ACCP Evidence-Based Guideline Development: A Successful and Transparent Approach Addressing Conflict of Interest, Funding, and Patient-Centered Recommendations

Michael H. Baumann, Sandra Zelman Lewis and David Gutterman

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Evidence-based clinical practice guidelines (EBGs) can provide an invaluable distillation of knowledge regarding best practices based on the available evidence. EBGs, providing accurate and useful guidance to best clinical practices, require a rigorous development process. The American College of Chest Physicians (ACCP) has developed a process that embodies transparency, thoroughness, and timeliness, and effective conflict-of-interest management, and it continues to evolve. This process employs a quantitative and rigorous grading of the strength of recommendations and of the quality of evidence that incorporates sensitivity to health-care resource utilization and patient values and preferences. A review of this process is provided to inform the ACCP membership and those wishing to embark on EBG development.

(CHEST 2007; 132:1015–1024)

Key words: clinical practice guidelines; conflict of interest; evidence-based guidelines

Abbreviations: ACCP = American College of Chest Physicians; AHRQ = Agency for Healthcare Research and Quality; EBG = evidence-based clinical practice guideline; HSP = Health and Science Policy Committee

Evidence-based clinical practice guidelines (EBGs) can provide an invaluable distillation of knowledge regarding best practices based on the available evidence. A host of EBGs dealing with many clinical conditions exist today, but the variability in quality may be high. Incorporation of high-quality EBGs into daily clinical care by healthcare providers has been limited; nevertheless, when successfully implemented, patient and health-care utilization outcomes improve. Buoyed by these successes, clinical practice EBGs are being utilized in the development of clinical order sets, performance measures, and pay for performance.

EBGs providing accurate and useful guidance to best clinical practices require a rigorous development process. The American College of Chest Physicians (ACCP) has developed and refined such a process that has resulted in the publication of nine guidelines over the last 7 years. Refinements have focused on making the process transparent, rigorous, and timely; effectively managing conflicts of interest; and employing a quantitative and rigorous grading of the strength of recommendations and of the quality of evidence that incorporates sensitivity to health-care resource utilization and patient preferences.

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A complete description of the ACCP evidence-based guideline development process is available on the ACCP Web site and in the ACCP Manual for Guideline Development. In this article, we review our process for guideline development to educate ACCP members and to provide a framework that others may find useful in developing EBGs. The process is dynamic and continues to undergo improvements reflecting the need to adapt to an ever-changing and complex health-care environment, and to provide the best available educational products for the care of our patients.

Characteristics of an EBG

EBGs are defined as a systematically developed set of recommendations, algorithms, and other information to assist health-care decision making in specific clinical circumstances. EBGs represent the synthesis of evidence derived from a formal, thorough, and systematic review of the literature that results in the compilation of a set of specific literature-based recommendations addressing specifically identified clinical questions. An EBG must be distinguished from a consensus statement, which is defined as a collective opinion of a convened expert panel. The opinions expressed in the consensus statement are also derived from existing literature but usually only when the amount and quality of the available data are insufficient for a formal evidence-based review. “Suggestions” are developed by a standardized process in a consensus statement as opposed to “recommendations” presented in an EBG following a rigid literature review.

Establishment of an Oversight Committee

The ACCP Health and Science Policy Committee (HSP) provides oversight for the development of ACCP-generated EBGs. It is charged with the responsibility of choosing the topic and maintaining the integrity of all EBGs as well as the process used to develop them. The HSP ensures that EBGs are scientifically sound and are based on the available evidence as determined by rigorous reviews of the literature. Further, the HSP continuously evaluates and improves the rigorous basis for this development process to maintain the highest quality and to manage conflicts of interest.

The HSP supervises a regimented and transparent approach to EBG development according to the representative time line shown in Table 1. This process dictates the methods used for analyses and synthesis of data, guides the creation and utilization of evidence tables for recommendation generation, and ensures the appropriate use of the ACCP-generated grading system for grading recommendations based on the quality of the evidence and the balance of benefits and harms associated with each recommendation.

