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PRIMARY CARE

An Interprofessional Perspective

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CHAPTER 6

Appraising Clinical Practice Guidelines

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Primary care providers make clinical decisions on a daily basis. These decisions are often made under a veil of uncertainty. The translation of health research into usable evidence can help reduce this uncertainty in clinical practice. This, however, is dependent on a primary care provider's ability to identify, appraise, interpret, and incorporate research evidence into practice.

The evidence-based practice (EBP) movement came to fruition in 1992 when the term *evidence-based medicine* was coined by Gordon Guyatt and colleagues of McMaster University. Evidence-based medicine was first defined as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients . . . [EBM integrates] clinical expertise with the best available external clinical evidence from systematic research" (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71). As the term evolved, different professions within the health care field began to adopt an evidence-based philosophy of practice. The definition of EBP further developed into a problem-solving approach to clinical care that integrates the conscientious use of evidence from "well-designed studies, the clinician's expertise and the patient's values and preferences" (Fineout-Overholt, Melnyk, & Schultz, 2005, p. 335). The core components of the best research evidence, patient's preferences, clinical expertise, and the clinical context are inherent to the practice of EBP across disciplines and settings (see Figure 6.1).

Straus, Glasziou, Richardson, and Haynes (2011) outline a five-step process for employing EBP:

1. Ask an answerable, clinically focused question.
2. Identify the best evidence that answers that question.
3. Critically appraise the evidence for validity, strength, and clinical applicability.
4. Integrate evidence into clinical practice, incorporating patient values and beliefs.
5. Evaluate the effectiveness of the application of the evidence in clinical practice while making improvements where needed.

Although these steps seem simple enough, carrying them out effectively can be a time-consuming process. With the rapidly growing knowledge base of health-related research, it is increasingly difficult for primary care providers to stay abreast of new knowledge and appraise that knowledge for use in practice. Many providers turn to systematic reviews and clinical practice guidelines (CPGs) that summarize available evidence in a more readily accessible format.

DEFINING CLINICAL PRACTICE GUIDELINES

Research evidence that has been critically appraised and synthesized is essential for busy providers to practice using an evidence-based framework. CPGs came into existence in the early 20th century with the publication of the American Academy of Pediatrics' *Redbook of Infectious Diseases* in 1938 (Institute of Medicine [IOM], 2011). As the amount of research evidence available and the demands to frame clinical practice from an EBP approach increase, the need for CPGs has become more evident.

In 1990, at the request of the United States Congress, the IOM published *Clinical Practice Guidelines: Directions for a New Program*, which was followed in 1992 by *Guidelines for Clinical Practice: From Development to Use* (IOM, 1990, 1992). These reports provided direction for the newly formed Agency for Healthcare Policy and Research (now called the Agency for Healthcare Research and Quality), which was tasked with developing CPGs to appraise and synthesize the growing body of evidence (IOM, 2011).

As defined by the IOM, CPGs are "statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options" (IOM, 2011, p. 4). Recommendations contained within CPGs should be systematically derived from the best research evidence available by a panel of experts who have knowledge of the practice problem being evaluated.

Whereas systematic reviews of the literature identify the best available evidence to answer a focused clinical question, CPGs further identify recommendations of what should and should not be done in a specific clinical context. Gaps frequently exist in the current knowledge base, and bias often plagues research findings. As a result, CPGs provide a grading of the quality of evidence used to make clinical recommendations and identify the strength of the recommendations, while taking into account benefits and harms (IOM, 2008).

The IOM has identified eight attributes that high-quality CPGs contain (IOM, 1990).

