

Teaching Tips and Materials: Package Writer Suggestions

EBM Package Writer Suggestions to Consider

Background:

Writing effective teaching packages for evidence-based medicine is challenging. Teaching settings, venues, audiences, and experience levels of teachers and students vary widely. Nonetheless, there may be elements of a teaching package and approaches that increase the likelihood of a successful package. In order to explore methods for writing successful packages, we surveyed experienced teachers of evidence-based medicine who have had several years experience with package writing. Specifically, we asked them to identify features of past packages that have produced success as well as features of past packages that have created stumbling blocks for learners. The following summary of suggestions may help guide you in writing your own teaching packages.

General Summary of findings:

Respondents agreed that the key to a successful package is a **methodologically strong paper as it is applied to a clinically interesting case**. In addition, it was felt that there should be adherence to certain 'rules' in terms of which methodology is highlighted in each package as well as the spectrum of material covered in each. Those package writers who responded felt overall that we need to **simplify** the packages and perhaps stick more closely to simply providing the clinical case, possibly teaching settings and the critical appraisal materials (including, of course, application).

Summary of particular points:

1. Format and material covered should be consistent. Suggestion: Package writers might consider the following *outline* for the flow of each teaching package.
 - Clinical Case / Teaching setting(s)
 - Clinical Question Formation
 - Brief comment on acquiring the evidence
 - Summary of material in package, section(s) of Users' Guides book where relevant methodological discussion is to be found
 - Critical Appraisal sheet filled in with application addressed in this context
2. Certain teaching packages should be consistent in *study design* used. Suggestions:
 - Therapy: RCT
 - Harm: Cohort or Case Control Study to allow the participants the opportunity to learn about and practice these study types
 - Meta-analysis: summary of therapy trials, as opposed to other types of questions
 - Prognosis: Case Control or (much more frequently) Cohort methodology (can be in the context of an RCT)
 - Diagnosis: Prospective cohort with comparison to a reference standard
3. General Strategies that have produced *successful* teaching packages in the past:
 - Papers with clear, transparent, excellent methods sections
 - Clinical cases that are engaging, that may provide a new perspective that clinicians were not aware of, or that provide points for interesting consideration regarding application of evidence
4. General Strategies that have produced *difficult* teaching packages in the past:
 - Poor methodology of the paper
 - Unclear or incomplete methods sections
 - Beware of papers that have their methods described in another paper
 - Cases or papers that are too complex
 - Uninteresting or irrelevant clinical problems

Teaching Tips and Materials: Package Writer Suggestions

5. *Fun* suggestions that might be tried in the future:
 - Inclusion of expected stumbling blocks and troubleshooting strategies particular to the specific package
 - Cases that use multiple versions of the same evidence (e.g. ACP journal club summaries as well as the entire article)
6. Feedback on *Diagnosis* Teaching Packages:
 - Paper should provide enough data to calculate or extract multiple levels of Likelihood Ratios (LRs).
 - Papers with dichotomous outcomes may not illustrate the power of LRs.
 - It is important to highlight the great impact of patient values on the application of test results.
 - It is valuable to include discussion of test threshold and action threshold.
7. Feedback on *Systematic Review / Meta-analysis* Teaching Packages:
 - Paper should focus on therapy and summaries of RCTs.
 - Forest plots are very useful for teaching concepts including heterogeneity.
8. Feedback on *Therapy* Teaching Packages:
 - It is generally necessary to choose a positive trial with at least one dichotomous variable. Otherwise, there isn't an opportunity to practice RRR, RD, NNT.
 - As one of the fundamental packages and as therapy is the most prevalent kind of paper in the literature, it makes sense to keep this one 'timely' and on the forefront of emerging therapies.
 - Applicability and generalizability should always be addressed.
 - Ideally, it will be easy to identify sub-groups at different baseline risk to get an accurate notion of the baseline risk and to facilitate using baseline risk and RRR to calculate NNT.
 - It might be fun to have a low risk group that would lead one to question the treatment (moving the threshold NNT) in the setting of an appreciable harm/cost to balance the benefit.
9. Feedback on *Guideline* Teaching Packages:
 - Repeated difficulty has been linked to the very lengthy nature of many good guidelines (most are 20-50 pages or more!).
 - To get around lots of reading one might:
 - a. Direct learners to key parts of the methods and results instead of the entire guideline.
 - b. Select one recommendation in the guideline and focus on that one.
 - c. Use resources and summaries available on the web (e.g. www.guidelines.gov).