

Medical Care in the Consumer Price and Producer Price Programs

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Agenda

- Importance of Health Care in the Economy
- Definitions and Indexes
- Methodology
- Disease Based Price Indexes
- Recent Changes
- Upcoming Projects and Research

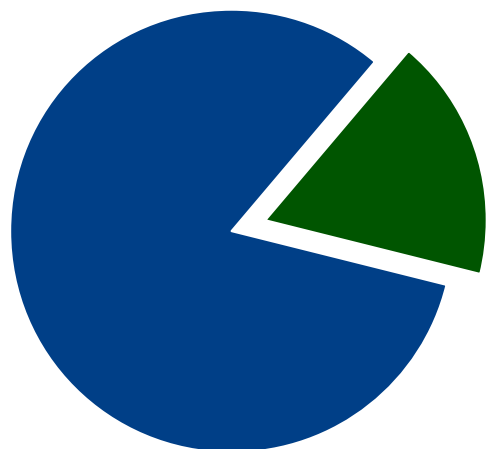


Importance of health care in the U.S. economy



National Health Expenditures in 2019 = \$3.8 Trillion

\$11,582 per person



17.7% of GDP

Source: Centers for Medicare & Medicaid Services, National Health Expenditures, 2019 Highlights

Who pays for health care?



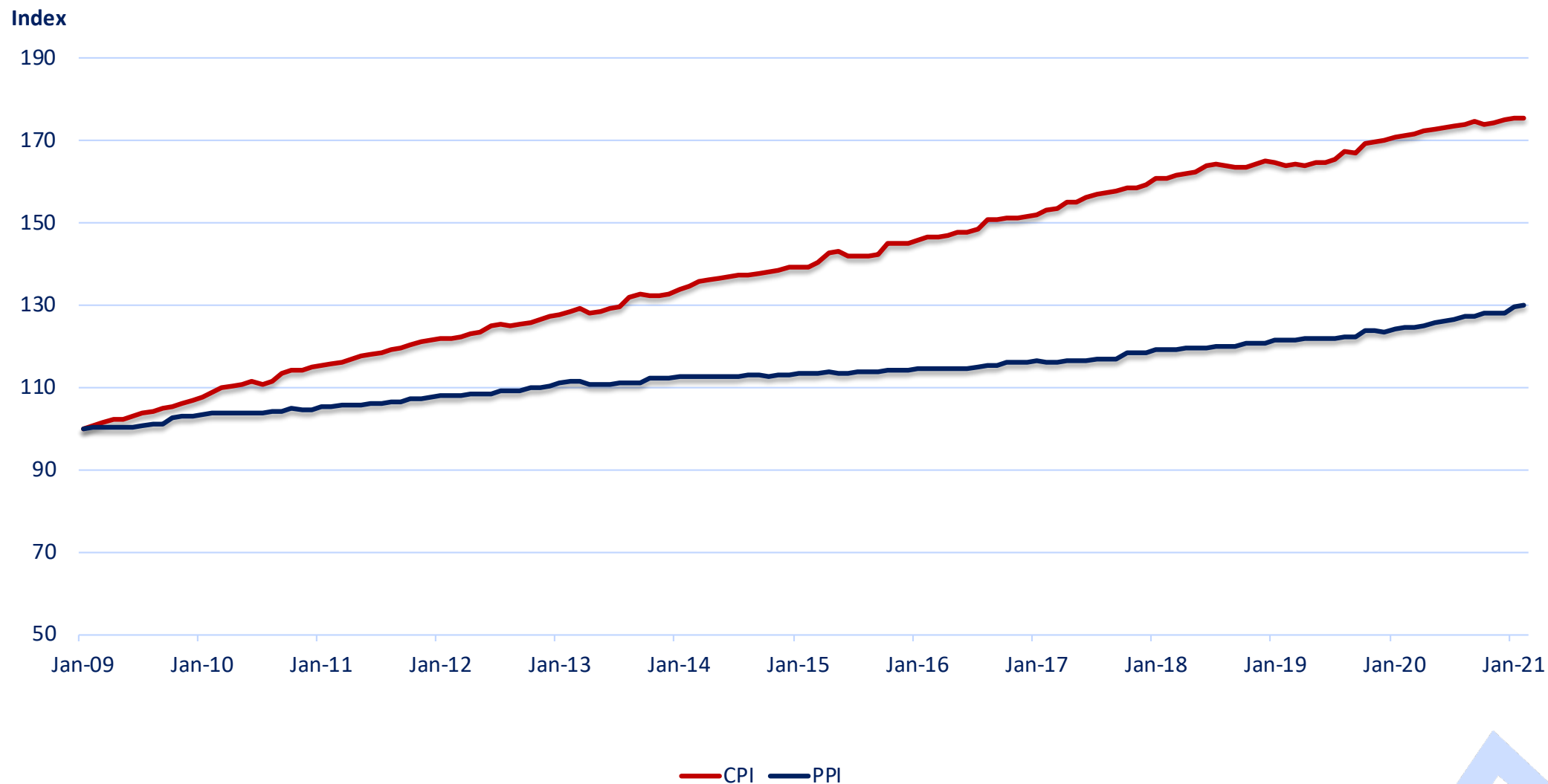
- Private Insurance 31%
- Medicare 21%
- Medicaid 16%
- Out of Pocket 11%

Source: Centers for Medicare & Medicaid Services, National Health Expenditures, 2019 Highlights