- Validity: CPGs are valid if, when carried out as directed, the projected outcomes are achieved.
- Reliability: CPGs are methodologically reliable if, following the same methods, other experts arrive at the same recommendations. CPGs are clinically reliable if, in a similar clinical context, different practitioners apply the guidelines in the same way.
- Clinical applicability: CPGs should explicitly identify the population to which the guidelines should be applied and should be as inclusive as the evidence allows.
- Clinical flexibility: CPGs should identify any exceptions to the recommendations provided to allow for flexibility in the interpretation of recommendations within the boundaries of the available evidence.
- Clarity: CPGs should be organized with a logical flow, defining all terms and avoiding ambiguous language, while being specific to the population and clinical context to which the recommendations should be applied.
- Interprofessional process: CPG development groups should include all key stakeholders who will be affected by the guideline recommendations.
- Scheduled review: CPGs should include a statement indicating when the guideline will be reviewed to determine if new evidence has emerged that may alter the present guidelines.
- Documentation: CPGs should be transparent in the documentation of the methods used, the evidence identified, and any assumptions made in the development of the guideline.

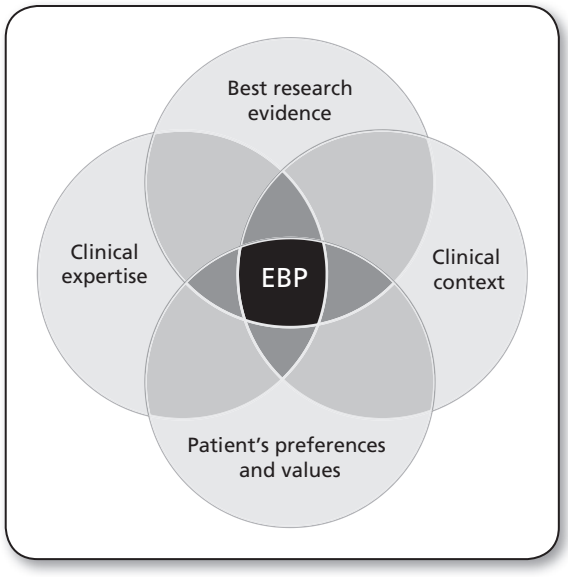

FIGURE 6.1
Elements of evidence-based practice (EBP).

SEARCHING FOR CLINICAL PRACTICE GUIDELINES

After a clinical question has been posed, the next step of the EBP process is identifying the best available evidence to answer the question being asked. Databases such as the National Library of Medicine's PubMed, the Cumulative Index of Nursing and Allied Health Literature (CINAHL), and EMBASE are common resources used to search for answers to clinical questions. These databases, however, contain millions of records extending over decades. Busy providers rarely have the time to search through and appraise the vast amount of research evidence available in order to incorporate the best evidence into practice. Systematic reviews and CPGs provide summaries of evidence to guide practice. Many groups are producing CPGs and these guidelines can be readily accessed on the web. In addition to the resources provided in Table 6.1, websites of professional organizations such as the American Cancer Society, the American College of Cardiology, or the American Diabetes Association are good resources for locating CPGs.

The number of CPGs available continues to increase and primary care providers will need to be able to evaluate the validity, reliability, and relevance of a CPG before implementing recommendations into practice. For example, as of April 2013 a search of the National Guideline Clearinghouse (Agency for Healthcare Research and Quality, n.d.-a) listed 60 CPGs related to the management of type 2 diabetes mellitus. These CPGs were originally published between 1994 and 2012, some including subsequent revisions.

One of the challenges of identifying a CPG is to filter through variable guidelines related to a specific health condition. Different interest groups may create conflicting

TABLE 6.1 Clinical Practice Guideline Resources

National Guideline Clearinghouse	http://guideline.gov/
Guidelines International Network	www.g-i-n.net/
National Institute for Health and Care Excellence (NICE)	www.nice.org.uk/
Canadian Medical Association Infobase: Clinical Practice Guidelines	www.cma.ca/cpgs/
Scottish Intercollegiate Guidelines Network (SIGN)	www.sign.ac.uk/
Australian National Health and Medical Research Council: Clinical Practice Guidelines Portal	www.clinicalguidelines.gov.au/

guidelines related to one particular health condition based on the interests of the group. Conflicting guidelines are often a result of weak evidence or gaps in the evidence where the clinical expertise of the development group members are used to fill in the gaps. Appraising the guidelines for sources of bias becomes a key step in choosing a CPG for use in practice.