Selection of Guideline Topics

New EBG topics are generated through an application process by individual ACCP members or by a committee of the ACCP. These suggestions are brought to the HSP for assessment. The application requires an assessment of the importance of the topic, including the variability in practice patterns, the level of controversy regarding the topic, the availability of interventions that have high societal or economic cost, the breadth of the constituency impacted, the importance to public health, and the availability and quality of the published evidence, including that of existing relevant guidelines. EBG topics proposed by the HSP as well as related development expenses must be approved by the ACCP Board of Regents. Funds are approved for the entirety of the project (ie, a multiyear commitment) contingent on project progress reports to the Board of Regents.

Collaboration With Other Medical Societies and Organizations

Early in the guideline development process, variable degrees of collaboration are sought with relevant organizations and medical specialty societies that bring important perspectives such as complementary clinical expertise or patient advocacy. A Memorandum of Agreement defines organizational responsibilities and expenses, as well as the conditions for publication, authorship, the management of conflicts of interest, endorsement, profits, and termination. This memorandum is customized to meet the needs of the guideline collaboration opportunity.

Conflicts of Interest and Relations With Industry

The “Conflict of Interest Policy for ACCP Guideline Development” outlines a process ensuring that disclosed conflicts of interest are properly evaluated and resolved at several key points during the development of the EBG. This policy statement includes
**Table 1—Project Time Line for Development of a Multichapter EBG**

<table>
<thead>
<tr>
<th>Time Frame, mo</th>
<th>ACCP Events</th>
<th>Executive Committee Events</th>
<th>Panel Events</th>
<th>EPC Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HSP selects the Chair(s)</td>
<td>RFP submitted to EPCs</td>
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<tr>
<td>1–2</td>
<td>Chair(s) select panel nominees in consultation with HSP and NW(s)</td>
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<tr>
<td>1–3</td>
<td>Panel nominations submitted</td>
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<tr>
<td>2–4</td>
<td>HSP reviews nominees' submissions</td>
<td>Deadline for evidence review applications</td>
<td></td>
<td></td>
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<tr>
<td>2–4</td>
<td>Selection of EPC</td>
<td></td>
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<tr>
<td>3–5</td>
<td>Contract with EPC</td>
<td>Contract with EPC</td>
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<tr>
<td>5</td>
<td>Panel planning meeting (including HSP liaison and EPC methodologist)</td>
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<tr>
<td>5–6</td>
<td>Invitations for representation from other associations</td>
<td>Research questions finalized</td>
<td>Systematic literature review begins</td>
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<tr>
<td>6–7</td>
<td>Chapter outline drafts due</td>
<td>Existing guidelines, systematic reviews, and metaanalyses sent to panelists</td>
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<tr>
<td>6–8</td>
<td>Source articles and papers sent to panelists</td>
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<tr>
<td>6–8</td>
<td>Additional important papers and articles identified by conference calls</td>
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<tr>
<td>9</td>
<td>Evidence tables (first drafts) due from EPC</td>
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<tr>
<td>9–10</td>
<td>Writing committees review and respond to evidence tables</td>
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<tr>
<td>10–11</td>
<td>Revised evidence tables due</td>
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<tr>
<td>12–13</td>
<td>Summary tables due</td>
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<tr>
<td>12–13</td>
<td>Writing committees review and respond to summary tables</td>
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<tr>
<td>13–14</td>
<td>Executive committee review commences</td>
<td>First drafts of chapters due</td>
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<tr>
<td>.14–16</td>
<td>Executive committee review continues</td>
<td>Chapter revisions due</td>
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<tr>
<td>14–15</td>
<td>Conference calls to sort out internal inconsistencies</td>
<td>Background (evidence) drafts due</td>
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<tr>
<td>15–16</td>
<td>Chapters posted for panel and association representatives' review</td>
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<tr>
<td>17–18</td>
<td>Panel conference (includes HSP liaison, EPC methodologist, and association representatives)</td>
<td>Executive committee review</td>
<td>Deadline for revisions</td>
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<tr>
<td>20–21</td>
<td>Submission for HSP, BOR, and NW review</td>
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<tr>
<td>20–21</td>
<td>NW review forwarded to HSP and BOR</td>
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<tr>
<td>21–22</td>
<td>HSP review</td>
<td></td>
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<tr>
<td>22–23</td>
<td>HSP confirmation of changes</td>
<td>Changes/revisions, as needed</td>
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<td></td>
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<tr>
<td>23–24</td>
<td>HSP approval</td>
<td></td>
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<tr>
<td>24–25</td>
<td>BOR review</td>
<td></td>
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<tr>
<td>25–26</td>
<td>BOR confirmation of changes</td>
<td>Changes/revisions, as needed</td>
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<tr>
<td>26–27</td>
<td>BOR approval</td>
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<tr>
<td>27</td>
<td>Submission to journal</td>
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<tr>
<td>27–28</td>
<td>Editor's review for approval</td>
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<tr>
<td>27–29</td>
<td>Outside peer review</td>
<td></td>
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<tr>
<td>28–30</td>
<td>Changes/revisions, as needed</td>
<td></td>
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<tr>
<td>29–31</td>
<td>Drafts of content for clinical resource tool due</td>
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<tr>
<td>31–33</td>
<td>Publication of EBG</td>
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<tr>
<td>32–34</td>
<td>Distribution of clinical resource</td>
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</tbody>
</table>