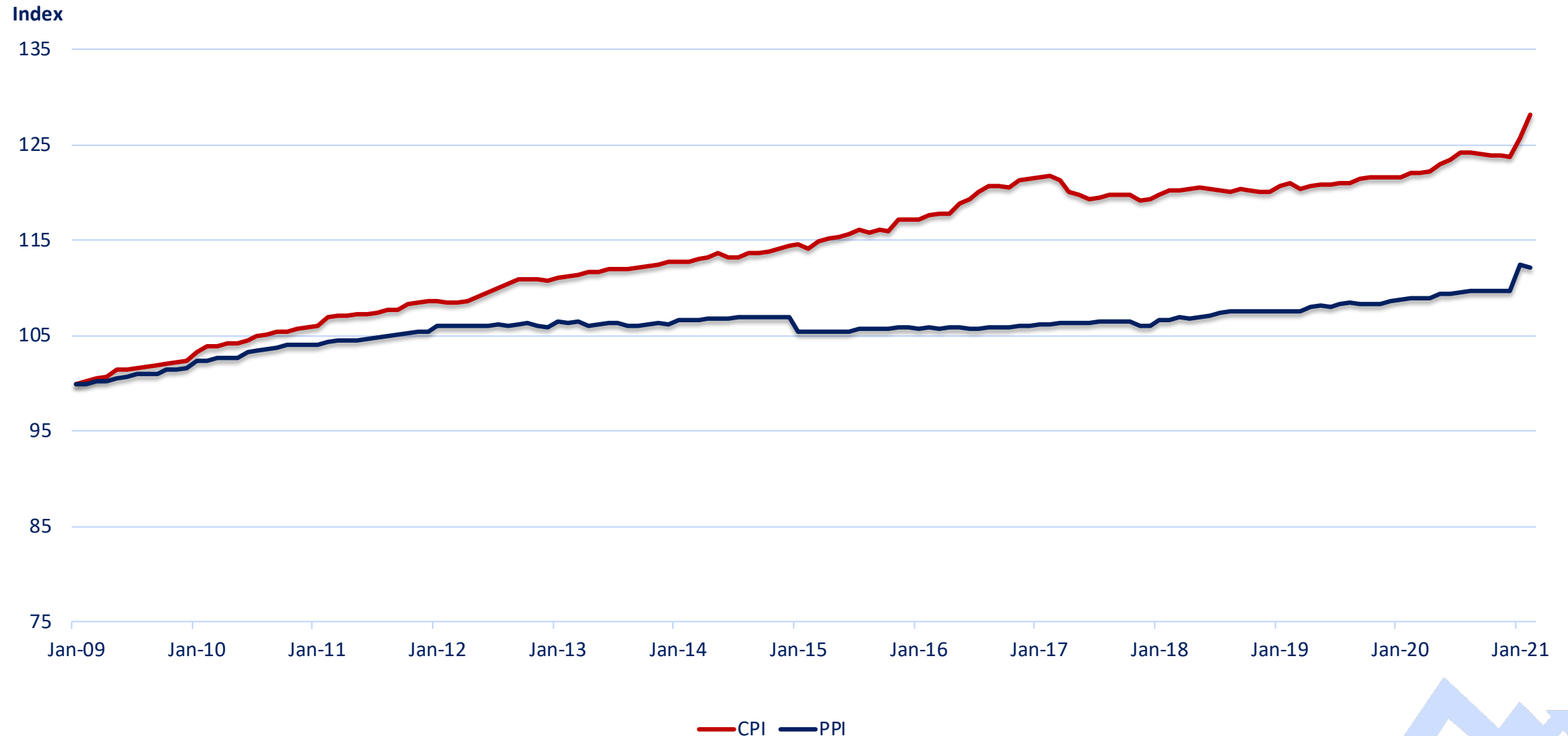
CPI & PPI definitions and indexes



Hospital services indexes



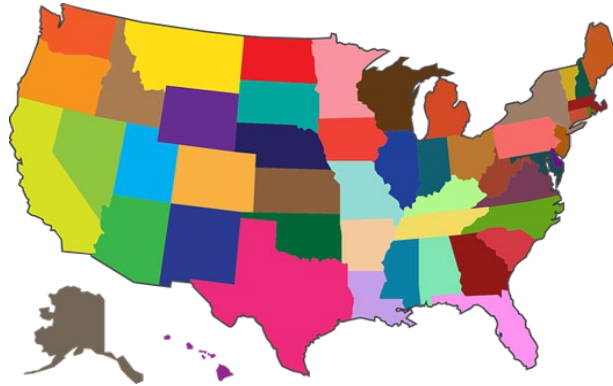
Physicians' services indexes: 2009-2021



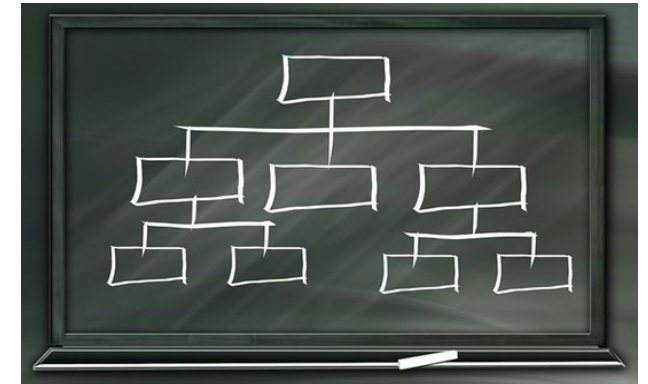
PPI vs. CPI: How do they differ?



