Evidence-based clinical practice guidelines (CPGs) are increasingly seen as important tools to facilitate clinical governance that improves patient care and health outcomes. They assist in the determination of how diseases and other health conditions can be most effectively and appropriately prevented, diagnosed, treated and managed. CPGs are used by the healthcare administrators in judging the provision of health care and in improving quality. In most developed countries, guidelines are promoted at all levels of health care.

Evidence-based clinical practice guidelines (EB-CPG) are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. They are different from consensus statement or opinion which are basically a summary of the positions of groups of individuals (usually experts) and their own selection (bias) regarding a particular health care problem. It is also different from (but interlinked with) clinical pathway (CP) which is a patient care management tool that organizes, sequences, and times of all major interventions of nurses, physicians, and various departments for a particular health condition (e.g., Heart Failure, acute chest pain, etc.) or case type (e.g., patient on IABP (intra-aortic balloon pump) or ECMO (extra-corporeal membrane oxygenation) or patient subset (e.g., diabetic IHD).

EB-CPGs are also different from evidence-linked clinical recommendations (CR). The clinical recommendations are interpretation of the evidence and translating it into an action statement or series of action statements. There should be a clear and direct relationship between a CR and the evidence which this CR was based upon. From this brief description, the reader will realize that CPGs are more comprehensive in nature and rigorous in development process.

Good CPGs should be:
1. Valid – leading to the results expected of them.
2. Reproducible – if using the same evidence, other guideline groups would come to the same results.
3. Cost-effective – reducing the inappropriate use of resources.
4. Representative/multidisciplinary – by involving key groups and their interests.
5. Clinically applicable – patient populations affected should be unambiguously defined.
6. Flexible – by identifying the expectations relating to recommendations as well as patient preferences.
7. Clear – unambiguous language, which is readily understood by clinicians and patients.
8. Reviewable – the date and process of review should be stated.
9. Amenable to clinical audit – the guidelines should be capable of translation into explicit audit criteria.

The development of CPGs with evidence based methodology not only requires extensive effort, resources, manpower and expertise but also is time consuming. Fig. 1 summarizes the ideal process of CPGs development. Due to the extensive effort and resources that are needed, development of CPGs
usually carried out only by large professional societies and scientific bodies that have enough resources to accomplish this difficult task. It can take between 2 and 4 years from a team of experts with highly skilled methodologists to complete a single EB-CPG.

In our region one frequently sees the professional societies/associations taking one of three positions

1. Not addressing the issue at all (ignore).
2. Develop their own guidelines.
3. Adopt internationally published guidelines from correspondents respected scientific societies/associations in the developed countries (like the AHA or ACC or STS).

The regional societies that are taking the first position may be considered as failing to respond to the professional needs of their members. Very few are brave enough to try to develop CPGs. Due to the lack of expertise and resources, their product has low quality if appraised by a clinically validated tool like AGREE instrument. Applying the AGREE instrument for guidelines appraisal on some of our regionally produced guidelines may reveal several defects in one or more of the 6 domains of this instrument. Table 1 summarizes these 6 domains and the items of each domain.

In the developed world there are scientific methodological bodies that accredit, regulate and monitor the process and quality of the method of generation of CPG. In our region there is no such kind of methodological bodies except the pioneering work of the National and Gulf center for EBM (NGCEBM) in the field of Guideline adaptation and endorsement. Unfortunately this center does not have the regulatory or monitoring power. The NGCEBM hopes that this power may come through the collaboration with the professional societies like the SHA. Also, the center is linked to the G.I.N (guideline International Network) and to GRADE (Grades of Recommendation Assessment, Development and
Evaluation) that enables the center to carry out its methodological function but still very far from the authentication or accreditation regulatory function that should be exerted with the collaboration professional societies. Till now, it is still frequently seen for CPGs to be developed based on the consensus among experts. Such approach is not only incongruent with evidence based health care but also has serious limitations that can lead to flawed conclusions. CPGs should be based on the systematic identification and synthesis of the best available scientific evidence. Clinical practice guidelines are only effective if they are perceived to be helpful and are actually used in clinical decision-making.

Illustrating the shortcomings of the two previous positions (ignore or develop), it may be understandable why several societies in our region are taking the 3rd position which is adoption of the well-developed internationally recognized guidelines. The leaders of these professional societies do not find a rationale of "re-inventing the wheel".

After the adoption of the internationally published guidelines, the utilization of it can be either:

1. Adopt the guideline (same language/format).
2. Keep the text but change the format.
3. Translate the guideline (in some countries that the practice is not in English).
4. Use the guideline as literature(review of evidence).

In our region, most of countries take either the 1st or the 4th position, while others (like Syria or French speaking health authorities in Lebanon or North Africa), they do translate the originally English-written CPGs. Very few try to simplify the CPGs by doing some changes in its format.

In fact even Guideline adoption of EB-CPGs can have serious limitations. The de novo CPGs are developed by a group who are not necessarily considering the local peculiarities regarding disease prevalence, resources, priorities and expertise.

The non-local developers of guidelines may not address the following points:

- the purpose of the guidelines, including their scope and target audience, can be different;
- the guidelines should address an issue of national or regional significance, and should have national or regional application;
- the guidelines should address priority issues such as, for example, health care areas where there are significant variations in clinical practice, or where the health costs and/or burdens are high; and
- the guidelines should be developed under the auspices of a person or group of recognized professional standing, capable of attracting broad multidisciplinary participation at a high level.

The adoption of CPG has therefore been criticized and numerous references have reported the lack of consistency among CPGs, the difficulty in use, the variable quality and more importantly the failure to show a significant impact on outcome.