Another consideration when choosing a CPG is the date the guideline was developed. How old is too old? CPGs require periodic updating as new evidence is developed. There is no set timeline for when CPGs should be updated. Updates are usually done based on the topic and the speed with which new evidence is being developed related to that topic. For areas such as cancer care, where new evidence is frequently produced, CPGs may have to be updated on a more frequent basis than other areas; for example, peptic ulcer disease where management has remained relatively static. Evaluating the dates of evidence cited in a CPG can give some information regarding how current the recommendations are. Guideline developers could be contacted to determine if an update is planned or if the developers feel the guideline is still current enough for use in practice. A database search for any systematic reviews published since the release of a CPG can be useful to determine if a guideline is in need of an update.

Shekelle et al. (2001) identified six circumstances that necessitate updating of CPGs:

- Changes in the available interventions
- Changes in evidence related to the benefits or harms of interventions
- Changes in the outcomes considered important
- Changes in the evidence related to optimal practice
- Changes in the values placed on outcomes
- Changes in resource availability

In a review of 17 CPGs produces by the Agency for Healthcare Research and Quality, Shekelle et al. (2001) concluded that half of the guidelines became obsolete after 5.8 years. They went on to recommend that all CPGs be reviewed every 3 years. The IOM (2011) has not provided a time estimate but only recommends regular reviews of the literature for the emergence of new evidence that would necessitate the updating of CPGs.

APPRAISING CPGs

Determining whether a CPG is valid and relevant to a specific clinical context first requires a critical appraisal of the guidelines. Despite the methodologies formulated by the IOM for development of CPGs, guideline developers do not always adhere to these standards (Shaneyfelt, Mayo-Smith, & Rothwangl, 1999). Transparency in the guideline development process is necessary for an assessment of the rigors of guideline development. Determining how well guideline developers adhered to and reported on each of the eight attributes described by the IOM is an important step in applying evidence to practice.

Appraisal Tools

Numerous clinical appraisal instruments have been developed to aid users in the critical appraisal process to differentiate between higher- and lower-quality CPGs. A review of the literature identified two systematic reviews comparing CPG appraisal instruments. The first identified 15 different instruments developed between 1992 and 1999 (Graham, Calder, Hebert, Carter, & Tetroe, 2000). The second identified 24 instruments in a search up through 2003 (Vlayen, Aertgeerts, Hannes, Sermeus, & Ramaekers, 2005). Many of the instruments in existence are based on the eight attributes of CPGs described by the IOM. Only four of the critical appraisal instruments identified in these systematic reviews underwent testing for reliability and validity. Of these, the Cluzeau instrument (Cluzeau, Littlejohns, Grimshaw, Feder, & Moran, 1999), which was based on the instrument original developed by the IOM, and the Appraisal of Guidelines, Research and Evaluation (AGREE) instrument (Agree Collaboration, 2003), which is based on the Cluzeau instrument, were determined by the reviewers to address all of the dimensions deemed necessary for an appraisal instrument.

The AGREE instrument has become the most widely used critical appraisal tool for CPGs. It is easy to use and has been tested for reliability and validity on 100 guidelines from 11 countries by more than 200 different appraisers (Agree Collaboration, 2003). The AGREE instrument has since been refined, improving its reliability and validity, and updated to better meet the needs of the user (AGREE Next Steps Consortium, 2009). The AGREE II instrument contains 23 items grouped into 6 domains, with each item scored on a 7-point Likert scale. There is no cutoff point that differentiates between a good- and a poor-quality CPG; this decision should be made by the appraiser taking into account the clinical context in which the CPG is to be applied. The AGREE II instrument can be used to appraise CPGs on any health condition and stage on the continuum of care from health promotion and screening to diagnosis and treatment (AGREE Next Steps Consortium, 2009). The original AGREE instrument and the AGREE II instrument, which is available in six languages, can be found on the AGREE Research Trust's website (www.agreetrust.org).