Sources of Payment



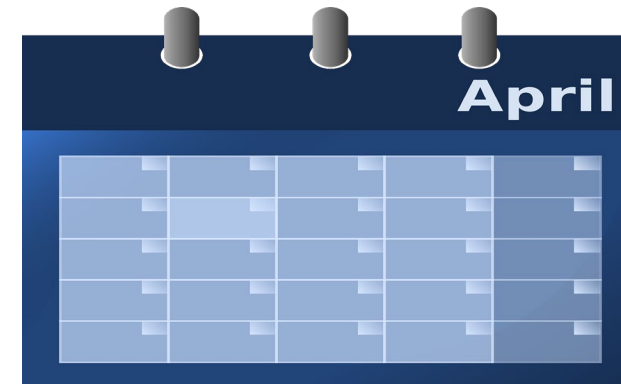
Geographic Scope



Level of Detail



Weight Sources



Revisions

CPI health care indexes

■ Medical Care

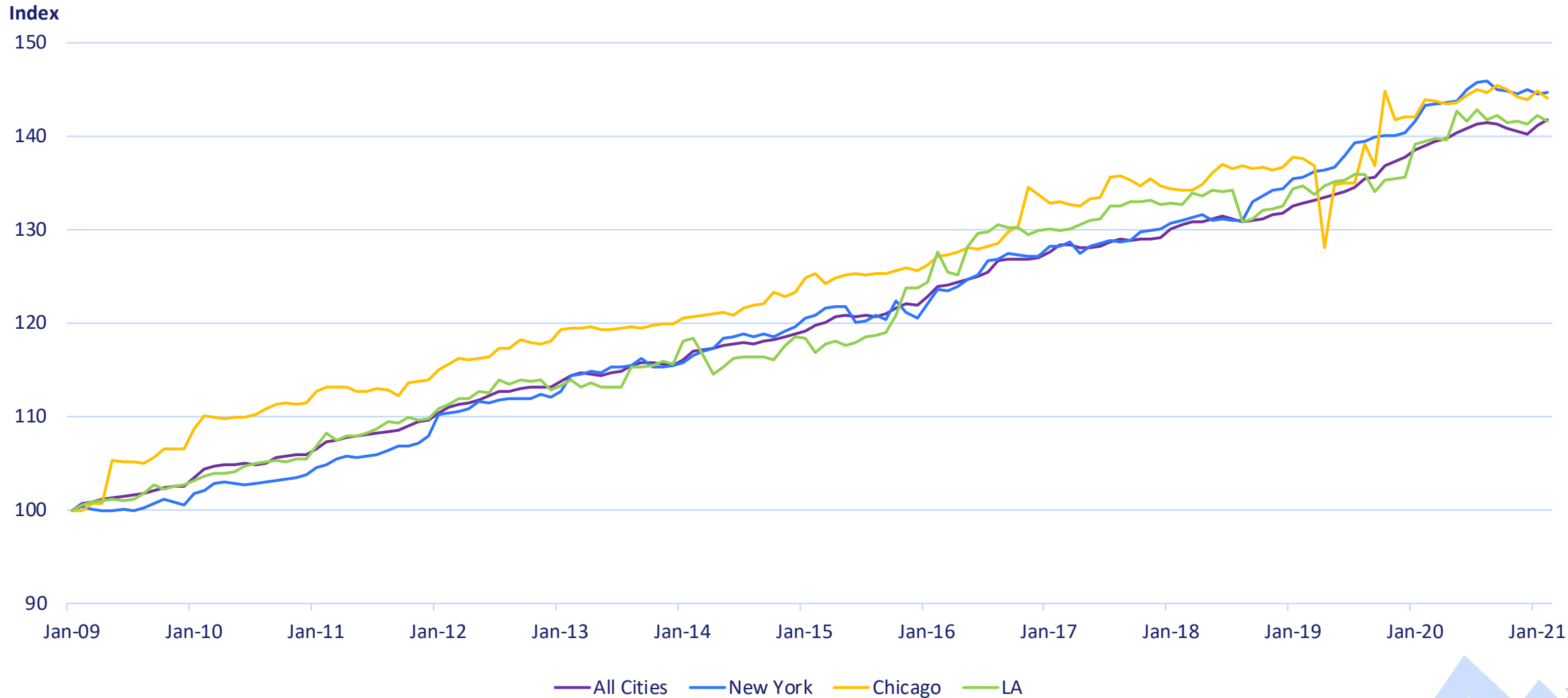
▶ Medical Care Services

- Professional Services
 - Physician Services
 - Dental Services
 - Eyeglasses and Eye Care
 - Services by Other Medical Professionals
- Hospital and Related Services
 - Hospital Services
 - Nursing Homes and Adult Day Services
 - Care of Invalids and Elderly at Home
- Health Insurance

