



Keeping Health Care Prices High

Multihospital health systems with certain types of IT have an easier time tacitly colluding with their rivals to inflate prices



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Based on the research of Hüseyin Tanriverdi



When health systems use a single information technology platform across their multiple hospitals, they often lower costs and streamline operations.

But having this type of standardized technology also carries with it a worrisome and often pricey unintended consequence for patients, found

Texas McCombs Associate Professor of Information, Risk, and Operations Management Hüseyin Tanriverdi.

In a new study, Tanriverdi and Kui Du of the University of Massachusetts, Boston, found that multihospital health systems with standardized IT appear to have an easier time tacitly colluding with rival systems to keep the prices of their services above competitive levels.

Having uniform IT helps the systems efficiently suggest pricing to member hospitals, monitor prices charged, and compare pricing with that of rivals over time. It's also easier to tell whether a competing health system has broken the unspoken agreement to keep prices high by lowering costs, and then act to bring it back in line.

“Standardized IT is key to doing this,” says Tanriverdi. “To the extent that multihospital health systems are able to do it, prices are high and both parties are profitable.”

It's a concerning finding for patients, especially, who struggle with the soaring costs of health care. In the U.S., on average, hospitals charge 3.4 times the cost of their services, with hospitals owned by multihospital systems charging significantly more than stand-alone facilities. Nationwide, multihospital systems dominate — they own more than 67% of nonfederal hospitals in the U.S., according to the American Hospital Association.

On the other hand, the researchers found that hospital systems whose member hospitals use advanced analytical IT, or relatively new, innovative IT applications not in wide use among hospitals, appear to have a harder time persuading member hospitals to participate in tacit collusion.

Artificially Inflated Prices

Tanriverdi and Du tapped into six archival data sources from 2005 to 2013 to study the interplay between tacit price collusion and IT.

The researchers obtained figures on multihospital health systems' IT setups; their finance and operations, quality of care delivery processes, and medical

service offerings; the concentration of health insurance markets; and health systems' IT investments.

Their final sample included 195 multimarket multihospital systems that operate hospitals in 592 geographic markets in the U.S. Each system, on average, includes about nine hospitals located in about five geographic markets.

By examining prices across markets, the researchers found evidence suggesting that multihospital systems do tacitly collude with one another to keep prices of hospital services high. This is especially true for systems that share many competing hospitals.

“The more you overlap, the more likely you are to achieve that sphere of influence with each other and force the other party into tacit compliance,” Tanriverdi says.

Health systems with so-called standardized operational IT — or the same IT across member hospitals — had an easier time colluding, the researchers found. When these systems found a rival system's price drop couldn't be explained by negotiations with insurers or employers, they could swiftly retaliate by lowering prices across their own member hospitals in an effort to recoup the collusion.

“That motivates you to come back into compliance,” says Tanriverdi. It can force the rival to lower prices, too. Then, both health systems can eventually raise prices again in tandem.

On the other hand, systems whose member hospitals used advanced analytical IT were less likely to be able to participate in tacit collusion. Innovative technology helped these individual hospitals reduce costs, a benefit they used to compete with local rivals and passed on to customers by lowering prices and keeping them low.

In general, multihospital systems that overlapped with one another and had standardized IT saw daily costs per patient on average \$432 higher than

competitive prices. The prices of systems whose member hospitals used more advanced IT were only \$171 higher, on average.

“The more these local hospitals invest in these technological capabilities, the collusion strategy’s effectiveness is reduced significantly,” Tanriverdi says.

“You get these two opposing forces.”

Health clinics such as CVS Minute Clinics complicate the overall dynamic, he adds. Multihospital health systems might be forced to lower prices in certain markets to compete with these types of clinics. If a health system rival interprets the move as a rebellion against price collusion, they could face an unfounded retaliation.

“Health systems are really powerful, but the tyranny breaks down when there are forces like this at play,” Tanriverdi says.

Encouraging Digitization

The research has implications for policymakers and regulators, hospital and insurance company executives, and patients, too. To discourage tacit collusion, policymakers could try to prompt individual hospitals that are part of multihospital health systems to invest more significantly in innovative, advanced IT solutions.

“If I were a policymaker, I would encourage even more digitization,” says Tanriverdi, including medical records and using business intelligence and analytics.

Given the current rapid rate of adoption of innovative technologies across industries, managers of multihospital health systems might consider that collusion’s days could be numbered, and instead mull over alternate strategies to make their systems profitable.

Patients, for their part, should know this price collusion dynamic is at play in multihospital health systems, and that prices might be artificially inflated. They could put pressure on their local hospital to do more toward digitizing.

Knowing prices are elevated, insurance companies may also want to be more aggressive with price negotiations.

Tanriverdi says the research could be applied to other industries where this type of tacit collusion might also be at play — hotels, airlines, and big box stores, for example. “This theory needs to be tested to see if it can hold in those types of industries, too,” he says.

“Does IT Enable Collusion or Competition: Examining the Effects of IT on Service Pricing in Multi-market Multihospital Systems” is forthcoming, online in advance in MIS Quarterly.

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