

Clinical Recommendations in Medical Practice: A Proposed Framework to Reduce Bias and Improve the Quality of Medical Decisions

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ABSTRACT

Patients rely on, benefit from, and are strongly influenced by physicians' recommendations. In spite of the centrality and importance of physicians' recommendations to clinical care, there is only a scant literature describing the conceptual process of forming a clinical recommendation, and no discrete professional standards for making individual clinical recommendations. Evidence-based medicine and shared decision making together are intended to improve medical decision making, but there has been limited attention to how a recommendation is discretely formulated from either of those processes or how patients' preferences ought to be considered and how much weight they should hold. Moreover, physicians' bias has been reported to strongly influence how a recommendation is derived, thereby undermining the quality of healthcare decisions and patients' trust. To demonstrate a potential for improving the quality of decisions, this article proposes a conceptual framework for how physicians should reach a clinical recommendation and apply the process in practice. For preference-sensitive clinical decisions—that is, clinical decisions when patients' values and preferences are relevant—the process for reaching a recommendation should be transparent to patients and

should be based solely on the medical evidence and patients' values and preferences. When patients' preferences for care do not prioritize health, physicians decide whether their recommendation will prioritize a welfare-enhancing versus an autonomy-enhancing approach. When there are gaps in understanding how physicians derive their clinical recommendations and how to further improve the quality of the decisions, the author calls for further empiric research.

INTRODUCTION

Consider two clinically similar patients under your care. Both are 78 years old with New York Heart Association Class IV congestive heart failure (CHF). Both are medically well managed, not depressed, and live with supportive families. Their physical exams, lab work, medications, and prognoses are similar. One tells you she wishes for continued medical treatment and hospitalization, as needed. She also wonders if an automated implanted cardiac defibrillator is appropriate for her. The other patient finds her quality of life to be poor and wishes to have symptomatic management of her shortness of breath, but she does not wish to return to the hospital for further management of her CHF exacerbations; she wants to spend the rest of her limited time comfortable and with her family. Both patients ask for your recommendation about their care. What factors are relevant to making a recommendation? Should your

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David Alfandre, "Clinical Recommendations in Medical Practice: A Proposed Framework to Reduce Bias and Improve the Quality of Medical Decisions," *The Journal of Clinical Ethics* 27, no. 1 (Spring 2016): 21-7.

recommendations be different because the patients' preferences are different? And if patients' preferences are the determining factor in this case, when should they be determining factors in making clinical recommendations?

A physician's clinical recommendation is central to medical practice and to the physician-patient relationship. Patients expect and depend on a physician's guidance and recommendations to help them to understand their medical issues and make good choices about their care.¹ When patients are faced with medical complexity and multiple options, recommendations can help them manage uncertainty. In some cases, patients' cognitive biases can lead them to ask for or to decline a recommended treatment that isn't consistent with their values.² A physician's recommendation can strongly counteract this by influencing patients to consider other options.³ It has long been held in medicine and ethics that simply leaving a patient to choose from a list of medical options without a recommendation or guidance is a relinquishment of a physician's obligation of non-abandonment.⁴ While there is no widely accepted definition of a clinical recommendation in the literature, it will be defined here as the part of a clinical encounter that responds to a specific clinical question and is an explicit statement⁵ by a healthcare professional about which course of action should be taken, why it is beneficial, and the reasons that support it.

In spite of the centrality and importance of recommendations to clinical care and their ability to strongly influence patients, there are no clear professional standards on making clinical recommendations and only scant literature describing the specific conceptual process of coming to a clinical recommendation.⁶ How a recommendation would fit into a model of "decision quality," which is defined as how well a healthcare decision is informed and how well it reflects a patient's preferences and values,⁷ has not been elucidated. Evidence-based medicine and shared decision making together are intended to improve medical decision making, but there has been limited attention on how a recommendation is discretely formulated from either of those processes or how patients' preferences ought to be considered, and how much weight they should be accorded. These considerations are particularly important given the known sources of physicians' bias, that can influence their recommendations and that have the potential to undermine patients' trust in the healthcare system and in the quality of the services it provides. Although financial conflicts of interest have long been recognized as having a po-

tentially problematic biasing effect on physicians' recommendations,⁸ other nonclinical factors—including physicians' personal values,⁹ medical specialty,¹⁰ patients' race,¹¹ geographic area,¹² and undue consideration of socio-economic factors¹³—have all been reported to adversely affect physicians' recommendations.¹⁴

In this article I propose a conceptual framework for how physicians formulate clinical recommendations and apply them in practice. Having a framework for recommendations permits basic standardization to inform further research to describe and analyze this aspect of care, as well as to guide education and training efforts. I propose that for preference-sensitive clinical decisions—that is, decisions about treatment options when patients' values and preferences are relevant—the process for reaching a clinical recommendation should be transparent to patients, and the recommendation should be based solely on a combination of medical evidence, clinical experience, and patients' values and preferences. This article will apply this clinical recommendation model to a variety of clinical scenarios to illustrate its potential value for improving the quality of physicians' decisions.