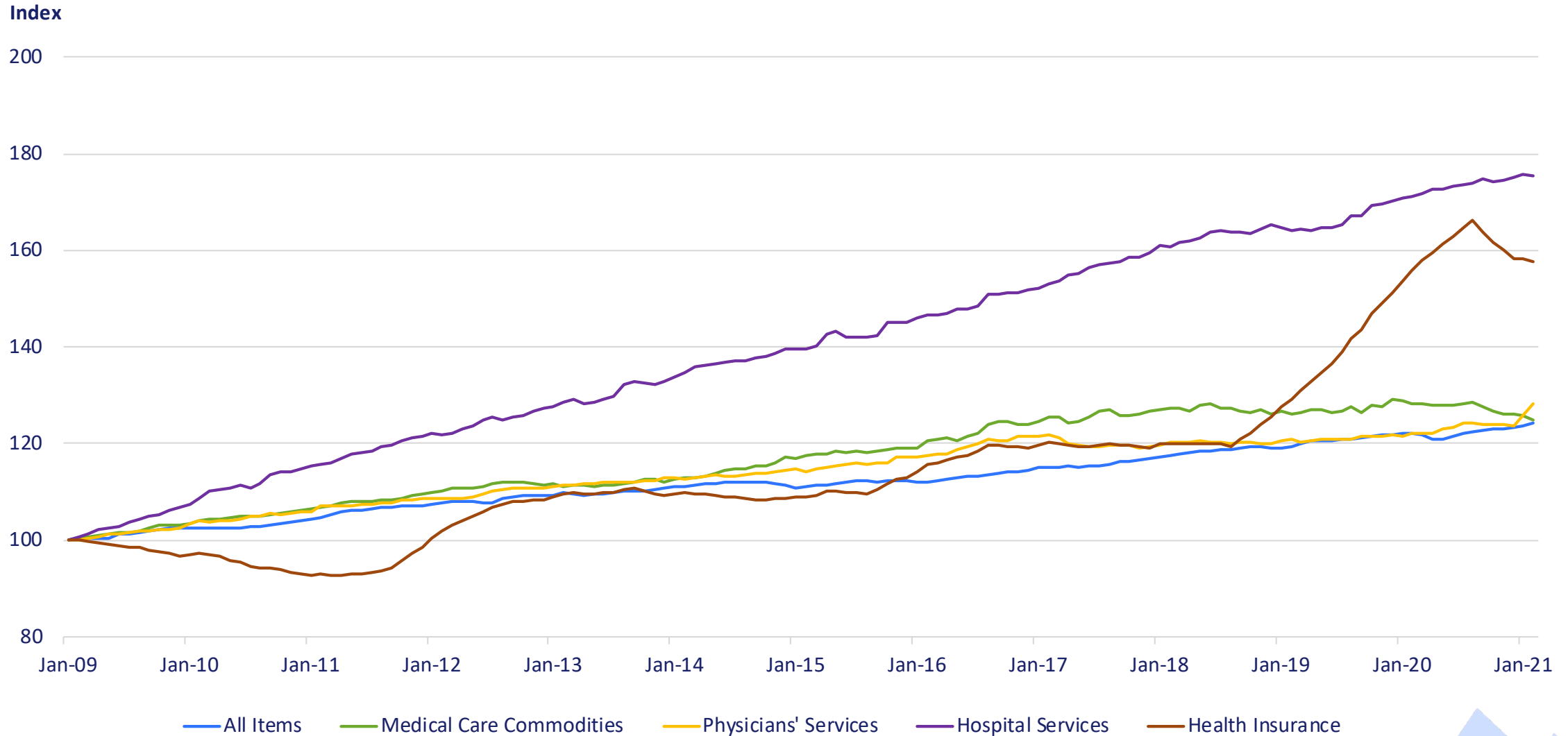
▶ Medical Care Commodities

- Medicinal Drugs
 - Prescription Drugs
 - Non-Prescription Drugs
- Medical Equipment and Supplies

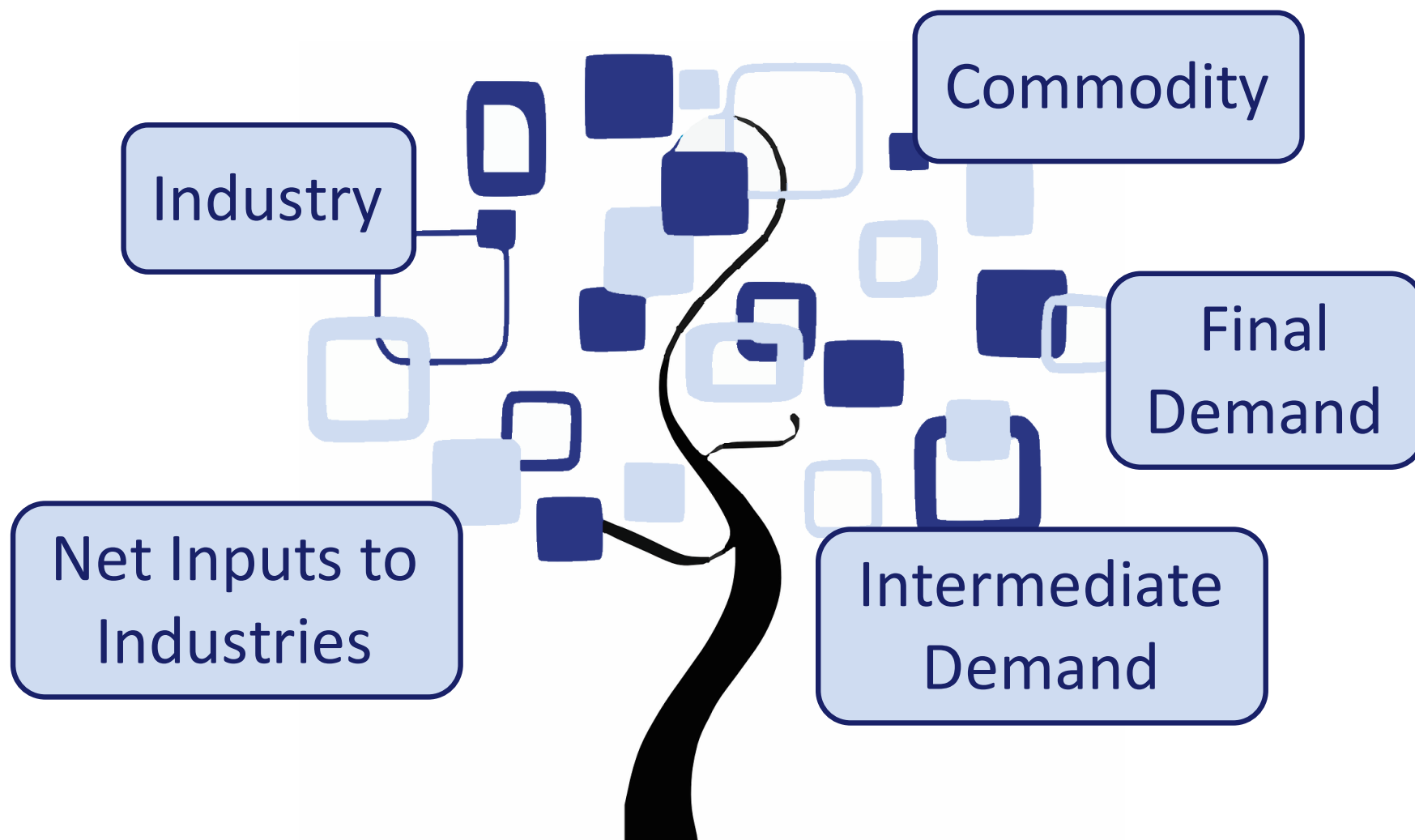
CPI medical care indexes by city 2009-2020



