

U.S. Producer Price Indices for Human Health Activities NAICS 621-622

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Agenda

- Definition of the service being priced
- Pricing unit of the service
- Market size
- National accounts concepts
- Pricing methods
- Quality adjustment
- Evaluation of comparability with turnover/output measures
- Summary

Definition of the Service

- Primary output is providing health care for individuals
- Includes NAICS Sub-sectors:
 - ◇ 621 - Ambulatory Health Care Services
 - ◇ 622 - Hospitals

Human Health Industries

- Sub-sector 621, Ambulatory Health Care Services includes:
 - ◇ NAICS 621111 Offices of physicians, except mental health
 - ◇ NAICS 621210 Offices of dentists
 - ◇ NAICS 621511 Medical laboratories
 - ◇ NAICS 621512 Diagnostic imaging centers
 - ◇ NAICS 621610 Home health care services
 - ◇ NAICS 621991 Blood and organ banks

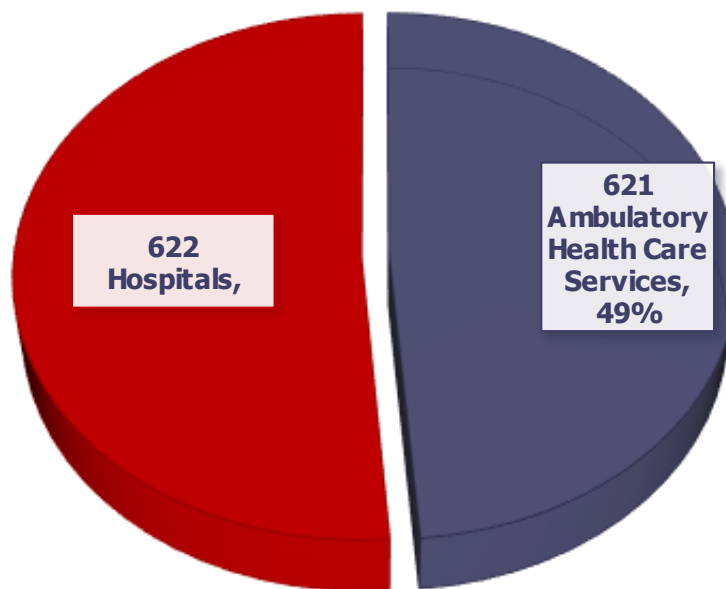
- Sub-sector 622, Hospitals includes:
 - ◇ NAICS 622110 General medical and surgical hospitals
 - ◇ NAICS 622210 Psychiatric and substance abuse hospitals
 - ◇ NAICS 622310 Other specialty hospitals

Pricing Unit of Measure

- The unit of measure for offices of physicians and dentists is typically **per visit** or **per treatment**.
- For hospitals, the unit of measure is typically **per stay** for inpatient services, or **per treatment** for outpatient services.
- For medical labs, diagnostic imaging centers, and blood banks, the unit of measure is typically **per test** or **per unit**.
- The unit of measure for home health care services is typically **per billing period (e.g. hour, week, month, etc.)**

