Clinical Guidelines and Performance Measures

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The article by Hayward and his colleagues[1] is of interest to those trying to improve clinical guidelines and measures as we move into the rich array of electronic healthcare information that will be readily available in the near future. Currently, both clinical guidelines and their related performance measures are limited by the fact that guidelines must be simple to be remembered and measures can use only claims data, augmented where necessary by basic, yet costly, reviews of paper charts. This situation leads to oversimplification of guidelines and measures as well as potential misuse if they are overinterpreted and pushed beyond their limits. Indeed any general guideline related to control of blood pressure, glycosylated hemoglobin, or any other biologic parameter could cause harm if every patient was pushed therapeutically to comply with that target. It is important to note that the National Committee for Quality Assurance (NCQA) includes a strong advisory that 100% performance is *not* the goal and that clinical judgment should be used in applying a measure.

Indeed, if 100% compliance were the goal for a measure, it would mean there was absolutely no controversy about the measure or variability in whether patients should be at the threshold goals. There aren't many issues like that in medicine, but for the ones that come close (eg, aspirin after acute myocardial infarction), compliance is close to perfect, and quality measurement is unlikely to drive improvement. Current guidelines and measures are designed to provide a starting point for the evaluation and improvement of quality of care in a population—not to dictate the care of any individual patient. They are only tools for management.

Although physicians should be aware of guidelines and measures, they need also to apply more nuanced approaches when seeing individual patients. To imply that clinicians would knowingly put patients in harm so they could perform marginally better than other physicians on a clinical performance measure provides a rather dim view of medical practice.

The average levels of blood pressure control in persons with diabetes indicate that control is far from optimal overall.[2] Thus, it is likely that improved decision making by clinicians and enhanced care of patients will result from providing data to benchmark widely used guidelines related to blood pressure control. Indeed, a reasonable interpretation of the data presented by Hayward et al is that even a highly regarded academic medical center with a sophisticated electronic medical record system may not have reached optimal performance levels for more than half of their patients with diabetes.

Many, but not all, of the widely used evidence-based guidelines (The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, American Diabetes Association, American Association of Clinical Endocrinologists) recommend 130/80 mm Hg as the most desirable level of control of blood pressure in most patients with diabetes, specifying diabetes as an equivalent to established cardiovascular disease. At the time the measure was developed, the recommendation of the technical subcommittee of the National Diabetes Quality Improvement Alliance, which was only 1 of the groups providing input to NCQA, to use "adequate doses of 3 drugs" as an alternative to reaching the threshold level was simply not feasible using the relatively simple chart reviews and limited claims data available. This is in contrast to the full electronic medical record data available to Hayward et al. That said, the suggestion by the authors of the current article to exclude patients whose systolic blood pressure is not at threshold but whose diastolic blood pressure is less than 70 mm Hg should first be reviewed by the scientific groups overseeing the evidence-based guidelines on which the Healthcare Effectiveness Data and Information Set (HEDIS) measures are based, and if changes are made in the guidelines, considered in turn by the measurement advisory committees and the Committee on Performance Measurement that oversee HEDIS measures.

At a more fundamental level, a previous article in this journal by one of us (LGP) pointed out the inherent problems in reference standards, guidelines, and measures that use a single threshold and suggested a much more robust set of approaches that could be used in settings with full electronic health record data systems.[3] Approaches currently under study by NCQA include assessment of adequate dosing of medications using expanded order entry and pharmacy data, or using blood pressure levels integrated over time and ad-

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justed for baseline patient risk with clinical data available in the electronic medical record. Equally interesting are efforts to link in electronic data systems much more highly evolved clinical guidelines and decision support tools with measurement and feedback in the "real time" of the clinician encounter. An example of an even more forward-looking approach is that of David Eddy and his group at Archimedes[4]: to create and apply at the time of the patient encounter patient-specific guidelines and clinical decision support using sophisticated mathematical modeling of both the individual patient's own clinical parameters and the results of clinical trials. Measures then could be linked to this process to determine whether and how physicians use (or don't use) such information to shape clinical treatment and the results of that treatment in reducing a patient's overall cardiovascular risk.

However, all of these advances require fully developed and interoperable electronic clinical data systems.[5] Until these systems are in widespread use, we will be limited to making rather small and stepwise improvements in current guidelines and their related measures.

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