CPI medical care indexes by item 2009-2020



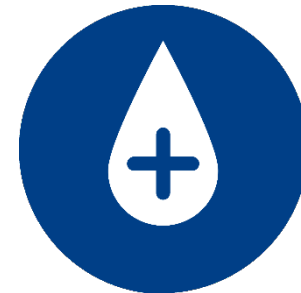
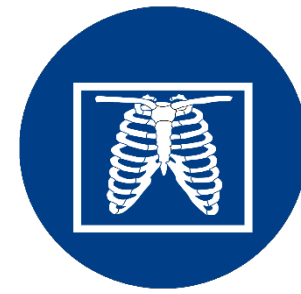
PPI family of indexes



PPI health care indexes by NAICS industry

■ Ambulatory Health Care Services

- ▶ Offices of Physicians
- ▶ Offices of Dentists
- ▶ Medical Laboratories
- ▶ Diagnostic Imaging Centers
- ▶ Home Health Care Services
- ▶ Blood and Organ Banks



PPI health care indexes by NAICS industry (cont.)



■ Hospitals

- ▶ General Medical and Surgical Hospitals
- ▶ Psychiatric and Substance Abuse Hospitals
- ▶ Other Specialty Hospitals



■ Nursing and Residential Care Facilities

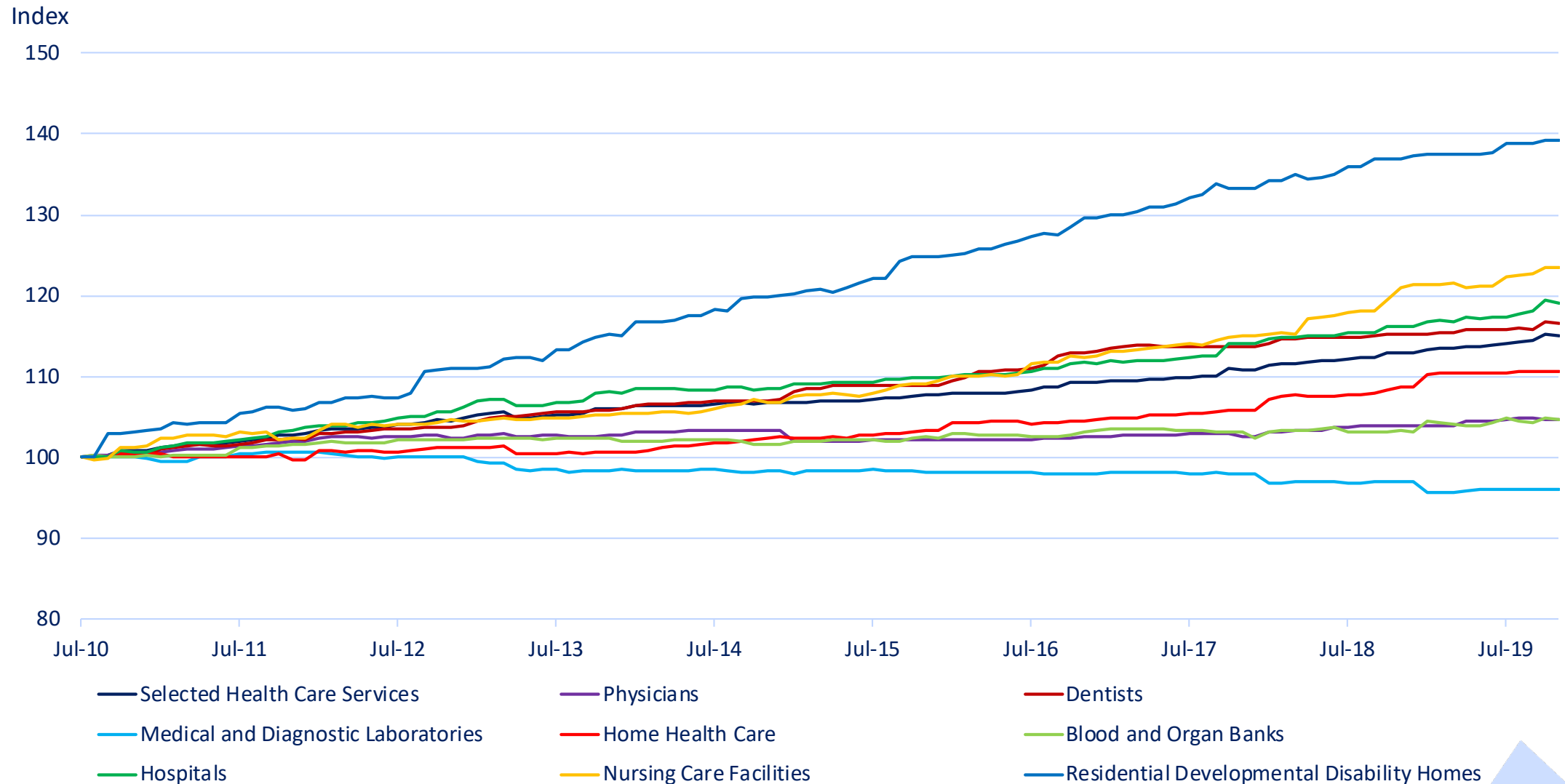
- ▶ Nursing Care Facilities
- ▶ Residential Developmental Disability Homes