SHARED DECISION MAKING

The process by which patients and physicians discuss healthcare decisions has changed considerably in the last 50 years, moving towards the empowerment of patients and patient-centeredness and away from paternalism. Patient-centered care has been described in a report by the Institute of Medicine, *Crossing the Quality Chasm*, as one of six crucial elements to ensure the overall quality of healthcare. "Quality" is defined as "providing care that respects and recognizes patients' values and preferences and ensures that those preferences guide all decision making,"¹⁵ to be accomplished through a process of shared decision making (SDM).¹⁶ This practice, for which there is widespread ethical and professional consensus, is the process of physicians and patients making healthcare decisions together by combining the physicians' experience, expertise, and knowledge of medical evidence with patients' values, needs, and preferences for care. Although SDM is used as a catch-all term for decisions about patients' care that are preference-sensitive,¹⁷ there are a variety of ways that patients' individual preferences can affect a recommendation, even for the same clinical decision. For example, for many patients, the choice of delivering general anesthesia by endotracheal tube intubation versus laryngeal

mask airway may not be relevant or important. To a professional opera singer who values reducing her risk of laryngeal side-effects and complications, however, such a decision is likely to be preference-sensitive, that is, it is not value-neutral, and a decision that would benefit from SDM.

For preference-sensitive decisions, patients and physicians should engage in SDM discussions that identify the specific clinical problem, gauge patients' preferences for involvement in the decision-making process, elicit patients' values and preferences for care, and then identify a range of medically appropriate options for management of that clinical problem. Together, physicians and patients decide which of those medically appropriate options might be best, based on the medical evidence in the context of the patients' articulated values. Ideally, this process promotes patients' trust by making explicit how decisions are made and can therefore provide the basis for improving the quality of the decisions made.

On what, then, should a clinical recommendation be explicitly based? The process of SDM that leads to a recommendation draws from two critical sources: (1) the medical facts and evidence base, and (2) patients' values and preferences for care. While there is widespread consensus that both are important to SDM, there is limited clarity on how to incorporate both of them into a recommendation and how to weight each element, particularly when patients' values and preferences regarding care are in conflict with best medical practice.

CONCEPTUALIZING THE RECOMMENDATION

Forming a recommendation based solely on the medical evidence without attention to patients' preferences risks not promoting an individualized treatment plan,¹⁸ may prioritize physicians' values of promoting health, and may be considered a medical error.¹⁹ The general recommendations provided by clinical and professional societies are guideline statements that do not necessarily incorporate patients' preferences in their development,²⁰ and physicians who make recommendations that are concurrent with guidelines but do not individualize treatment to the patient are at risk of not appropriately contextualizing care.²¹

Care that is individualized to patients' values and needs is associated with improved outcomes and better patient-centered care.²² For example, with multiple medication options, the same specific medication recommendation for all patients without regard for their individual preferences regard-

ing effectiveness, risk/benefit profile, side-effects, cost, oral regimen, and timing, does not individualize care because patients' preferences surrounding these factors vary.²³ Patient-centered care considers patients' other articulated priorities and life goals, which can only be done if those values and preferences are elicited and there is an attempt to incorporate them into the medical recommendation.

Alternatively, when patients' preferences and values are the only elements used to form a clinical recommendation, medical expertise and clinical experience are unreasonably and unprofessionally marginalized. Professional commitments to provide care in accord with generally accepted standards of medical practice cannot be routinely abandoned in an attempt to single-mindedly adhere to patients' preferences. Physicians provide the specific medical knowledge and expertise that patients both lack and need. To provide treatment that is consistent with professional standards, patients' preferences cannot be the only considerations in forming a clinical recommendation.

The application of the SDM framework to common clinical decisions is already recognized as a way to promote patient-centered care. For example, for a 46-year-old woman without breast cancer risk factors, a clinical recommendation to have an annual mammogram will depend on both the clinical practice guidelines and the patient's preferences and values about the various risks and benefits of either having or forgoing screening. In these clinical decisions, there is reasonable medical debate about which option is best for an individual patient. When patients have varying levels of risk tolerance with regards to missing a cancer or potentially unnecessary exposure to radiation, the recommendation will depend in part on eliciting and understanding the patients' values and preferences. The same principles are operative in recommending prostate-specific antigen (PSA) screening, in that there is reasonable clinical uncertainty about the appropriate choice, because any recommendation should depend, in part, on patients' values and preferences, so the recommendation should reflect, among other medical details, patients' preferences for either detecting cancer early or avoiding potential diagnostic and treatment morbidity.