One important limitation of existing appraisal instruments, including the AGREE II instrument, is the lack of assessment of the clinical content of the CPG or the quality of the evidence that supports the CPG's recommendations (Vlayen et al., 2005). All appraisals of CPGs are limited by the extent to which the guideline development process was documented. The transparent documentation of the development process, however, does not always lead to high-quality recommendations, making critical appraisal of CPGs an important step in putting their recommendations into practice.

In 2002, the Conference on Guidelines Standardization (COGS), a group representing 22 different professional organizations, developed a checklist of 18 items to support more comprehensive documentation in CPGs (Shiffman et al., 2003). The 18 items outlined in the COGS statement are recommendations of what should be contained in all CPGs

to enhance validity and usability of guidelines. The National Guideline Clearinghouse has also developed a list of 55 attributes that a CPG must address in order to be published in its database, including scope, methodology, evidence supporting the recommendations, benefits and harms, contraindications, and implementation of the guideline (Agency for Healthcare Research and Quality, n.d.-b). The development of standardized attributes for CPG reporting adds to the transparency of reporting the CPG development process and supports the critical appraisal of guidelines, which is recommended prior to implementation of recommendations into practice.

Domains of Clinical Practice Guidelines Quality Assessment

When appraising CPGs, primary care providers want to determine what the recommendations are, if the recommendations are valid, and if the recommendations are applicable to the context in which the provider intends to apply them. The six domains evaluated by the AGREE II instrument can aid primary care providers in answering these questions. These six domains, each evaluating a different quality attribute, include scope and practice, stakeholder involvement, rigor of development, clarity and presentation, applicability, and editorial independence (AGREE Next Steps Consortium, 2009). The questions under each domain can be found in Table 6.2.

SCOPE OF PRACTICE

The scope and purpose domain is concerned with the overall aim of the CPG. A CPG should contain a specific statement that clearly identifies the objectives of the guideline and how the recommendations contained within the guideline can impact health. The clinical questions being asked should be explicitly stated. Questions are typically defined using the PICO format where the population (P), intervention (I), comparator (C), and outcomes (O) of interest are described. Clear questions are necessary to guide the search of the literature in the development of recommendations for practice. The target population in which the recommendations are meant to be applied must also be described, as recommendations should not be generalizable to other populations outside the scope of a guideline. Defining characteristics of the population, such as age, gender, race, ethnicity, diagnosis, clinical characteristics, or other defining attributes, should be included.

STAKEHOLDER INVOLVEMENT

CPGs are typically developed by groups of professionals who hold a vested interest in the questions being asked by the guideline. Members of the development group, including their discipline and expertise, should be reported in the CPG. All relevant stakeholders should have representation in the development group. An interprofessional panel brings diverse experiences and philosophies to the guideline development process to ensure that the evidence is interpreted with limited bias.

TABLE 6.2 Agree II Instrument

SCOPE AND PURPOSE
1. The overall objective(s) of the guideline is (are) specifically described. 2. The health question(s) covered by the guidelines is (are) specifically described. 3. The population to whom the guideline is meant to apply is specifically described.
STAKEHOLDER INVOLVEMENT
4. The guideline development group includes individuals from all relevant professional groups. 5. The views and preferences of the target population have been sought. 6. The target users of the guidelines are clearly defined.
RIGOR OF DEVELOPMENT
7. Systematic methods were used to search for evidence. 8. The criteria for selecting the evidence are clearly described. 9. The strengths and limitations of the body of evidence are clearly described. 10. The methods for formulating the recommendations are clearly described. 11. The health benefits, side effects, and risks have been considered in formulating the recommendations. 12. There is an explicit link between the recommendations and the supporting evidence. 13. The guideline has been externally reviewed by experts prior to its publication. 14. A procedure for updating the guideline is provided.
CLARITY OF PRESENTATION
15. The recommendations are specific and unambiguous. 16. The different options for management of the condition or health issue are clearly presented. 17. Key recommendations are easily identifiable.
APPLICABILITY
18. The guideline describes facilitators and barriers to its application. 19. The guideline provides advice and/or tools on how the recommendations can be put into practice. 20. The potential resource implications of applying the recommendations have been considered. 21. The guideline presents monitoring and/or audit criteria.
EDITORIAL INDEPENDENCE
22. The views of the funding body have not influenced the content of the guideline. 23. Competing interests of guideline development group have been recorded and addressed.

