

Patient-Centered, Evidence-Based Decision Making

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Most physicians are committed to providing evidence-based care that is patient-centered and responsive to the clinical circumstances and values of each individual patient. However, there is increasing pressure from payers and those who attempt to define and measure quality in medical encounters for physicians to uniformly apply clinical guidelines to patients and minimize variance in clinical care.¹⁻⁴ These 2 approaches are not always compatible and thus may create conflict for patients and physicians.

In this issue of *JAOA—The Journal of the American Osteopathic Association*, Good and Rogers⁵ provide insight into these complexities and use the clinical circumstance of atrial fibrillation to illustrate how primary and specialty care physicians might navigate these competing forces. The authors make a distinction between a “goal” of care (ie, “the focus and aspirations of a treatment”) and a “guideline” that sets a “standard, or expectation, of treatment.”⁵ The former captures the spirit of patient-centered care, while the latter attempts to provide an evidence-based platform, built from studies of groups of patients, that a single patient might stand on.

These 2 concepts (ie, patient-centered care and evidence-based medicine) are distinct yet intertwined. Patient-centered care is an approach to the medical encounter that encourages patients to be active participants in their health and invites them to express their values and preferences for clinical care.⁶ Evidence-based medicine is a model of medical decision-making that incorporates 4 overlapping domains, 2 of which emphasize aspects of patient-centered care.⁷ Three of the evidence-based medicine domains—research evidence, patients’ preferences and actions, and clinical state and circumstance—can be illustrated using a Venn diagram (*Figure*). A fourth overriding circle illustrates the role of clinical expertise.

In their article, Good and Rogers⁵ describe the role of each of these domains and point out how the weight of a given domain may change according to the nature and urgency of the clinical decision. There will be times when clinical expertise clearly dominates (eg, the choice of which heart rate-controlling medication, as well as the dose and route, to use in an acute situation) and times when patient preference and clinical state should dominate (eg, the long-term decision to engage in stroke risk reduction with warfarin or antiplatelet therapy).

What is the role of research evidence in clinical decisions? When thinking about clinical decision-making, it is helpful to remember what research evidence can and cannot do for an individual physician caring for an individual patient. Research evidence cannot tell you if your patient will or will not benefit from a given intervention. The best

that good research can do is describe the probabilities of various outcomes that might result when a given intervention or treatment is applied to an individual patient. As implied by Good and Rogers,⁵ no cardiologist can say with certainty that a given patient with refractory atrial fibrillation will benefit from ablation therapy. However, a physician applying a patient-centered, evidence-based approach should be able to describe the probabilities of the various outcomes resulting from the intervention, within the realm of statistical uncertainty, and then attempt to juxtapose this information alongside the patient’s desires and his or her wishes for medical care.

How might one apply this methodology to a clinical scenario? In their article, Good and Rogers⁵ present an illustrative case of a 72-year-old man with atrial fibrillation and 2 additional stroke risk factors (diabetes and hypertension) who would like to stop taking warfarin. After a review of updated guidelines and individual research articles, the authors suggest that a combination of aspirin and clopidogrel may be his best available option. However, a more patient-centered, evidence-based approach would attempt to provide this patient with a better assessment of the risks and benefits of his treatment options, allowing him to generate more realistic expectations for the outcomes of therapy vs no therapy.

To illustrate this point further, the patient’s CHADS₂ (Congestive Heart Failure, Hypertension, Age \geq 75 Years, Diabetes, Stroke History [2 Points]) score of 2 suggests the probability of an adjusted annual stroke rate of 4% with no therapy.⁸ Using outcome data

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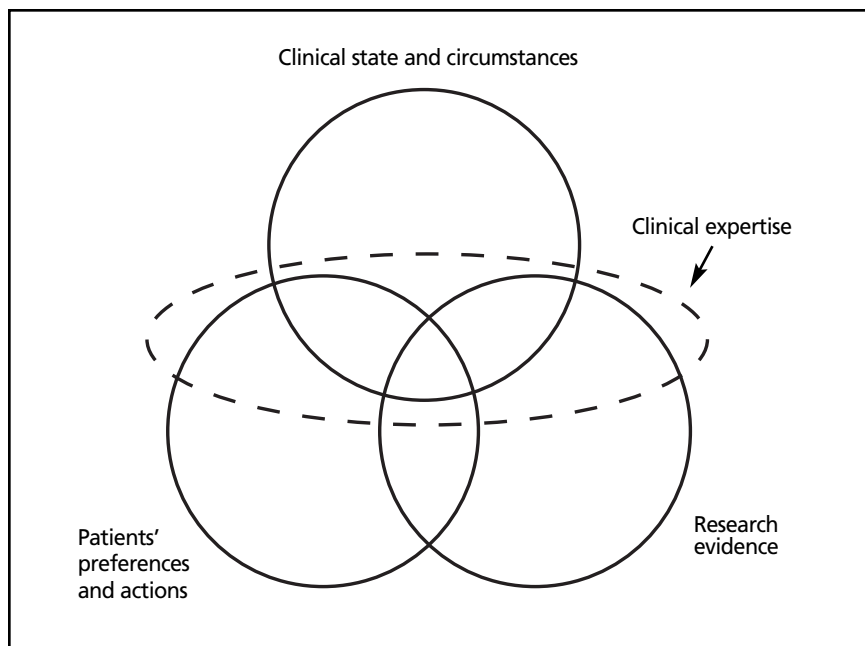