*This time line assumes the topic has received ACCP Board of Regents approval and funding (single-chapter guidelines require less development time). EPC = evidence-based practice center; RFP = request for proposal; BOR = ACCP Board of Regents; NW = NetWork.*
an explicit and detailed step-by-step procedure to collect and evaluate the disclosed conflicts respective to the guideline topic, and make recommendations to resolve or manage the conflict. The conflict-of-interest assessment flowchart (Fig 1) shows how disclosures are reviewed along with the resulting actions. EBG panel members are requested to disclose in writing conflicts at several times during the course of EBG development, as follows: at the time panelists are nominated for participation on the guideline development panel; at every face-to-face meeting; and prior to publication in the journal *CHEST*.

ACCP reviewers of EBG guidelines (eg, the HSP, Board of Regents, and NetWork members) must adhere to current ACCP conflict-of-interest policies and disclose all conflicts (ie, personal as well as financial). NetWorks are the ACCP interdisciplinary, expertise-focused interest groups that provide college members the opportunity for personal and professional alliances with the ACCP.

If an ACCP EBG receives financial support from industry (including the pharmaceutical industry) or foundations, the financial support must be unrestricted, and the funds are invested into a rigorous methodological process that is used by the EBG clinical panel of experts (ie, the writing panel) to formulate graded recommendations, as well as the operational costs of developing the guidelines, including the evidence review, meetings, travel, pro-

**Disclosure Process Starts:**
Disclosure requested at the start of EBG project, all meetings, and submission for publication, including panel chair(s). Disclosure provided?

- NO Potential member cannot participate in activity
- YES

**MEMBER HAS A CONFLICT OF INTEREST TO DISCLOSE: Review by HSP.**

- HSP completes COI Assessment Form.

  - Option #1
  - Option #2
  - Option #3
  - Option #4

  1. Review conclusion: *Unacceptable* – Member is prohibited from participation
  2. Review conclusion: *Participation permitted* – with implementation of recommendation to preclude bias or provide disclosure
  3. Review conclusion: *Participation permitted* – because COI disclosure is deemed not a possible source of bias.

**REVIEW DISCLOSED CONFLICT WITH THE FOLLOWING QUESTIONS IN MIND:**

1. Is there any question that full disclosure from the individual has not been made?
2. Is there any indication that the clinical information this individual could provide to the ACCP activity could be perceived as misleading?
3. Is there any indication that the individual in his/her professional role potentially improperly favors any outside entity or appears to have an incentive to do so?
4. Does the faculty member appear to be subject to incentives that might lead to inappropriate bias?
5. Is there any indication that obligations to the objectives of the activity being conducted by the ACCP will not be met as a result of an individual’s conflict of interest?
6. Could the individual’s circumstances represent any possible violation of federal, state, or local laws and requirements?
7. Do the current engagements of the individual present any conflicts between outside interests (eg, working on projects simultaneously for competing business entities, fiduciary positions with other organizations, etc)?
8. Would the activity’s agenda or content receive peer review prior to its initiation?
9. Will the project be supervised by someone with authority who has no conflicting interest?
10. Are there means to verify or evaluate results (eg, independent corroboration by another disinterested individual on the committee, in the ACCP membership, etc)?

