Effect of Hospital and Insurance Market Concentration on Prices for Common Surgical Procedures

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Most healthcare markets are **extremely concentrated** by traditional standards

Market definitions:

Insurance Market by Metropolitan Statistical Area (n=384)

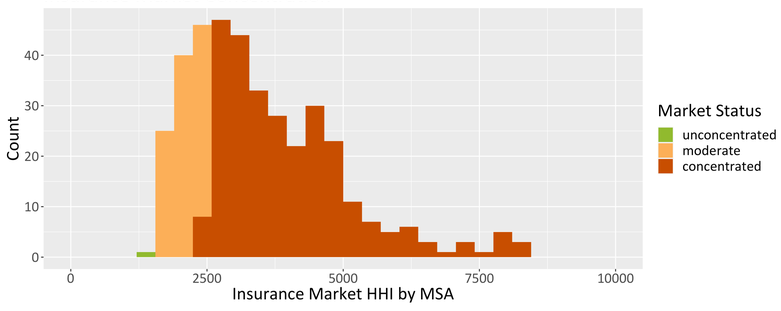
Local Hospital Market by Hospital Service Area (n=3,113)

Tertiary Hospital Market by Hospital Referral Region (n=306)

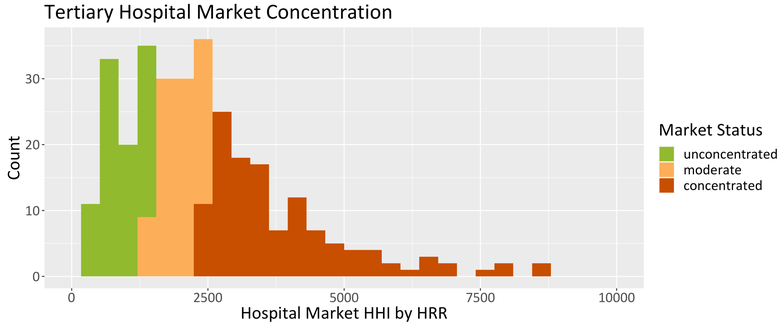
Market Concentration was calculated using the Herfindahl-Hirschman Index (HHI) which ranges from ~0 (infinite small firms) to 10,000 (complete monopoly).

$$HHI = (market\text{-}share_1)^2 + (market\text{-}share_2)^2 + (market\text{-}share_3)^2 \ldots$$

Insurance Market Concentration



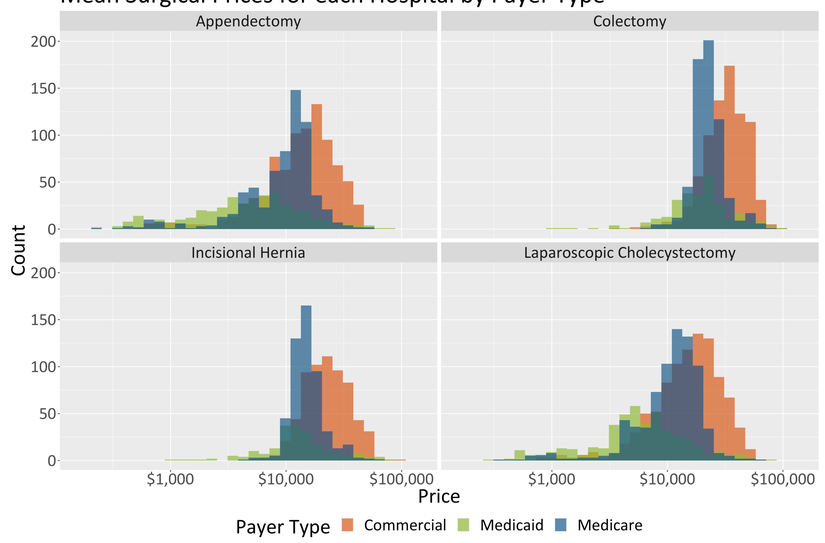
Tertiary Hospital Market Concentration



Most Local Hospital Markets are monopolistic:
of **1,144 acute-care hospitals** located within Metropolitan Statistical Areas,
over one third are the only hospital within their Hospital Service Area (38%)

Within hospitals, **Medicaid** and **Medicare** prices are **substantially lower** than Commercial prices

Mean Surgical Prices for each Hospital by Payer Type



Paired t-tests of mean surgical prices within each payer type for each hospital found Commercial prices were the highest followed by Medicare then Medicaid.

Intra-Hospital Price Differences by Payer Type

	Appendectomy	Colectomy	Laparoscopic Cholecystectomy	Incisional Hernia
Δ Commercial - Medicare	$5,979*	$10,205*	$6,334*	$7,900*
Δ Commercial - Medicaid	$8,342*	$12,622*	$9,588*	$9,379*
Δ Medicare - Medicaid	$2,145*	$1,452	$2,961*	$746

Paired t-tests *significant at p<.0001 level

Hospitals with a **monopoly** in their Service Area charge **significantly higher prices,** especially for Commercial payers

$$log_{10}(Price) = HRR\ Hospital\ Market\ HHI \times Insurance\ Market\ HHI + Hospital\ Service\ Area\ Monopoly + Payer\ Type + Hospital\ Characteristics + Fixed\ State\ and\ Procedure\ Code\ Effects$$

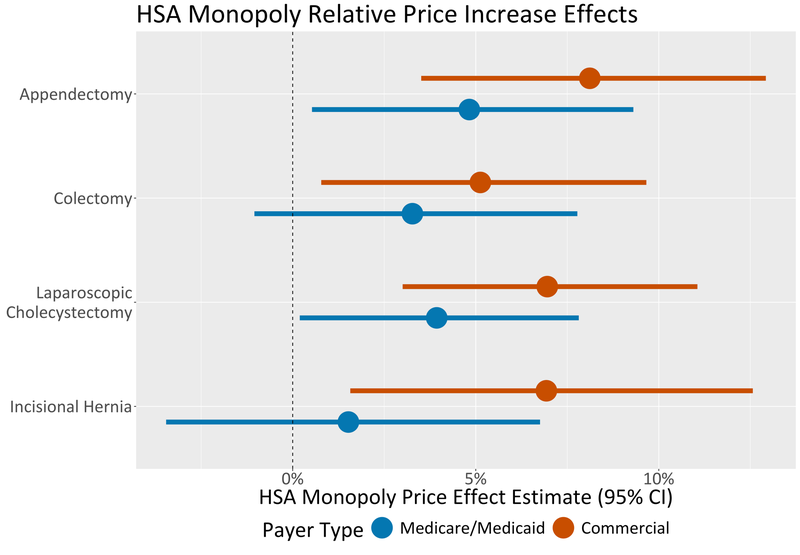
Linear Regression Results (model fit on log-transformed mean prices):

Insurance Market Concentration had a slight but significant negative correlation with prices for all procedures except Incisional Hernia.

Tertiary Hospital Market Concentration did not have a significant effect on procedure prices.

Hospital Service Area Monopoly status had a large and significant effect for all procedures, stronger among Commercial payers.

HSA Monopoly Relative Price Increase Effects



Previous literature has found that more concentrated hospital markets are associated with higher costs, while more concentrated insurance markets are associated with lower costs.

This study is one of the first to use a greatly expanded dataset of surgical prices available due to price transparency regulations from the Centers for Medicare and Medicaid Services in 2021.

Reported **Medicaid** and **Medicare** prices are **significantly lower** and are **less affected** by changes in healthcare market concentration compared to Commercial prices.

Prices for these common surgeries are not affected by *tertiary* hospital market but are roughly **5-8% higher within monopolistic *local* hospital markets.**