Figure. Four components of evidence-based medicine. Adapted with permission from BMJ Publishing Group Ltd.⁷

from the ACTIVE (Atrial Fibrillation Clopidogrel Trial With Irbesartan for Prevention of Vascular Events) trial (Table)⁹ and an untreated event rate of 4% (the ACTIVE trial did not include a “no treatment” control group), one can begin to construct the probabilities of different outcomes on the basis of differing treatment exposures. If the patient chooses to do nothing, he could expect a 1-year stroke-free survival rate of 96%. For the sake of illustration and simplicity in calculation, I will overestimate the benefit of treatment and lower the 1-year stroke event rates in the ACTIVE trial⁹ from 2.4% (aspirin and clopidogrel) and 3.3% (aspirin alone) to 2% and 3%, respectively. If the patient chooses to take aspirin, he could improve his 1-year stroke-free survival rate from 96% to 97%, but this would come with some additional risk of bleeding (about 1 in 100 patients per year will experience a major bleed). The addition of clopidogrel to aspirin would further

improve the stroke-free survival rate to 98%, but at the cost of an additional 1% increase risk in bleeding (about 2 in 100 patients per year will experience a major bleed).

Another way to state these probabilities would be to say that for 100 similar patients treated with aspirin compared with no treatment over a 1-year period, 96 would have been overtreated (they were not destined to have a stroke, so they could not benefit from aspirin), 1 benefited, and 3 were “losers” (ie, they had a stroke despite taking aspirin). The addition of clopidogrel would increase the number of those benefiting from treat-

ment to 2 and decrease the number of losers to 2, but this comes at an additional increase in the risk of bleeding. Stated this way, one could imagine 3 patients in the same clinical circumstance, each making a different treatment choice, and none of those decisions could be considered irrational. This decision would clearly need to be guided by patient preference and clinical circumstance.

But how realistic is this approach? Can busy clinicians be expected to take time to seek out and determine these various probabilities? Guidelines can be helpful, but they often present only relative risk reductions that cannot easily be translated into actual effect sizes. In addition, most guidelines make treatment recommendations on the basis of the creation of thresholds within changing levels of independent risk factors (ie, CHADS2 score, hemoglobin A_{1c} levels, and blood pressure levels) with no indication of the probability of benefit.¹⁰ For example, the American College of Cardiology/American Heart Association 2006 guideline on the management of atrial fibrillation⁸ referred to by Good and Rogers⁵ summarizes in a table its treatment recommendations for stroke risk reduction based on CHADS2 scores.⁸ However, the guideline⁸ makes no mention of the probabilities of benefits from the treatment options suggested at various CHADS2 score levels, and it does not offer an option of no therapy as a potentially rational choice.

Clinicians committed to practicing patient-centered, evidence-

Table. Stroke Event Rates by Treatment, as Reported in the ACTIVE Trial ⁹			
Outcome	%/y		Relative Risk (95% Confidence Interval)
	Clopidogrel Plus Aspirin	Aspirin	
Stroke	2.4	3.3	0.72 (0.62-0.83)

based medical decision-making will need help beyond what most guidelines currently offer. Organizations such as the Center for Informed Choice at the Dartmouth Institute (<http://tdi.dartmouth.edu/centers/informed-choice/about/>) or the Informed Medical Decisions Foundation (<http://www.fimdm.org>) are developing educational programs and decision aids to help interested clinicians and patients. A recent Cochrane Review documented the benefits of using decision aids; it also points out that the use of these tools may increase the probability that physicians will spend more time with patients.¹¹ But no one ever said that promoting informed and engaged patients should be quick and easy.

Good and Rogers⁵ have added to the literature on patient-centered care by highlighting the challenges and complexities of managing the common clinical condition of atrial fibrillation. Physicians looking to

become more patient-centered and evidence-based in their clinical decision making will benefit from taking time to carefully read their article. The authors⁵ are pointing to a destination, although we may still need better maps and improved resources to help clinicians and patients along our shared journey.

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