PPI industry indexes related to health care

- Pharmaceutical Preparation **Manufacturing**
- Electromedical Apparatus **Manufacturing**
- Surgical and Medical Instrument **Manufacturing**
- Surgical Appliance and Supplies **Manufacturing**
- Dental Equipment and Supplies **Manufacturing**
- Ophthalmic Goods **Manufacturing**
- **Retail** Pharmacies and Drug Stores
- Health and Medical **Insurance** Carriers



Selected health care services industries

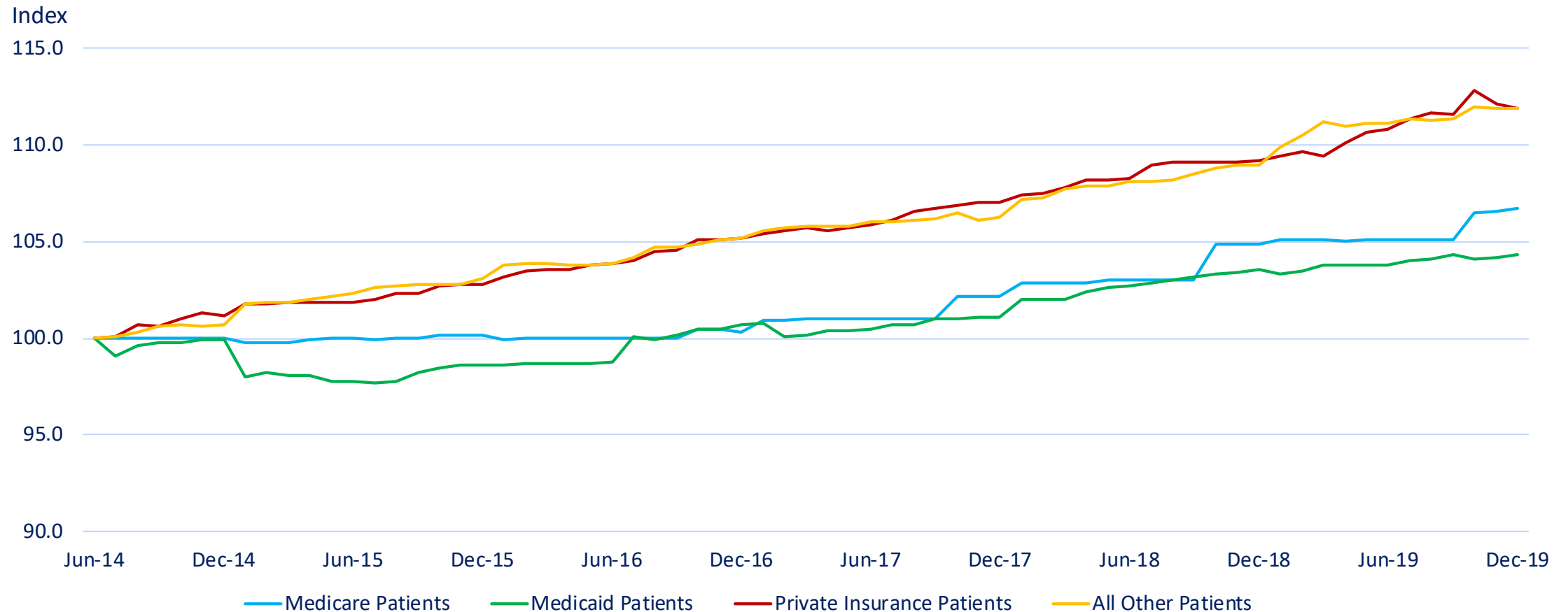


PPI health care commodity indexes

PPI Health Care Commodity Indexes	Relative Importance in Final Demand - Dec 2020
Health Care Services	17.7
Outpatient Care	10.7
Physician Care	4.1
Medical Laboratory and Diagnostic Imaging Center Care	0.3
Home Health and Hospice Care	0.7
Hospital Outpatient Care	4.3
Dental Care	1.2
Inpatient Care	7.0
Hospital Inpatient Care	5.4
Nursing Home Care	1.3
Intellectual and Developmental Disability Center Care	0.3
Sales of Blood and Blood Products, Organs, and Tissues	0.1



Health care services indexes by payer



Input to industry indexes

■ Official Series - January 2015

- ## ► Inputs to Offices of Health Practitioners

■ Satellite Series – September 2020

- ▶ Inputs to Ambulatory Health Care Services
- ▶ Inputs to Hospitals
- ▶ Inputs to Nursing and Residential Care Facilities