**HSP sends COI disclosure to ACCP COI Review Committee for final review and recommendation**

**ACCP COI Review Committee makes final recommendation to activity chair.**

**FIGURE 1. ACCP conflict of interest (COI) process flowchart.**
duction, editing, publicizing, printing, and distribution. External support of guideline development is independent of the guideline process. Contributing industries or other entities may not have representation on writing panels, evidence-based practice center review groups, or EBG writing panels. If an EBG has industry support, the ACCP seeks to obtain multiple sponsors. Nearly one third of the EBGs in the last 6 years have received no external support, with funding allocated by the Board of Regents. However, most of the other guidelines had the support of three to five sponsors each. All expenditures of donated funds are approved by the HSP. A donor may not target the use of funds other than to direct that the funds be used to support an associated “clinical resource tool” (see the “Dissemination and Marketing” section) and/or to support publication costs. This policy minimizes bias or the perception of bias during the development of an EBG or the content of any derivative educational programs or products and protects all those participating in EBG development. For these mutual protections, the HSP enforces the following policies:

1. The ACCP HSP is solely responsible for the following: the choice of the EBG chair(s) and writing panel members in consultation with the appropriate ACCP NetWork(s) or other content experts (single chapter or smaller multichapter documents are assigned an individual chair; larger, often multichapter documents usually have more than one chair); the selection of the evidence-based practice center and/or the methodologist(s), pending Board of Regents approval; and the scientific content and recommendations of any programs or products resulting from the EBG.

2. Industry may support the development and production of an EBG and related educational programs, clinical resources, and dissemination or implementation tools through unrestricted educational grants.

3. Industry sponsors are not revealed to the members of an EBG panel, the writing group, HSP, ACCP specialist reviewers, the evidence-based practice center, or the speakers at educational sessions during the EBG development process. The ACCP Executive Office arranges all external funding for an EBG. To build an effective “firewall” between the EBG chairs and panelists, and knowledge of the external funding sources for an EBG, the ACCP Executive Office provides only the Chair of the HSP and EBG project manager knowledge of these funding sources to assist in managing any potential conflicts of interest that may arise during the EBG development process. On publication of an EBG or presentation of resulting related courses, the names of the sponsors are made public.

4. Industry sponsors are not present at any meetings or planning sessions of EBG panels, evidence-based practice center teams, or related educational program panels.

5. Industry sponsors do not have access to the EBG review process or comment on drafts of EBG, recommendations, related clinical resources, or other dissemination or implementation tools, or the content of related educational talks. The first and only EBG manuscript draft that sponsors may see is the final draft accepted by CHEST for publication once the embargo has been lifted.

6. All pharmaceutical or other industry products mentioned in the EBG or related educational programs, or any dissemination or implementation tools are referred to by their generic names.

7. All EBG panelists, members of an evidence-based practice center team, other methodologists, speakers, and program planners must abide by the conflicts-of-interest policies of the HSP and ACCP, as described on the ACCP Web site.

8. Industry sponsorship is fully disclosed to attendees of educational courses related to EBG and to readers of an EBG.

Methodologic reviews must be conducted by an evidence-based practice center that is independent of the EBG clinical panel of experts (ie, the writing panel). This separation of grading and the EBG writing panel complies with the ACCP conflict-of-interest policies. Members of an evidence-based practice center conducting an evidence review and contracted directly by the ACCP must also comply with all aspects of the ACCP conflict-of-interest policy.

EBG Writing Panel Selection

Chairs discuss the initial scope of the guideline and suggest experts in each subtopic. The initial literature review helps to identify content experts who have extensive publication experience in the clinical area. The selection process identifies panel members. In addition to strong clinical and methodological expertise, selection criteria include reliability, the ability to work collaboratively, anticipated productivity, and gender, minority, and geographic diversity.

All EBG writing panel nominees must submit a
Typically two face-to-face meetings of the EBG writing panel are scheduled. The first is held with the panelists shortly after their participation is approved. At the meeting, the panel finalizes the project scope, addresses any unfilled positions, develops the research questions to be answered by the evidence review, and receives education on the ACCP grading system and HSP EBG process, including matters of writing format and style. The second meeting occurs after a revised draft of the EBG has been completed. This meeting is used to provide wide input regarding recommendations prior to submission to the HSP and NetWorks for critique. Disagreements in recommendations are resolved at this meeting.