**Guideline adaptation**

Guideline adaptation is the systematic approach to the endorsement and/or modification of a guideline produced in

<p>| Table 1 AGREE instrument “Appraisal of Guidelines REsearch and Evaluation”. |
|-----------------------------|-----------------------------|-----------------------------|</p>
<table>
<thead>
<tr>
<th>Domain</th>
<th>No. of items</th>
<th>Item description</th>
</tr>
</thead>
</table>
| 1. Scope and purpose | 3 | 1. The overall objective(s) of the guideline should be specifically described
2. The clinical question(s) covered by the guideline should be specifically described
3. The patients to whom the guideline is meant to apply should be specifically described |
| 2. Stakeholder involvement | 4 | 4. Provide information about: composition and relevant expertise of the guideline development group
5. Involve patients in their development
6. Clearly define the target users
7. Piloting prior to publication |
| 3. Rigour of development | 7 | 8. Proper information about search strategy
9. Proper information about Inclusion and exclusion criteria for selecting the evidence
10. Proper information about Methods used to formulate the recommendations
11. Recommendations are explicitly linked to supporting evidence
12. Proper discussion of the health benefits, side effects, and risks
13. The guideline should be externally reviewed by experts prior to publication
14. A procedure for updating the guideline should be provided |
| 4. Clarity and presentation | 4 | 15. The recommendations should be specific and unambiguous
16. The different options for diagnosis and/or treatment of the condition should be clearly presented
17. Key recommendations should be easily identifiable
18. The guideline should be supported with tools for application |
| 5. Applicability | 3 | 19. The potential organizational barriers in applying the recommendations should be discussed
20. The potential cost implications of applying the recommendations should be considered
21. The guideline should presents key review criteria for monitoring and audit purposes |
| 6. Editorial independence | 2 | 22. The guideline should be editorially independent from the funding body
23. Conflicts of interest of guideline development members should be recorded |

International guidelines: Adoption or adaptation by the Saudi Heart Association? 183
one cultural and organizational setting for application in a different context. Adaptation may be used as an alternative to developing a new guideline. Adaptation of an existing guideline minimizes duplication of effort (in both evidence review and development of recommendations); improves and “speeds up” production; maximizes quality; and promotes consistency.

The international ADAPTE Collaboration recommends the use of the ADAPTE guidance on guideline adaptation. The adaptation of an existing guideline is depicted in Fig. 2 and involves:

- Selecting a topic (high impact; high volume; high cost; improvement possible).
- Formulation of clinical question.
- Searching for and retrieving existing Evidence Based Guidelines.
- Assessing: the Quality and Applicability rigorously.
- Accepting (Endorsing) an existing guideline OR producing a customized guideline from one or more existing published EB-CPG.

*Six core principles* underlying the development of guideline adaptation process:

1. Guideline should be outcome focused.
2. Guidelines should be based on the best available evidence and should include a statement about the strength of recommendations (like using the GRADE classification).
3. The method used to synthesize the available evidence should be the strongest applicable.
4. The process of guideline development should be multidisciplinary and should include consumers (patients and health care providers).
5. Guidelines should be flexible and capable of adapting to varying local conditions.
6. The validity and usefulness of the guidelines should be evaluated; and

The process of CPG adaptation should be followed by three other extremely important processes which are (see Fig. 3):

1. CPGs endorsement
2. CPGs publication, dissemination and implementation
3. CPGs revision (on a pre-set time interval or whenever a new evidence is released)

The SHA should identify any barriers to acceptance and implementation of the guidelines and work with members of target groups to develop ways for overcoming these barriers. Guidelines should be presented in a format and style suitable for the target users.

Strategies for *active dissemination and implementation* depend on the nature of the guidelines and the target users and may include:

- the use of brochures or posters;
- using the communication links developed by professional bodies and other groups;
- asking respected clinical leaders to promote the guidelines;
- using the education processes of appropriate colleges and other groups;

---

**Figure 2** Practice guidelines evaluation and adaptation cycle.
incorporating the guidelines in routine procedures, such as quality improvement, within relevant organizations; discussing the guidelines at conferences, seminars and other professional meetings; and using the services of a communications professional.

The passive dissemination of guidelines has limited value in changing practitioners’ behavior. Strategies for evaluation should consider:

- how well were they disseminated? For example, how many were accessed online?
- is the general trend in clinical practice moving towards the guideline recommendations?
- have the guidelines contributed to any specific changes in clinical practice? For example, compare clinical practice in areas where the guidelines have been heavily promoted with practice in areas where they have not been promoted; how have the guidelines affected consumers’ (patient and doctors) knowledge and understanding?
- have health outcomes changed?

As for the Revision a date should be set for revision of the guidelines. The recommendation that this occurs every 2-4 years but it may have to be more often where the subject matter or circumstances are prone to rapid change. A Watch group should monitor the possible emergence of a new evidence that can significantly impact or change the current CPGs.

**Conclusion**

The professional societies like the SHA should support health professionals in cardiac fields in the Kingdom of Saudi Arabia and the Gulf Cooperating Countries (GCC) by the proper adaptation (not adoption) of Evidence based clinical practice guidelines. Also SHA may play an pivotal role and be effective in transferring evidence into practice by executing a full range of strategies related to the fields of CPG dissemination, implementation, evaluation and revision of this CPGs. That will eventually results in better outcomes of our cardiac patients in the region.
Further reading

AGREE collaboration <www.agreecollaboration.org>.
Field, M.J., Lohr, K.N. (Eds.), 1992. Guidelines for Clinical Practice: From Development to Use. Institute of Medicine, National Academy Press, Washington, DC.
National and Gulf Center for Evidence Based Medicine <www.NGCEBM.org>.