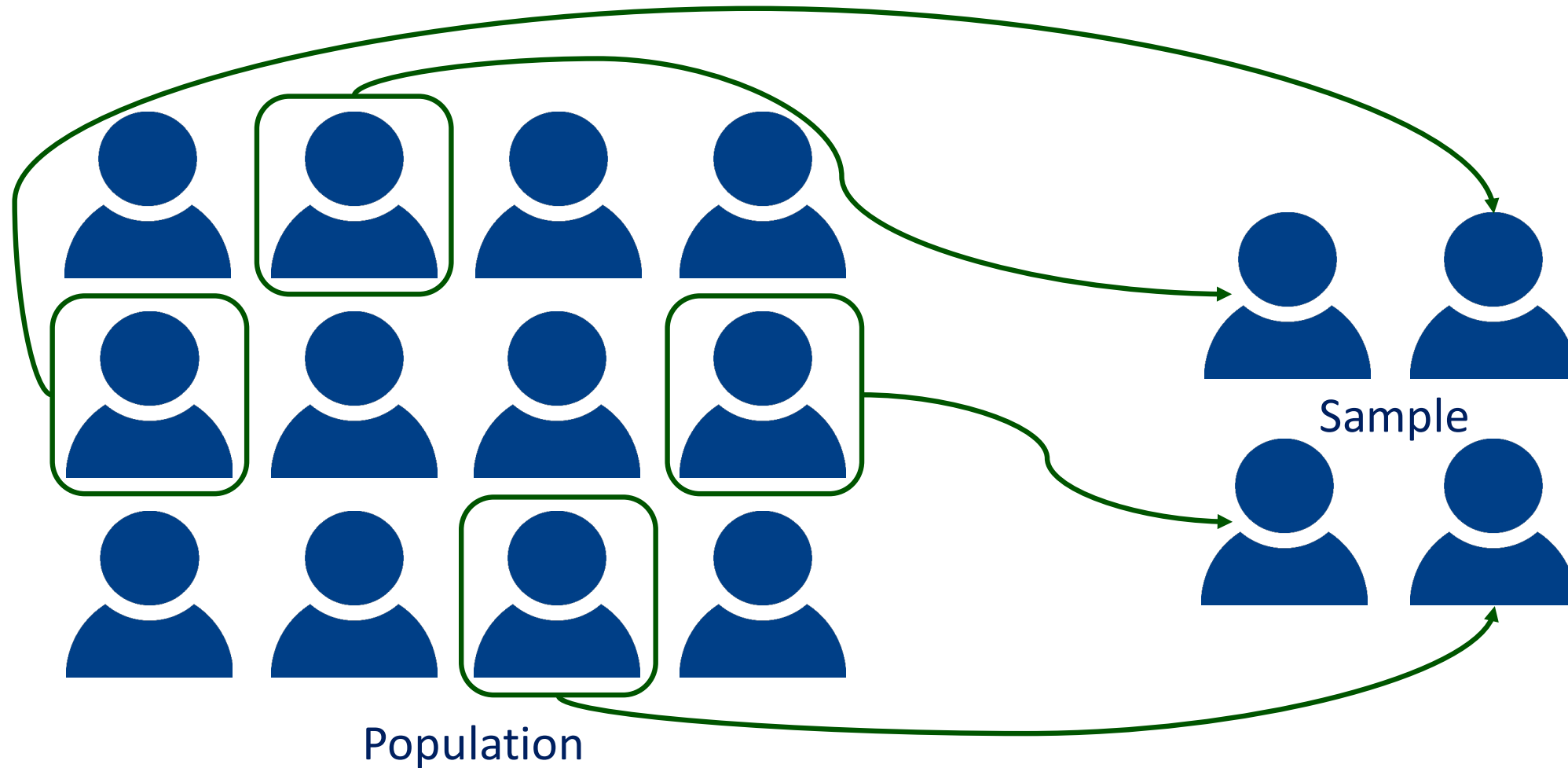
Methodology



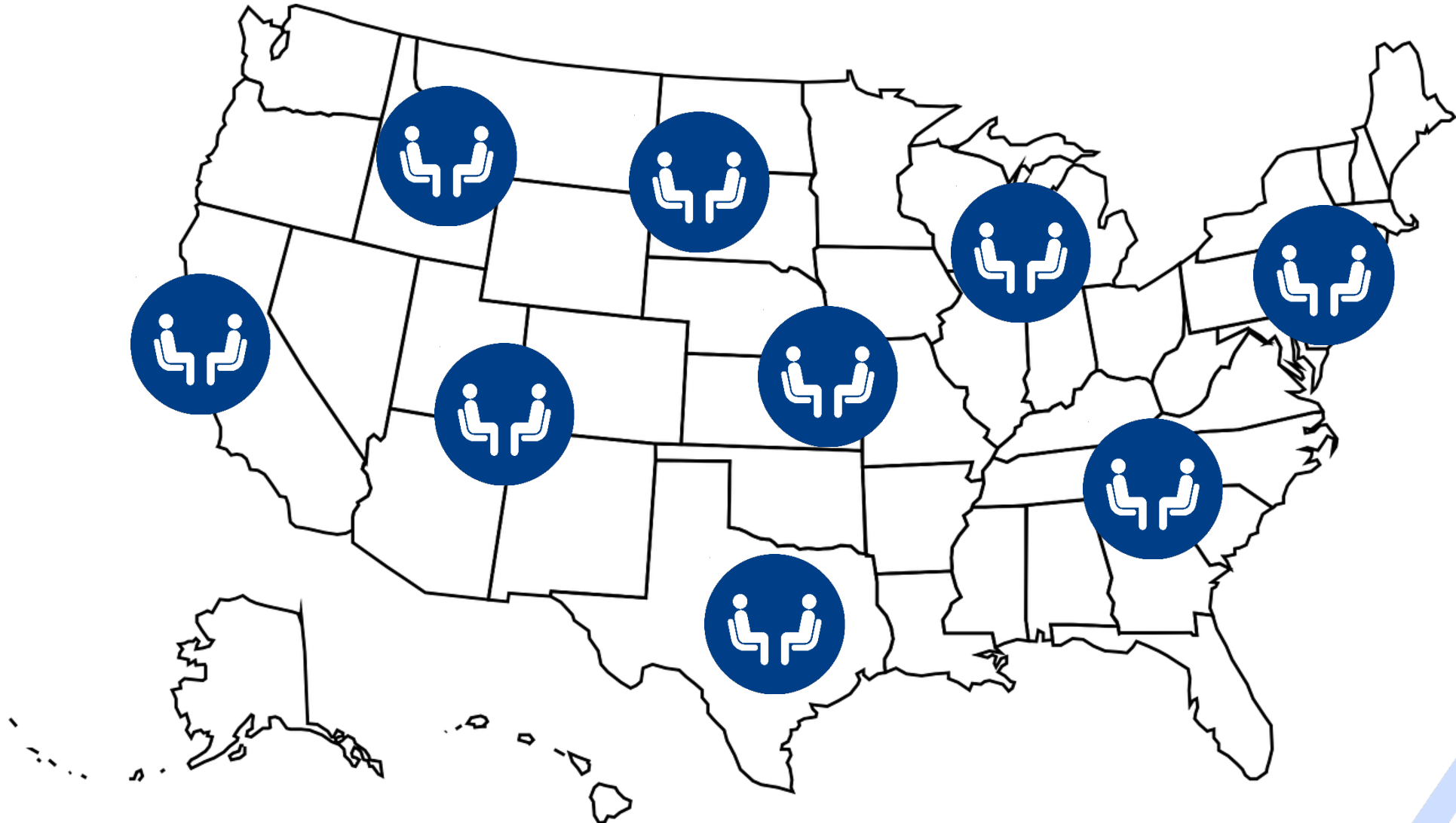
Matched model

- Goal: Measure price change for a unique item
- Steps (at a high level):
 1. Select a sample of providers
 2. Select a unique service
 3. Track price change for the same service by a particular provider over time
 4. Calculate indexes

Provider sample selection



Service selection



What is priced in the health care industries?

- Physicians and dentists:
 - ▶ per visit or per treatment