**Evidence Review**

Once a proposed EBG topic is selected for development, the HSP determines how the evidence review will be conducted. The ACCP typically contracts with an Agency for Healthcare Research and Quality (AHRQ)-approved evidence-based practice center to review the literature and prepare evidence tables for the writing committee. In some cases, a request is submitted to the AHRQ and, if approved, the AHRQ recruits an evidence-based practice center to conduct the evidence review for a portion or all of the EBG. In this case, the EBG research questions are refined by an AHRQ-appointed technical expert panel, often including a member of the ACCP EBG Executive Committee. The research (evidence) questions are formulated to specifically define the appropriate patient population, intervention/exposure/comparison, outcomes of interest, and inclusion/exclusion criteria. The review is focused on all relevant evidence, ranking the quality of the evidence according to the ACCP guidelines. The resulting evidence and evidence summary tables are then utilized by the ACCP EBG writing panel to develop recommendations.

When the ACCP directly contracts for an evidence review with an AHRQ-approved evidence-based practice center, a request for proposals is sent to several evidence-based practice centers for a bid-based selection process. If the EBG is relatively narrow in scope, as defined by the extent of evidence to be reviewed, an ACCP staff methodologist conducts the evidence review and develops the evidence tables through a very similar process. An ACCP staff methodologist may also supplement an evidence review and evidence table development when an evidence-based practice center reviews only part of the relevant evidence.

The systematic review of the evidence commences shortly after the research questions are finalized. Systematic reviews and metaanalyses are identified
early, and source articles are obtained to verify whether they meet the inclusion criteria. Data ab-
stractions, development of the evidence tables, and grading of the evidence take several months for most
guidelines, regardless of whether an AHRQ-con-
tracted evidence-based practice center, ACCP-con-
tracted evidence-based practice center, or ACCP
staff methodologist reviews the evidence. The con-
tent experts (ie, writing panelists) review the list of
references to identify any that might have been
omitted. These content experts, usually the chapter
editors, are requested to carefully review the evi-
dence tables before the content is synthesized for the
summary tables.

Writing the Guidelines

A detailed description of the ACCP EBG writing
standards is available on the HSP Web site. Contin-
uitv and consistency of style from guideline to
guideline is an explicit goal of this process. It is the
responsibility of the EBG Executive Committee and
ACCP project manager to ensure that the EBG
writing panel adheres to these standards.

Generating Recommendations

Chapter chairs work closely with their writing
panel groups (coauthors), ensuring that all draft
recommendations are cognitively aligned with the
data provided in the evidence tables. Uniformity of
style and consistency of the content of the recom-
mandations across and within chapters, whether it is
a single-chapter or multichapter EBG, are key ob-
jectives. The EBG Executive Committee reviews the
content and facilitates the resolution of any inconsis-
tencies. The general format for each recommenda-
tion is found in Table 2.

Grading Recommendations

A robust ACCP grading system was developed by
a task force composed of individuals with significant
experience in guideline development and grading
recommendations. This task force developed a sys-
tem9 that can be “translated” to prior ACCP grading
systems and to several other widely used grading
systems, facilitating comparisons among guideline
recommendations.9 The grading system considers
both the quality of the evidence and the balance of
benefits to risk and burdens. It is designed to be
robust, accurate, and maximally informative, as well
as user-friendly and understandable to the nonexpert
user.

Incorporating Resource Allocation and Patient
Preferences

An important but often overlooked issue has been
how resource constraints impact the applicability and
implementation of guideline recommendations.8 Be-
cause of this, the ACCP is incorporating resource
allocation into targeted recommendations for the
upcoming guideline on antithrombotic and thrombo-
lytic therapy (Antithrombotic and Thrombolytic
Therapy: ACCP Evidence-Based Clinical Practice
Guidelines [Eighth Edition]; unpublished data) that
is now in the final stages of development. Expert
panelists have incorporated economic analyses into
a limited number of recommendations in which a wide
range of resource constraints exists across various
geographic areas and population groups. Recom-
mandations incorporating resource allocation or
cost-benefit analyses are formatted as outlined
above; however, they may be downgraded and in-
clude an additional explanatory statement.