Source: Adapted from "The AGREE II Instrument" by AGREE Next Steps Consortium (2009).

As the main stakeholder in clinical practice is the patient, all CPGs should be informed by the experiences and expectations of the population being targeted. Ensuring that the views and preferences of the target populations are represented in a CPG can occur at many levels, from consultations

or focus groups with representatives of the population, to inclusion of patients in the guideline development group, or review of recommendations by these stakeholders prior to publication. All CPGs should contain evidence that these important stakeholders have been involved in some stage of the guideline development process and that their views have been considered in the recommendations developed.

The other important stakeholder to be considered in guideline development is the intended user. The intended user and how that user can apply a specific guideline should be clearly identified, allowing readers to quickly determine if a guideline is relevant to their practice.

RIGOR OF DEVELOPMENT

The rigor of development domain assesses guideline development and how well the development process was reported. The AGREE II instrument, as well as the majority of other CPG appraisal instruments available, does not assess the clinical content of the guideline or the quality of the evidence the recommendations are based on. These issues are expected to be addressed by the development group in the formulation of their recommendations and reported in the CPG.

Details of the search strategy used to identify relevant evidence should include a description of the search terms used, the sources searched, and the time frame of the search. The search strategy should be comprehensive in order to identify all relevant evidence, including published and unpublished sources that answer the question being asked. Sufficient details should be reported to allow for the search to be replicated with the expectation of producing the same results.

When combing through myriad results of a comprehensive search, guideline developers need a clear set of inclusion and exclusion criteria for identifying relevant evidence. A CPG should explicitly state the inclusion and exclusion criteria used to locate evidence that answers the question being asked. The rationale for defining these criteria should be described. The appraiser will need to decide if all relevant evidence has been considered for inclusion.

Guideline developers should assess the quality of the evidence that leads to the recommendations for practice. Critical appraisal of all relevant literature identified from the comprehensive search should include an assessment of the strengths and limitations, including risks of bias, for all relevant evidence. There are many critical appraisal instruments available to assess the quality of individual studies. The method used for critical appraisal and the assessment of the evidence should be reported. Evidence from low-quality studies—that is, studies with a high risk of bias—should be weighted less in the formulation of recommendations for practice.

Once the evidence has been compiled, the next step is formulation of the recommendations. The methods used to synthesize the evidence and the process for resolving disagreements should also be discussed. Both benefits and risks related to the recommendations and alternative strategies should be considered. Any uncertainty or variability in the desired outcomes should be reported. The direct link between the evidence and the recommendations provided should be transparent. The strength of recommendations should be graded based on the level of evidence from which they were derived. Any recommendations based on expert opinion should be clearly stated.

All CPGs should undergo peer review prior to publication as another check to minimize bias. The process of conducting this external review should be reported. Stakeholders not involved in the development process should conduct this review to evaluate the CPG development process and the appropriateness and applicability of the recommendations. Reviews should include clinical experts and representatives of the target population. A pilot test of the recommendations may be another method used to assess appropriateness and applicability of a CPG.

CPG recommendations should be based on the best available evidence. As new evidence is constantly being developed, the process for updating a CPG should be discussed. The timeline for updating CPGs should be determined by how rapidly new evidence related to the question is developed.