Market Size

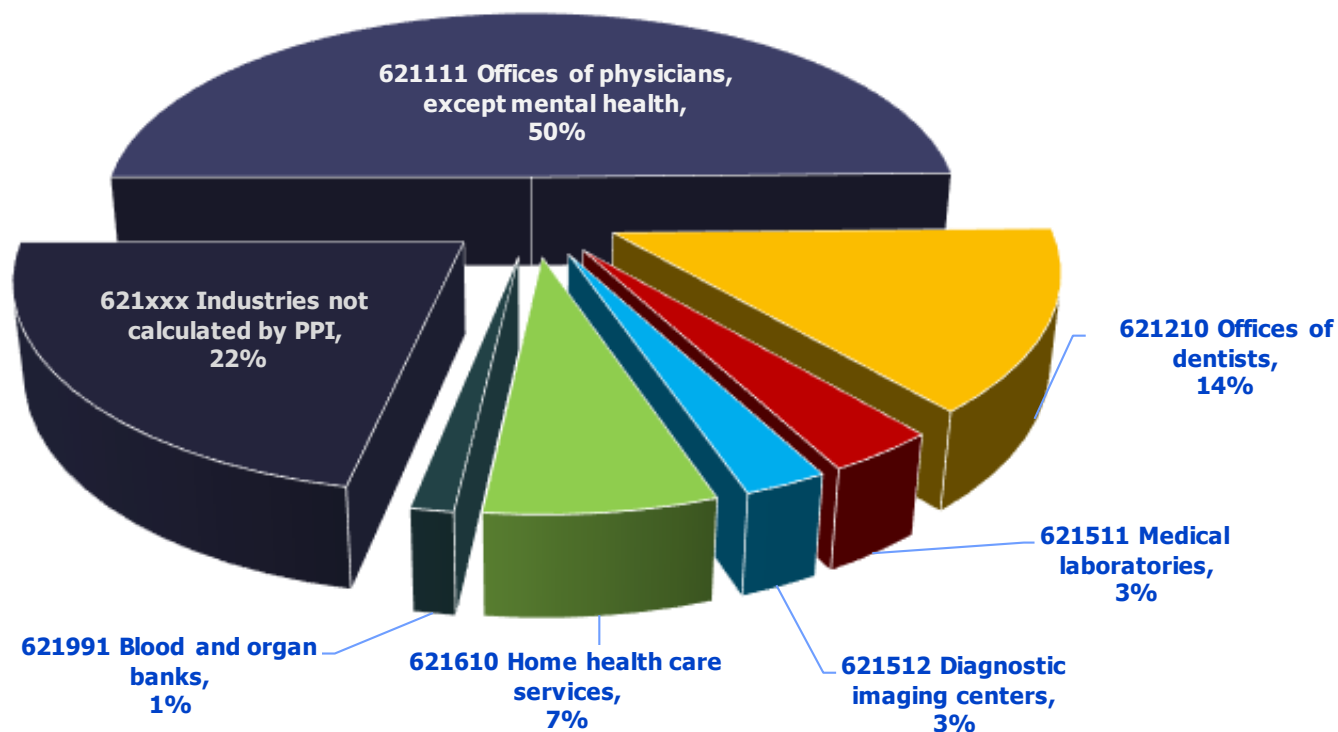
NAICS Sub-sector 622 accounts for a slight majority of human health activity turnover in the U.S. according to the 2007 Economic Census.



- Although hospitals account for a majority of U.S. turnover, ambulatory health care services account for over 98% of the firms.

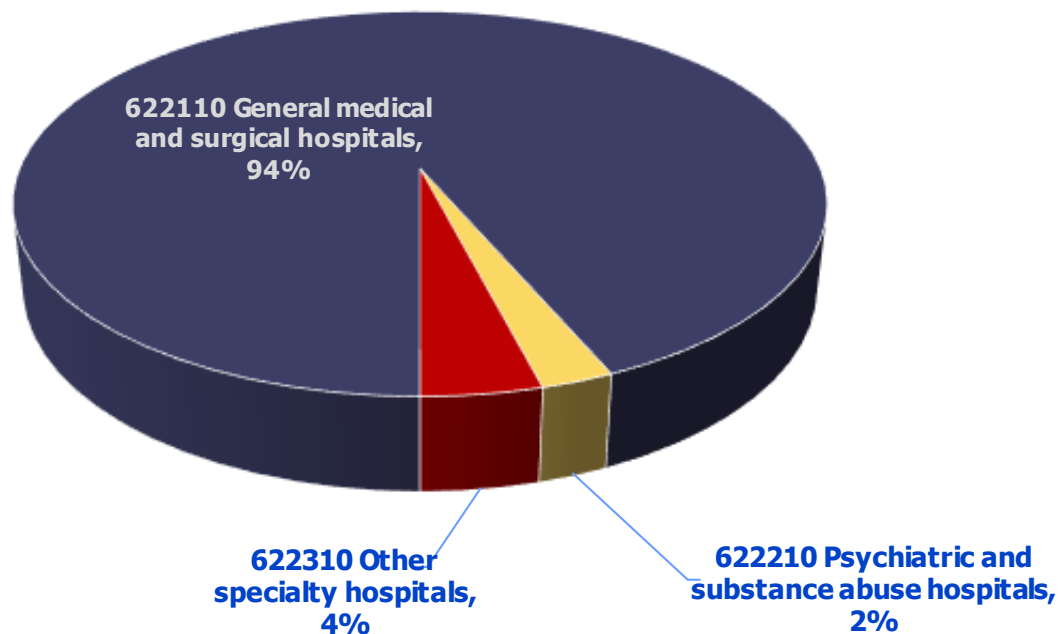
Market Size

NAICS 621111 accounts for half of the turnover in the U.S. for NAICS Sub-sector 621, Ambulatory Health Care Services according to the 2007 Economic Census.



Market Size

NAICS 622110 accounts for 94% of turnover in the U.S. for NAICS Sub-sector 622, Hospitals according to the 2007 Economic Census.