The previously mentioned eighth edition of the
antithrombotic and thrombolytic therapy guide-
lines now address patient values and preferences by
several experts in the field. These experts
assessed the potential impact of patient-important
outcomes and reworded recommendations in
some chapters to incorporate underlying patient
values and preferences. For example, in the chap-
ter on thromboembolism and thrombophilia in
pregnancy, the mother’s concerns for the health of
her fetus was considered to have an impact on the
recommendation to use potentially teratogenic
anticoagulants. The incorporation of patient values
should be considered early in EBG development.
Our goal is to incorporate resource assessment and

Table 2—ACCP EBG Recommendations Style and Format

| Recommendations always begin with the appropriate patient population, inclusive of any limiting factors |
| Recommendations propose, for example, the suggested service, test, therapy, or procedure |
| Recommendations phrased as a firm proposal not a factual statement about the service and are not presented as a matrix or table. Factual statements and supporting arguments are placed in the textual discussion preceding the recommendation. For recommendations in which the benefits clearly outweigh the risks and burdens, strong language like “recommend” should be used. When the balance is not as definite, the authors use “suggest” or “consider” with proper descriptions of appropriate circumstances or patient populations |
| Recommendations contain no citations. Citations are included in the appropriate place in the discussion preceding the recommendation |
| The grading of the recommendation appears at the end of the recommendation |
| The grading should be based on the ACCP HSP grading system |
| Recommendations are printed in bold type |
patient values and preference considerations in all relevant recommendations.

**The Final EBG Writing Panel Conference**

Once the evidence tables are finalized, and the initial chapter drafts are completed, reviewed, and revised by the writing panel, the final EBG writing panel face-to-face meeting is used to solidify the acceptance of the final product by the panel. During the meeting, any significant unresolved issues and controversies are identified, discussed by the full panel, and resolved by vote if needed. Areas open for discussion and debate include the wording of recommendations, the balance of risks to benefits, and the interpretation of the strength of evidence where an evidence-based practice center has not made a determination. If \( \geq 80\% \) of the writing panel is in agreement with a recommendation, the recommendation is approved. At the discretion of the chair, (1) discussions may continue until there is a supermajority \((\text{ie}, > 80\%)\) agreement, (2) the recommendation can be removed for lack of agreement, or (3) the recommendation can remain but a minority opinion included within the discussion preceding the recommendation.

**EBG Review**

Based on the proceedings of the final conference, revisions are made to the guideline that is then forwarded to several groups within the ACCP for review and revision. (Fig 2.) Appropriate ACCP NetWorks are charged with content review. The HSP reviews process, consistency, whether the recommendations and grading are appropriate, and content. After the writing group adequately addresses the critiques provided by HSP and NetWork reviewers, the guideline manuscript is submitted to the ACCP Board of Regents for final approval. A structured review form, based in part on the Appraisal of Guidelines Research and Evaluation instrument,\(^3\) (Table 3), including a grid for comments, is used by the HSP, NetWork, and Board of Regents reviewers to ensure a complete review.

Once approved by the Board of Regents, the manuscript is submitted to CHEST for the consideration of publication and external independent review, which is performed according to the standard editorial policies of CHEST. The EBG review process adopted by the ACCP balances thoroughness with expediency while providing the highest possible quality and transparency. The rationale for expediency stems from the fact that the timeliness of all recommendations begins to decline as soon as the evidence review ends.

**Beyond Guideline Development: Dissemination, Implementation, Maintenance, and Influencing Practice**

**Dissemination and Marketing**

A “Clinical Resource Tool” is created for most ACCP EBGs. This product is a combination print and CD-ROM implementation tool kit that is based on the clinical practice guideline. Standard components include the Quick Reference Guide for Clinicians, patient education materials, and slides for presentations to lay and medical audiences. Additional materials, such as physician order sets, can also be added. The Quick Reference Guide for Clinicians includes all clinical algorithms and the key recommendations, along with their grading in print and electronic format or downloadable to personal digital assistants (ie, PDAs).

**EBG Maintenance**

EBGs are reviewed annually by the HSP (and by appropriate NetWorks and in consultation with the original EBG Executive Committee) to determine whether the recommendations remain current or whether interim studies have provided sufficient information to warrant revision. One of the following four possible EBG status categories is applied to each guideline every year beginning 1 year after the initial publication:

1. The guideline remains current and should be reviewed in 1 year.
2. New evidence is available that may be useful. However, a revision is not warranted at this time because the new data are not deemed sufficient to change the recommendations.
3. There is new evidence available that warrants revision of section(s)/chapter(s) of this guideline. The ACCP is planning a revision to this EBG.
4. There is sufficient new evidence available that makes the current guideline obsolete. This guideline is not current and has been retired.

