

# IS GREATER PRICE TRANSPARENCY NEEDED IN THE MEDICAL DEVICE INDUSTRY?

ROBERT W. HAHN<sup>†</sup>

HAL J. SINGER<sup>††</sup>

## EXECUTIVE SUMMARY

A number of health care policy analysts have advocated greater price transparency as a way to empower patients and bring down health costs. According to these analysts, providing more information about the cost of a product or procedure would allow patients to make more informed and cost-effective decisions for medical care.

One specific area that has received recent attention is the disclosure of manufacture pricing information regarding implantable medical devices. Implantable medical devices are typically provided to patients on a clinical basis through surgical procedures performed in hospitals. The direct purchaser of the product is the hospital rather than the patient.

Legislation has been introduced in the Senate that seeks to help hospitals lower their costs by requiring disclosure of actual mean and median sales prices for medical devices. The bill, entitled “Transparency in Medical Device Pricing Act of 2007,” would require medical device makers to report the average and median sale prices for each applicable device model to the Secretary of Health and Human Services. Price information would then be posted to the CMS website. To encourage compliance, S. 2221 would levy fines for non-compliance or for false or misleading pricing information. Although the bill is designed to assist medical device purchasers, the benefits and costs of such mandatory disclosure are not straightforward. Instead, the benefits and costs of mandatory price disclosure depend on the specific market conditions in the medical device and hospital industries.

We analyze whether mandatory price disclosure for medical devices would likely have benefits that exceed costs. The primary benefit from mandatory disclosure is greater bargaining power for buyers, which in theory leads to lower prices. The primary cost is the possibility of higher prices through strategic pricing behavior by suppliers. This risk can be present even when price information is summarized as an average price or median price. A secondary cost is the cost of complying with the regulation.

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<sup>†</sup> Robert W. Hahn is executive director of the AEI-Brookings Joint Center.

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A key contribution of our analysis is the development of a framework for identifying conditions that determine whether or not price disclosure provides social benefits that are greater than social costs and applying that framework to this particular case. It should be noted that our framework does not explicitly consider the dynamic effects of price disclosure on investment and innovation, which could be important. For example, mandatory disclosure could adversely affect a device maker's incentives to invest in new technologies, which could affect future welfare. Our paper is organized as follows.

To understand the benefits and costs of price disclosure, we examine attempts to impose price disclosure in the health care industry by various states, as well as similar disclosure rules in a number of other industries including cell phones, groceries, cement, barges, railroads, and long-distance telephone service. Our literature review is not meant to be exhaustive. The evidence from these case studies is mixed. Several economic studies of these industries have demonstrated that mandatory price disclosure rules may lead to increased prices and higher compliance costs for producers. In contrast, a study of Canadian grocery prices suggested that price disclosure can generate substantial benefits by lowering consumer prices. These examples suggest that mandatory price disclosure might benefit purchasers in some cases, and but that it might harm them in other cases.

We use evidence from the case studies and other sources—particularly the Department of Justice—to identify four conditions that, if satisfied, imply that mandatory price disclosure would provide large benefits to consumers or other purchasers. We distinguish between conditions that apply generally to price information exchanges and conditions that apply specifically to the medical device industry. The general conditions for a favorable effect from price disclosure are: (1) search costs are large and are reduced substantially; and (2) disclosure provides current price information. The industry-specific conditions are: (3) competitive forces would cause intermediaries to pass cost savings on to end users; and (4) there is a large variation in the price paid by purchasers and consumers. To generate large benefits to hospitals and their patients, it is necessary that mandatory price disclosure meet all four conditions and not meet the conditions that would result in increased costs. Thus, each condition is necessary but not sufficient to generate large benefits.

Our analysis also identifies several conditions that, if satisfied, imply that mandatory disclosure would facilitate explicit or implicit price coordination and impose large costs on consumers. These conditions are: (1) there are few suppliers; (2) there are few substitute products; (3) there is significant repeated interaction among suppliers; (4) suppliers do not already know their rivals' prices; and (5) there is significant product standardization.

To apply these conditions, we consider the specific characteristics of the medical device industry. In particular, we examine three high-expenditure medical devices purchased by hospitals—implantable cardioverter-defibrillators (ICDs), coronary (both bare-metal and drug-eluting) stents, and implantable orthopedics—that would be subjected to the mandatory price disclosure rules under consideration by Congress. These medical devices represent a significant portion of medical device sales. For example, in 2006 each medical device had sales of more than \$1 billion. The structure of these industries will determine the relative benefits and costs of mandatory price disclosure as contemplated by Congress.

We find that the conditions under which the benefits of mandatory price disclosure are likely to be large are *not* met. We address each of the four conditions in turn. Regarding the first condition, we find that significant search costs for hospitals and patients would remain. Regarding the second condition, disclosure would not provide current price information. Empirical evidence suggests that price information does not provide benefits if it is more than a few weeks old; since medical device prices would be at least three months old, they could not provide benefits to consumers. With respect to the third condition, we find that the structure of the health care industry would not ensure that hospitals pass cost savings on to consumers. We find that the impact of health insurance (which blunts the cost directly borne by the patient) and hospital industry concentration limit the extent to which hospitals would have an incentive to pass through cost savings. For the fourth condition, we find that the extent to which medical device prices vary for reasons unrelated to volume is unclear. Overall, we find that the first three conditions under which the benefits of disclosure are likely to be large are not met, whereas it is unclear whether or not the fourth condition (price variation) is met.

Our analysis also suggests that the costs of mandatory price disclosure—both by facilitating price coordination and by imposing a regulatory burden—are considerable. Specifically, we find that: (1) the medical device industry is concentrated among a few firms; (2) there are few, if any, economical substitutes for many medical devices; (3) competitors repeatedly interact; (4) some medical devices are standardized whereas other devices are differentiated; and (5) firms do not already know their rivals' prices. These findings suggest that four of the five conditions (specifically, conditions 1, 2, 3, and 5) under which the costs of mandatory disclosure are likely to be large are met. We thus conclude that increased price transparency would facilitate price coordination and result in higher medical device prices. Both hospitals and their patients would be harmed by higher medical device prices.

We conclude that mandatory disclosure legislation such as that proposed in the 110<sup>th</sup> Congress (S. 2221) is unlikely to provide net benefits for hospitals and their patients. Our case studies indicate that the specific characteristics of the particular industry in question greatly affect whether disclosure will generate net benefits. Combined with economic theory, these case studies also provide specific conditions under which mandatory price disclosure is good public policy. Applying these conditions to the medical device industry, we conclude that mandatory price disclosure policy would likely increase prices hospitals pay for these products and provide no tangible benefits to patients.