The benefit and relevance of making clinical recommendations as a part of SDM do not just apply in situations of clinical uncertainty, that is, when there are medically equal alternatives. Recommendations are useful when a clinical decision must be sensitive to patients' preferences and values. How should physicians make recommendations when the

medical options that are available to patients are not medically equivalent?

When promoting health is the primary goal for the physician and patient, recommendations are less likely to be in conflict. For example, recommending an appendectomy for life-threatening acute appendicitis is usually a straightforward decision, because the physician and patient implicitly agree that lifesaving therapy is desired, and the patient values health promotion to the same degree as the physician. But when promoting health and promoting a patient's other identified goals do not overlap, the physician faces a dilemma. Should the physician base a recommendation strictly on what is in the patient's medical best interests (that is, what promotes the patient's health)? Or should a physician tailor the recommendations to the patient's preferences, even when those preferences result in a medical option that does not maximally promote health? Fundamentally, this illustrates an ethical dilemma about the appropriate goals of medicine, a topic that is beyond the scope of this article. The remaining challenge for physicians is to recognize that, in such circumstances, whatever recommendation is provided, it will either prioritize the patient's welfare or enhance the patient's autonomy to pursue his or her own identified goals. How physicians navigate such decisions has not been assessed empirically, nor have patients' perspectives been evaluated.

Figure 1 graphically represents the options available to physicians when making recommendations. In the figure, all of the acceptable medical options that are in accord with generally accepted standards of medical practice are placed above a theoretical "bar," labeled X. Note that there is not simply one option above the bar but many, as good medical care is rarely limited to a single choice.²⁴ This bar is also the "floor" beneath which a physician would be justified in not offering a certain treatment or procedure as an option (points F and G), as they are considered inconsistent with generally accepted medical standards, and would not be recommended by a physician regardless of a patient's

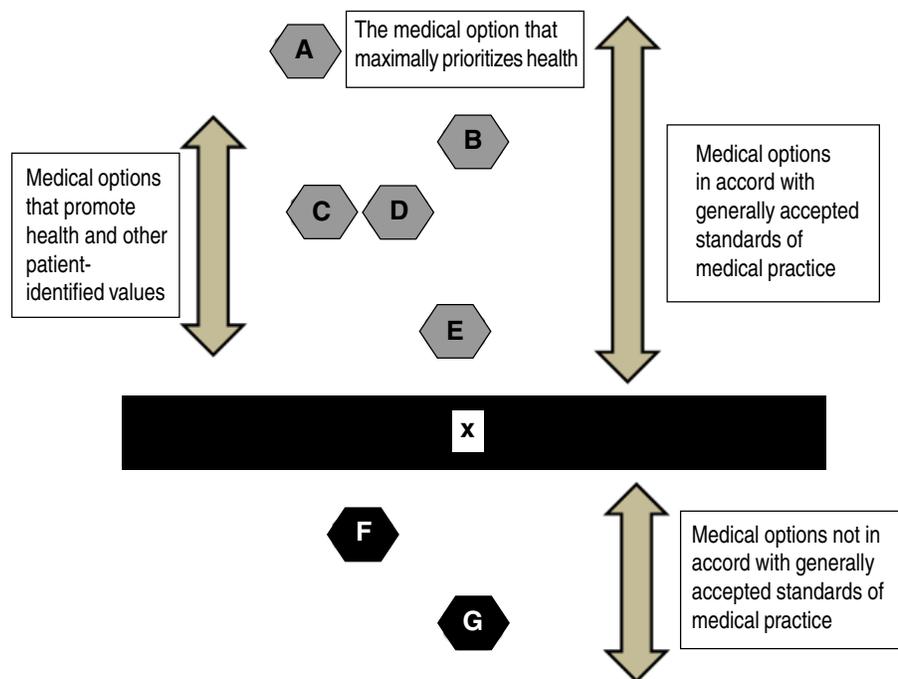
values and preferences for care; for example, surgery without sufficient anesthesia, or treatment with warfarin without any expectation of subsequent monitoring.

As part of SDM, physicians elicit patients' relevant preferences and values about care. Assuming that the physician accurately elicits a patient's preferences, a patient might choose to make reasonable trade-offs between maximizing a health outcome and pursuing another identified life goal or value. If a patient's values translate to medical options that have been determined by the physician to be above the bar (points B through E) but not the highest point (point A), the physician can provide the medical options as being acceptable options.