**Quality Improvement and Implementation**

The ACCP Quality Improvement Committee works collaboratively with the HSP through the EBG HSP liaison to the EBG writing panels to identify recommendations that could be developed into performance measures for improving patient care. Based on the criterion of the National Quality Forum for a reasonable performance measure,\(^9\) a performance measure should be scientifically acceptable, important, feasible, and usable. Additionally, the measure should be practical and relevant for
ACCP members and their patients. Concomitantly, recommendations that should not be developed into performance measures are also identified. These latter recommendations usually have a lower quality of evidence to support them, although there could also be components of the intervention that are unfeasible or unusable. Performance measures may be incorporated into pay-for-performance strategies (so-called value-based performance strategies) that are currently under development across many sectors of the health care field in the United States. Whether pay-for-performance strategies are successful and equitable for patients and health-care providers will inextricably depend on the quality of the performance measures implemented.

The HSP and the Quality Improvement Committee work collaboratively to develop implementation strategies to increase the adoption of EBG recommendations by front-line health-care providers. This is a particularly challenging issue for all guideline developers. Several nascent strategies are being developed and tested on a small scale by the ACCP HSP and Quality Improvement Committee. Integral to these strategies is ongoing coordination with the ACCP Education Committee for ensuring the quality of educational opportunities related to any EBG. The Education Committee advises on and reviews the development of all educational courses and course materials, and participates in the selection of faculty for courses offered by the ACCP. Successful

\[ * \text{HSP} = \text{Health and Science Policy Committee} \]
Table 3—ACCP EBG Review Form*

<table>
<thead>
<tr>
<th>Overall outline of the practice guideline</th>
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</thead>
<tbody>
<tr>
<td>1. The objectives of the guideline and specific clinical questions are clearly stated in the practice guideline</td>
</tr>
<tr>
<td>2. Inclusion and exclusion criteria are clearly described</td>
</tr>
<tr>
<td>3. The intended users of the guideline are appropriately stated</td>
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</tbody>
</table>

Methodology

| 4. A described, methodology was used to develop the practice guideline |
| 5. A systematic review of the literature was conducted |
| 6. Evidence was graded using a formal system |
| 7. Recommendations were based on evidence and evaluation of benefit and harm |

Presentation of recommendations

| 8. Recommendations are specific and easy to comprehend |
| 9. The patient population is specifically described |
| 10. Key recommendations are clearly identifiable in the practice guideline |
| 11. A summary of recommendations is provided (clinical algorithms may be included) |

Applicability to practice

| 12. Does the practice guideline provide strategies for implementing the recommendations? |
| 13. Is specific information included on how to use the guideline in clinical practice? |

Accountability

| 14. Were funding bodies identified in the practice guideline? |
| 15. Did all members of the guideline development entity disclose potential conflicts of interest and was this explicitly stated? |

Relevance and readability

| 16. Is it clinically relevant? |
| 17. Is it readable? |
| 18. Does it make sense? |
| 19. Does the discussion flow from the evidence (where it exists)? |
| 20. Do the recommendations flow from the discussion? |

Review status

| 21. Would this document receive approval to represent the ACCP? |
| • Approve this document as is |
| • Approve pending considerations of suggestions as indicated (additional comments may be provided on the attached grid) |
| • Do not approve (see comments as indicated and specified on grid) |

*Adapted from Appraisal of Guidelines Research and Evaluation.3

strategies will be posted on the HSP7 and Quality Improvement Committee11 Web sites as they evolve.

CONCLUSION

EBG development is a collaborative and complex endeavor. However, when parsed into specific domains including topic selection, writing panel selection, conflict-of-interest declaration and resolution, an explicit time line, evidence grading and recommendation development, comprehensive guideline review, and creating and maintaining appropriate and robust firewalls, the process is transparent and manageable. We present a systematic strategy that has been successful for the ACCP. However, this approach continues to evolve with each EBG that is developed. At the core of each evolutionary step is the premise of producing the highest quality EBG possible, using explicit recommendation development based on rigorous evidence review while maintaining transparency and internal and external quality checks throughout the process. We hope that this process may help others wishing to develop EBGs.

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REFERENCES


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