CLARITY AND PRESENTATION

Users of CPGs should be able to easily identify recommendations for practice that answer the clinical question being addressed. Many guidelines provide separate summaries, reference guides, or text boxes highlighting the relevant recommendations. The recommendations provided in CPGs must be appropriate and applicable to a specific clinical situation, while considering different options that may arise related to the clinical context and patient preferences. The recommendations, based on the best available evidence, should explicitly describe what to do, in what situation it should be done, and what population it should be applied to. Different options for management of the clinical condition should be presented. This includes recommendations for practice that reflect all stages of a clinical condition, including screening, prevention, diagnosis, and treatment. Ambiguity should be minimized and any uncertainty should be reported.

APPLICABILITY

In order to successfully implement evidence-based recommendations from CPGs into practice, users need to understand the context in which to apply recommendations. Facilitators and barriers that exist in any clinical situation will affect the application of CPG recommendations. These facilitators and barriers should be anticipated by guideline development groups and reported. Strategies for overcoming potential barriers should be provided.

Advice or tools to facilitate implementation of recommendations in practice should be provided. These may include summary guides, implementation guides, checklists or other implementation instruments, patient information handouts, or details of pilot tests and outcomes obtained. Users should be directed to these instruments and resources that may be located outside of a guideline.

Important considerations in implementing recommendations into practice are the resources needed to carry out those recommendations. These resources may include team members with clinical expertise, new equipment or tools,

or access to medication or treatment modalities. Cost is an important consideration in applicability of guideline recommendations. Economic evaluations, including cost–benefit and cost-effectiveness analyses of recommendations, should be provided, as these considerations may weigh heavily on a user's ability to implement recommendations into practice.

The ability to evaluate the outcomes of the implementation of recommendations is essential to quality, safety, and overall outcomes of care. Monitoring and/or auditing criteria should be described. These include specific process measures, behavioral measures, or specific clinical outcomes. Measurement criteria, including the procedure, timing, and frequency of measurement, to determine if the implementation of recommendations resulted in an improvement should be defined.

EDITORIAL INDEPENDENCE

As many guidelines are developed with support from government agencies, professional organizations, or health care industries, it is important to assess for sources of bias in the recommendations made. Sources of funding should be identified. Guidelines should explicitly state that the funding body did not influence the results and the recommendations presented are based solely on the best available evidence. Conflicting interests of members of the development group, how these conflicting interests influenced guideline development, and methods used to minimize these influences should be identified. Potential bias of the results from competing interests may influence a user to adopt one CPG over another.

APPLYING EVIDENCE TO PRACTICE

High-quality evidence-based CPGs have the ability to improve clinical outcomes and health policy. CPGs are developed to guide clinical practice and decision making. In some instances, there may be more than one CPG published by different groups that relates to a specific clinical situation. The primary care provider should appraise each guideline for validity before deciding which recommendations to follow. Although guidelines are based on the best available evidence, that evidence is often limited or of reduced quality, so clinical experts must fill in the gaps based on their own clinical expertise. Caution should be taken in using recommendations from guidelines of lower methodological quality. Recommendations should only be applied to the clinical context in which the guideline was developed. While multiple guidelines may relate to a particular disease state, they may not all apply to the clinical context and population at hand. If recommendations from competing CPGs differ, careful attention should be applied to the process used to search the evidence and the methods used to develop the recommendations.

After careful appraisal of identified CPGs, primary care providers can make informed decisions as to which recommendations can be implemented into their practice. Occasionally providers may find recommendations from different CPGs to be applicable to their practice setting. Providers, using their clinical judgment and taking into account their patients' needs, preferences, and values, may opt to incorporate recommendations from competing CPGs into their practice. With any practice improvement initiative, a small test of change should occur to assess the *fit*, that is, the applicability and value those recommendations add to the current clinical context.

Before rolling out any practice improvement, it is important to make sure the recommendations from CPGs can be transferred to a particular practice setting and patient population, or whether adjustments are needed to enhance the fit of the recommendations to the current practice. The feasibility of implementing recommendations, including the resources needed to carry out the change, must also be evaluated. One of the most critical components for stakeholders in deciding to implement a practice change is the cost–benefit. The cost–benefit of a recommendation is one of the standards that should be incorporated in CPGs, but this is often omitted. Organizations will likely want to understand the cost–benefits of incorporating a change into practice, especially if the costs to implement a change are high.