National Accounts Concepts

- Medical expenditures data reflect the ultimate recipient of the services, not necessarily the payer.
- Transactions are transferred to the personal consumption expenditure (PCE) account from:
 - ▶ The government consumption account for transactions paid for by public payers (Medicare, Medicaid)
 - ▶ The private business investment account for transactions paid for by private insurance companies
- The US Bureau of Economic Analysis is currently developing a satellite disease-based health care account

Pricing Methods

- U.S. PPI uses the terms *price* and *reimbursement* interchangeably as prices should reflect the total amounts providers are reimbursed for providing services to patients.
- This includes:
 - ◇ all direct payments received from patients
 - ◇ all third-party payments, such as private insurance companies and government institutions paying on behalf of patients
- Total reimbursement to a provider for a specified medical service may include payments from multiple payers.

Pricing Methods

Model pricing is used for most human health activities and is the preferred type of price.

- Due to unique patient characteristics, specific transactions collected in the initiation period will **not** be observed on a recurring basis in almost all cases.
- Individual patient bills are selected and the billed services are held constant over time.
- Each reporting period, the respondent is asked to provide the amount they would expect to be reimbursed if they were to offer the same services to a similar patient.

Pricing Methods

Advantages of Model Prices

- Hypothetical transactions can be priced over the life of the sample.
- Standardization of procedural terminology by various medical associations, professionals and classification experts allow for consistency of billed services.

Disadvantages of Model Prices

- Respondent burden may be high in some situations.
 - ◇ An insurance provider may not release reimbursement information without actual transactions taking place, making it difficult for the respondent to obtain or calculate accurate estimates.
 - ◇ Providers may no longer accept a selected insurance plan, requiring a substitute item to be selected.

Pricing Methods – Other Types of Prices

Direct prices of repeated services

- Commonly used for Other human health activities transactions.
- Used when standard prices are typically charged to all patients, regardless of payer.
- Providers often set prices based on a standard fee schedule.

Quality Adjustment

- Based on the FIOPI approach, the U.S. adjusts for quality by quantifying the producer costs associated with service improvements.
- Due to the complicated nature of health care services, accurately identifying and measuring differences in quality is difficult.
- In 2008, the U.S. introduced a new quality adjustment method to account for changes in the quality of a selection of patient treatments performed at hospitals.

Quality Adjustment

- The U.S. Department of Health and Human Services (DHHS) created a Hospital Compare (HC) database to compare service quality across hospitals.
- HC database contains measures for the treatment of the following major conditions:
 - ◇ Heart Attack
 - ◇ Heart Failure
 - ◇ Pneumonia
- Service measures are selected by medical experts to support optimal recovery.

Quality Adjustment

Quality Adjustment Example

- The HC database indicates that the percentage of heart failure patients at a sampled hospital given an evaluation of their left ventricular systolic (LVS) function increases from 85% to 90%.
- The average cost to treat patients admitted for heart failure is calculated to be \$9,900.
- The change in the percentage of patients receiving the measure is then applied to the average cost to treat the condition. The resulting figure is the value of the explicit quality adjustment.

$$VQA = 5\% * \$9,900 = \$495$$

Evaluation of Comparability With Turnover/Output Measures

- Every five years, the U.S. Census Bureau calculates and publishes turnover data for the health care industries in the Economic Census.
- The Census Bureau also publishes quarterly and annual turnover data at the four-digit for NAICS 6211, 6212, 6215, 6216, 6219, 6221, 6222, and 6223.

New Indexes by Payer

- In recent years, U.S. PPI staff have product coded virtually all collected transactions based on the type of payer
- This has allowed for the creation of price indexes by payer type, which is the most important price determining characteristic in the U.S.

Commodity code	Commodity title
511101	Physician care
51110102	Medicare patients: physician care
51110103	Medicaid patients: physician care
51110104	Private insurance patients: physician care
51110105	All other patients: physician care

New Indexes by Payer

- In 2014, new aggregated indexes by payer, that include all covered health care transactions across all industries, were published
- This had been frequently requested by data users

Index code	Product-based index title
SIHCARE1	Health care services, Medicare patients
SIHCARE2	Health care services, Medicaid patients
SIHCARE3	Health care services, private insurance patients
SIHCARE4	Health care services, all other patients

Summary

- U.S. health care price indices reflect the change in reimbursement amounts providers receive for providing services to all patients.
- Expected reimbursement amounts are captured for health care services using two methods: 1) model pricing, and 2) direct use of prices of repeated services.
- The U.S. quality adjusts transactions in the hospital index using databases developed by the U.S. DHHS to monitor and improve the quality of care performed at hospitals.
- The U.S. health care sector represents 18 percent of U.S. GDP and contains a multitude of payers, both public and private. In order for the indices to accurately reflect changes in the price level for health care services, all payer types need to be included.

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