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Economic Incentives and use of the Intensive Care Unit

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ing category of AF. This result was seen with MRI scans acquired at multiple participating centers worldwide with differing procedural approaches and ablation techniques used. Establishing a patient's left atrial fibrosis burden offers one of the few outcome determinants that could be used in the clinic when counseling patients on whether they may benefit from ablation therapy.

Drs Tops and Schalij raise questions related to the stage of fibrosis and duration of fibrillation in patients with paroxysmal AF and their outcomes after ablation. Even though patients with paroxysmal AF have been considered to have less advanced disease, the DECAAF results challenge the clinical conventions used to assess left atrial disease. A significant number of patients with paroxysmal AF presented with advanced atrial fibrosis stage.

Although establishing the onset and duration of AF remains challenging, in part due to the high percentage of patients with asymptomatic arrhythmia, AF duration reported in DECAAF did not correlate with the degree of atrial fibrosis (correlation coefficient, 0.02; $P = .71$). With delayed enhancement MRI, inferences about disease burden may no longer need to rely solely on routine AF typing.

The association between atrial fibrosis and AF has been well described in histological studies. Evidence validating left atrial fibrosis quantification on MRI is mounting with compelling histological, electrical, and clinical data.[1-3] Detection of myocardial injury and remodeling using delayed enhancement MRI sequences is a well-validated technique dating back to the landmark histological study by Kim et al,[4] which helped launch delayed enhancement MRI as the criterion standard for tissue viability testing.

We agree that patient selection criteria for AF ablation should not be decided by any one parameter alone. Studies designed to improve understanding of the interplay between the left atrial structural, functional, and electrophysiological processes that underlie AF are needed to advance the understanding of AF pathophysiology.

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Conflict of Interest Disclosures: The author has completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and reported owning stock and being named in 2 patents licensed to Marrek.

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Economic Incentives and Use of the Intensive Care Unit

To the Editor Drs Gooch and Kahn[1] pointed out an intriguing example of economic incentives driving widely varying intensive care unit (ICU) admission criteria. However, their concept of "demand elasticity" conflated 2 distinct economic phenomena, normal demand and supplier-induced demand, leading them to a draconian policy prescription.

In classic economics, consumers might demand care of little benefit if they are insulated from the cost through insurance, but they will never demand harmful care, such as ICU care for patients with high-illness severity and low survival in the conceptual model. Increased ICU bed availability could only cause increased harm in the presence of supplier-induced demand; eg, when a clinician or hospital system profits by advising a less-informed patient to consume services the patient would not want if he or she knew all the facts.[2]

Demonstrating the existence of induced demand is controversial and requires cautious investigation of a change in profitability, causing a change in the volume of care consumed.[3] In addition, for demand to be induced, the evaluating physician must be concerned with the hospital's profit from maintaining full ICU capacity. Anecdotally, intensivists are often frustrated by patient and family demands for futile care, which argues against the induced-demand explanation.

Normal demand is sufficient to explain why admission criteria might vary according to bed availability. Appropriate patients benefit most from critical care; however, many patients admitted for observation still benefit, albeit to a lesser degree. Compared with the relatively fixed costs of facilities and salary, the additional costs of observing 1 more patient can be low.

As long as the benefit exceeds the additional cost of filling an otherwise empty bed, ICU admission criteria should change based on bed availability. The conceptual model depicted in the Viewpoint as pathological is actually an efficient way to deliver high fixed-cost services, just as airlines vary their prices to keep airplanes full.

Whether supplier-induced demand or normal demand drives ICU use, it remains questionable whether beds are the cause of high utilization rather than a symptom. It is more likely that underlying high demand for ICU services causes both construction of many beds and the filling of those beds.

Therefore, the fault lies with a pricing system that does not differentiate sufficiently between patients who benefit more than the cost and those who do not. If necessary, paying less for inappropriate patients and more for appropriate patients would shift use away from less sick patients, causing more appropriate ICU usage without resorting to potentially harmful bed quotas.

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In Reply We did not argue that ICU admission directly harms patients with low illness severity. Our Viewpoint acknowledged a small potential benefit of close observation in the ICU for these patients. Therefore, we did not use the term supplier-induced demand, which, as Mr Friedman correctly notes, implies but does not require a lack of marginal benefit.[1] Instead, we argued that this small potential benefit does not justify the high costs of building and maintaining ICUs.

The idea that excess ICU bed supply leads to overuse is well supported by data, both old[2] and new.[3] Friedman's suggestion that current use patterns represent an efficient use of resources lacks the same evidentiary support. Moreover, although it is true that ICU beds carry high fixed costs, and therefore the costs to individual patients are low, we did not propose simply not admitting low-risk patients. We proposed closing ICU beds and thus, substantially lowering fixed costs.

Friedman's alternative solution of varying ICU prices based on appropriateness is intriguing but impractical. It would require accurate and reliable assessment of ICU appropriateness, which is currently impossible[4]; and it would lead to explicit rationing by ability to pay, which is ethically untenable.[5] Our solution is to trust the innate ability of physicians to perform safe implicit rationing in the setting of constrained supply,[6] maintaining quality while reducing the costs of care.

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CORRECTION

Omitted Author Affiliations: In the Original Investigation entitled "Radiofrequency Ablation vs Antiarrhythmic Drugs as First-Line Treatment of Paroxysmal Atrial Fibrillation (RAAFT-2): A Randomized Trial" published in the February 19, 2014, issue of *JAMA* (2014;311[7]:692-699. doi:10.1001/jama.2014.467), the author affiliations were omitted. This article was corrected online.

Incorrect Reference Citation: In the Health Agencies Update article entitled "More Accurate Autism Screening," published in the February 26, 2014, issue of *JAMA* (2014;311[8]:791. doi:10.1001/jama.2014.1340), a reference was cited with the incorrect first author. The reference should have read Robins DL et al. *Pediatrics*. 2014;133(1):37-45. This article has been corrected online.

Error in Title: In the Capitol Health Call article entitled "Where Medicare Health Dollars Go," published in the April 9, 2014, issue of *JAMA* (2014;311[14]:1389. doi:10.1001/jama.2014.3710), the title referred to the incorrect program. The title should have read, "Where Medicaid Health Dollars Go." This article has been corrected online.

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