While all of the options above the bar may be medically acceptable, they are not all equal, because the option at the highest point (A) prioritizes health more than any other option above the bar. It may be that two alternatives are medically equal, which would be depicted in the model as being at the same level above the bar (points C and D). Physicians could choose to recommend any medical option that is above the bar, because they are all medically acceptable, even if not medically ideal (that is, they may promote the patient's health to varying degrees).

Here is another clinical example to illustrate this process. As a physician, you are caring for a 54-year-old woman with hypertension who was admitted to

Figure 1. The range of medical options for clinical recommendations.



the hospital for unilateral pneumonia three days ago. On your morning rounds, she is afebrile, but her respiratory rate is 20 and her pulse oximetry is 91 percent on room air. Based on your assessment, you suggest that an additional day of hospitalization is medically ideal to safely monitor her respiratory status and prevent readmission. A longer discussion ensues when the patient reports that she is feeling much better since admission, and that she has to attend to a series of important work and personal obligations. She says that if her immediate health is a concern, she is willing to follow up promptly as an outpatient with her primary care physician. The patient knows she has the right to leave the hospital, but she asks for your recommendation.

Applying the model in figure 1 helps avoid conceptualizing this decision as a simple dichotomous choice by the patient between acceptable and unacceptable care, and which does not facilitate SDM. The recommendation derived from the SDM process is the one based on the patient's values and preferences that is also within the range of acceptable medical options. In this case, the patient initiated a negotiation for an expanded number of potentially medically acceptable options (points B through E) by suggesting she leave the hospital, but with close outpatient follow up. This option promotes her interests in pursuing her work and personal obligations and promotes her health, albeit to a lesser degree. Should you consider this option medically reasonable (an option above point X), even if not medically optimal, your recommendation would depend on whether you decide to prioritize the patient's autonomy or welfare.

How physicians make these distinctions, on what criteria, or how they deem a patient's treatment goals as legitimate or not has not been systematically studied. When physicians believe that their recommendations are tacit endorsements of patients' unhealthy behavior and choices, they may be unwilling to recommend a care plan that does anything less than prioritize the promotion of health (that is, any point below A in the model).

This highlights similar clinical challenges that are seen when advocating for harm reduction in substance use, such as promoting clean needles for an intravenous (IV) drug user. While recommending that a substance-abusing patient stop using all IV drugs is often the most medically ideal option, physicians may recognize the benefit of providing clean needles to patients who are unable or unwilling to stop using IV drugs, and who will not conclude that this option is an endorsement of illegal drug use.²⁵ Although the outcome data indicate that, in general,

harm-reduction programs are more effective than abstinence-only programs for reducing the harmful health effects of substance-use-related behaviors,²⁶ reluctance or opposition to harm reduction as a medically appropriate approach still persists (although it varies by the specific harm-reduction strategy employed and the type of service provided).²⁷ How physicians view the principles of harm reduction for other medical decisions and behaviors and their potential impact on clinical recommendations has not been systematically studied.

To demonstrate the potentially definitive role of patients' preferences, it is instructive to return to the patient described in the introduction who does not wish to pursue further curative therapy. She understands this option as hospice care and that choosing it may hasten her death. Because both standard and hospice care are medically acceptable (that is, above point X in the model), the final decision to pursue either one of the options would rest on the patient's articulated preferences. This example demonstrates when a patient's preferences are determinative for a recommendation. In this case, her preferences, even though they do not prioritize health and longevity, would still be considered to be legitimate, primarily because hospice care is considered to be an appropriate goal of medicine.

Implementing this SDM process with discrete recommendations may be perceived by some as impractical for every clinical decision. Decision aids have been designed to practically assist with SDM, but, in addition, transparency can streamline this process. Once a patient's general values and preferences are known for care and there is a relatively consistent history of past decisions conforming to them, physicians can use them as a template for making subsequent recommendations. Of course, these assumptions may need to be challenged as conditions change, but the basis for them remains the same.

CONCLUSIONS

Patients rely on and benefit from physicians' recommendations. Promoting a transparent process for making clinical recommendations has the potential to improve the quality of healthcare. For preference-sensitive decisions as a part of SDM, physicians' recommendations should be based on patients' values and preferences, as well as on the medical evidence. When patients' preferences for care do not prioritize health, physicians decide whether their recommendation will prioritize a welfare-enhancing versus an autonomy-enhancing approach. Although this

article has outlined the conceptual basis for understanding how recommendations are made, further research examining the empiric elements of recommendations is needed to further improve the quality of healthcare decision making.

DISCLOSURES

The views expressed in this article are those of the author and do not necessarily reflect the U.S. Department of Veterans Affairs or the Veterans Health Administration National Center for Ethics in Health Care. The author has no conflicts of interest to disclose.

NOTES

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