource limited environments?	
Methods		
Search strategy	Is the search strategy adequately described, such that it could be repeated? *(include all information sources with dates of coverage, key words used, any limits used, date last searched)*	
Quality of supporting evidence	Are the criteria for determining the quality of the supporting evidence clearly described? (e.g. Class 1). *See* Appendix A	
Discussion		
Summary of evidence	Are the recommendations specific and unambiguous? Are absolute clinically oriented statistics (e.g., likelihood ratios, number needed to treat, etc.) presented? Is strength of recommendations for each main outcome included? *See* Appendix B Is the evidence described for different resource levels (e.g., equipment, drugs, skillset, staff mix, transport type, facilities, etc.)? *(Describe the best evidence as available within a setting with high resource levels, then hypothetically assume this resource level is not accessible and describe the best evidence for the next resource level, on so on and so forth until all reasonable options are exhausted)*	
Limitations	Are the limitations at study and outcome level (e.g., risk of bias) addressed? Are the limitations at review level (e.g., reporting bias, publication bias) addressed? Is lack of evidence at any resource level clearly highlighted?	
Conclusion		
Conclusion	Does the conclusion include implications for practice? Does the conclusion include implications for further research?	
Conflicts of interest		
Funding	Are all funding sources described? Are the roles of each funder described?	

Appendix A

Quality of supporting evidence.[7]

Design[a]/Class	Therapy[b]	Diagnosis[c]	Prognosis[d]
1	Randomized, controlled trial or meta-analyses of randomized trials	Prospective cohort using a criterion standard or meta-analysis of prospective studies	Population prospective cohort or meta-analysis of prospective studies
2	Nonrandomized trial	Retrospective observational	Retrospective cohort Case control
3	Case series Case report Other (e.g., consensus, review)	Case series Case report Other (e.g., consensus, review)	Case series Case report Other (e.g., consensus, review)

[a] Some designs (e.g., surveys) will not fit this schema and should be assessed individually.
[b] Objective is to measure therapeutic efficacy comparing interventions.
[c] Objective is to determine the sensitivity and specificity of diagnostic tests.
[d] Objective is to predict outcome, including mortality and morbidity.

Please cite this article in press as: Van Hoving DJ et al. Resource tiered reviews – A provisional reporting checklist, *Afr J Emerg Med* (2014), http://dx.doi.org/10.1016/j.afjem.2014.06.001

Appendix B

Strength of recommendations[7]

Level A recommendations: Generally accepted principles for patient management that reflect a high degree of clinical certainty (i.e., based on strength of evidence Class I or overwhelming evidence from strength of evidence Class II studies that directly address all the issues).

Level B recommendations: Recommendations for patient management that may identify a particular strategy or range of management strategies that reflect moderate clinical certainty (i.e., based on strength of evidence Class II studies that directly address the issue, decision analysis that directly addresses the issue, or strong consensus of strength of evidence Class III studies).

Level C recommendations: Other strategies for patient management that are based on Class III studies, or in the absence of any adequate published literature, based on panel consensus.

References

1. Gawande A. *The checklist manifesto: how to get things right*. Henry Holt and Company; 2010.
2. Brouwers MC, Kho ME, Browman GP, Burgers JS, Cluzeau F, Feder G, et al. AGREE II: advancing guideline development, reporting and evaluation in health care. *CMAJ* 2010;**182**(18):E839–42.
3. Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C, et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. *BMC Med Res Methodol* 2007;**7**:10.
4. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med* 2009;**6**(7):e1000097.
5. Critical Appraisal Skills Programme (CASP). *Critical Appraisal Skills Programme (CASP) systematic reviews*. Available from: <http://media.wix.com/ugd/dded87_342758a916222fed-f6e2355e17782256.pdf> accessed 3 June 2014.
6. O'Gara PT, Kushner FG, Ascheim DD, Casey DE, Chung MK, de Lemos Ja, et al. ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol* 2013;**61**(4):e78–e140.
7. American College of Physicians. Available from: <http://www.acep.org/content.aspx?id=30060>.

On behalf of the
African Journal of Emergency Medicine Scientific Committee

Daniël J. van Hoving
Division of Emergency Medicine, Stellenbosch University, Cape Town, South Africa
E-mail address: nvhoving@sun.ac.za

Jennifer Chipps
University of KwaZulu-Natal, Durban, South Africa

Gabrielle Jacquet
Boston University School of Medicine, Boston, USA
Global Emergency Medicine Literature Review, USA