Several models for implementing evidence into practice and testing the fit of that evidence in an organization have been developed. One such model, the plan–do–study–act (PDSA) cycle (Figure 6.2) was first published by W. Edwards Deming in 1993; it has roots in the scientific method and evolved from earlier learning and improvement cycles developed for industry and manufacturing in the 1950s and 1980s (Moen & Norman, 2010). The PDSA cycle has been adopted for use in many health care organizations. This improvement process involves rapid cycles of small tests of change to evaluate the impact of the change on current practices prior to rolling out practice changes on a large scale. The *plan* phase of the PDSA cycle involves identifying a clinical practice question and then searching for and appraising CPGs that answer this question. The *do* phase is where the recommendations from CPGs are put into practice. It is important to understand if these practice changes result in an improvement. In the *study* phase, outcome data are collected and analyzed after the practice recommendations have been implemented. In the *act* phase, further actions are devised based on the analysis of the outcomes. These actions can include proceeding with the recommendations on a larger scale, redesigning the process and retesting until desired outcomes are achieved, or beginning again by testing a different recommendation for change. Ongoing evaluations of practice processes based on evidence-based

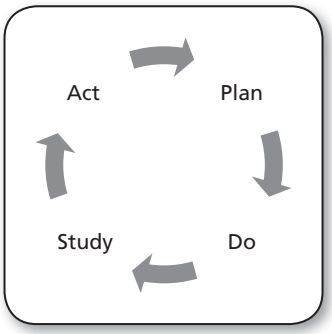

FIGURE 6.2
Plan–do–study–act (PDSA) cycle.

guidelines should occur. Amendments to current practices may be necessary as new evidence is developed and CPGs are updated.

DEVIATING FROM CPGs

The aim of CPGs is to improve care based on guidance from the best evidence available. Evidence alone, however, cannot dictate what will happen in every clinical situation and for individual patients. As we see from Figure 6.1, EBP takes into account not only the best research evidence, but also clinical expertise, patients' preferences and values, and the clinical context. Occasionally these other influences necessitate deviations from the recommendations provided by CPGs.

Primary care providers should choose a CPG that has the best fit to their practice and patient population. The recommendations provided by the CPG are used to guide decision making, but some flexibility must remain in practice when providing patient-centered care. This decision-making process should be shared between the provider and the patient. Recommendations from CPGs should be discussed with the patient to determine if the patient's goals align with the CPG recommendations. Primary care providers have a duty to explain the evidence behind a practice recommendation and disclose all the benefits and risks related to the recommendations so patients can make an informed decision based on their needs, preferences, and values. A patient may be unwilling to accept the risk of a particular treatment despite its recommendation based on current evidence. Any deviation from a chosen CPG, whether due to the provider's judgment or the patient's preference, should be documented in the patient's chart.

Deviations are common when patients present with multiple comorbid conditions. When trying to incorporate CPG recommendations related to different conditions into the plan of care for one patient, conflicts of recommendations may occur. Most guidelines do not address the patient with multiple comorbidities. This is where the primary care provider's clinical expertise and the patient's needs influence the decision-making process. Providers need to determine which recommendations are in the best interest of their patients, incorporating those into the plan of care in a manner that reduces risk and provide the best outcomes.

SUMMARY

CPGs provide a summary of evidence around a particular clinical question. Given the growing number of CPGs available, it is important that primary care providers be able to critically appraise the process used to develop a guideline, as well as the applicability, flexibility, and clarity of the recommendations provided. Careful scrutiny of available guidelines by end users and organizations can inform decisions regarding which recommendations are most suitable for a particular setting. Recommendations from CPGs should be interpreted and applied using the primary care provider's clinical expertise and take into account patients' preferences and values when being applied to clinical practice. Adopting the evidence and recommendations from CPGs can lead to improved clinical practice and positive health outcomes.

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