Healthcare Price Transparency:
Data Overview and Best Practice

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Note: Please see my 1st video for **research summary** and implications for **policy** and **employer strategy**.

Scope of the 2 Price Transparency Data

	Hospital Disclosed Data[1]	**Insurer Disclosed Data**[2]
Federal regulation (effective date)	Hospital Price Transparency Rule (initial Jan 2021, updated on Jan 2025)	Transparency in Coverage (TIC) Final Rule (July 2022)
Who disclose price?	Hospitals	Commercial insurers/plans
Provider service setting	Hospital facility	Hospital and non-hospital facilities; Professional services
Typical procedures	CMS-designated 70 shoppable services; emergency room visits	Common hospital and non-hospital services, physician care
Type of price (by market segment)	Chargemaster (list) prices; Negotiated prices in *commercial market*, *Medicare Advantage*, and *Medicaid Managed Care*; *Cash* prices;	Negotiated prices in *commercial market*
Measure of price value	Hospital – Service – Insurer – Plan	Provider – Service – Insurer – Plan

Data Strengths

1. Enormous and representative price information [3]
   - Hospital: 83% of the 5,000+ hospitals nationwide
   - TIC: 200+ insurers, including the 5 national carriers (BCBS, CVS, Cigna, Elevance, United Healthcare)
2. Granular price measure identifying individual [4]
   - Provider (facility, clinician)
   - Service (DRG, CPT/HCPCS)
   - Insurer, plan
3. Publicly available; Up-to-date disclosure
4. Price values for common services consistent with commercial claims data [5]

Data Limitations[6]

1. Subject to disclosure compliance, potential measurement errors
   - e.g. prices disclosed by providers not delivering such service (zombie rates)
2. Not all prices are directly comparable
   - not dollar-based prices, not fee-for-service mechanism
3. Lack of non-pricing information
   - utilization, quality, patient characteristics
4. Data has enormous size and complicated structure
   - require significant computational resources for data storage, process, and analysis

Best Practices for Analysis

1. Start with prices for common procedures, disclosed by major insurers, or larger hospitals [7,8,9]
2. Standardize prices at provider – procedure – insurer level, using median prices if multiple values[9, 10,11] Then go to more granular level, if needed.
3. Trim-off extreme price values (e.g. top and bottom 1%) [8,9,12]
4. Regression analysis:
   - Log-transformed model to address the right skewness of prices [8,12,13]
   - Fixed effects at service, insurer, provider, or geographic level to adjust for covariates [7,8,10-13]

Best Practices for Analysis

5. Validation (price, provider, insurance). Merge with external data for non-pricing measures:[7-13]
   - Provider characteristics
   - Insurance enrollment
   - Utilization and quality outcomes
   - Aggregated area-level patient information

These practices also apply to general healthcare pricing analysis using other data sources (e.g. insurance claims).

Contact & Disclaimer

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