- Hospitals:
 - ▶ per stay for inpatient, per treatment for outpatient
- Medical Labs, Diagnostic Imaging Centers, and Blood Banks:
 - ▶ Per test or per unit
- Home Health Care Services:
 - ▶ Per billing period (hour, week, month, etc.)

What is the price for a health care service?

- Price = Reimbursement

- Reimbursement \neq Bill

- Total reimbursement may include payments from multiple payers



\neq

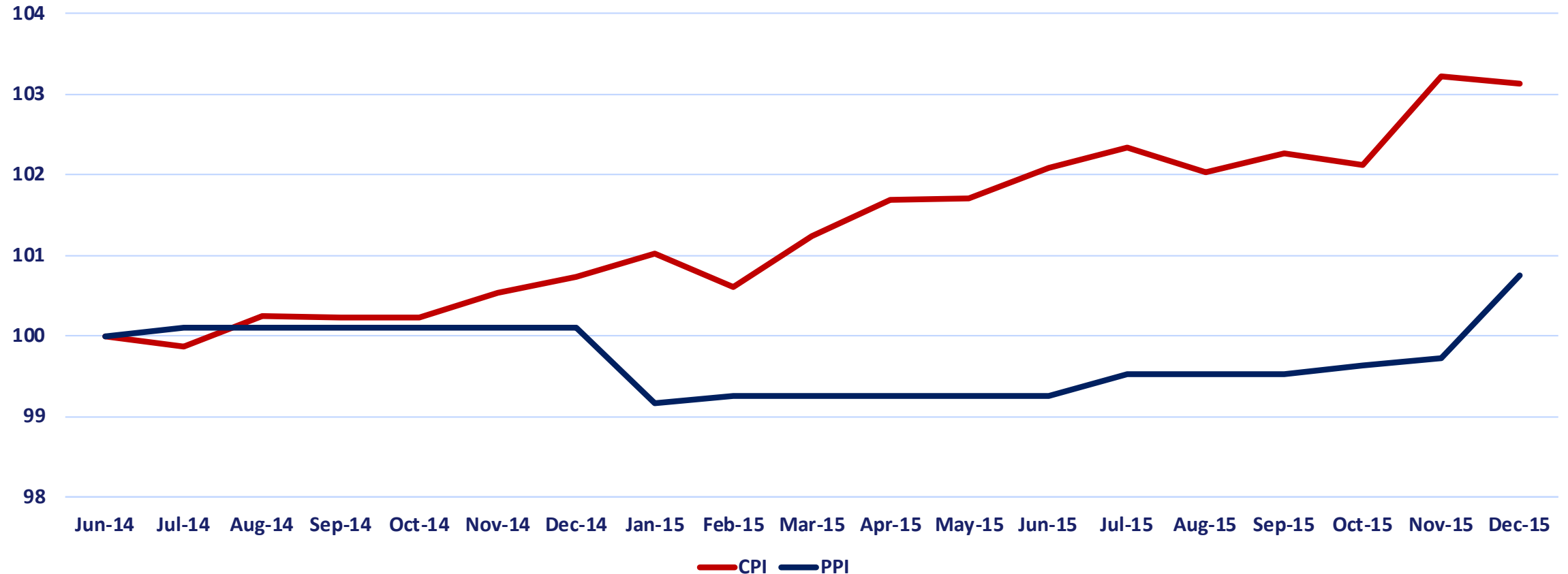


Eligible sources of payment

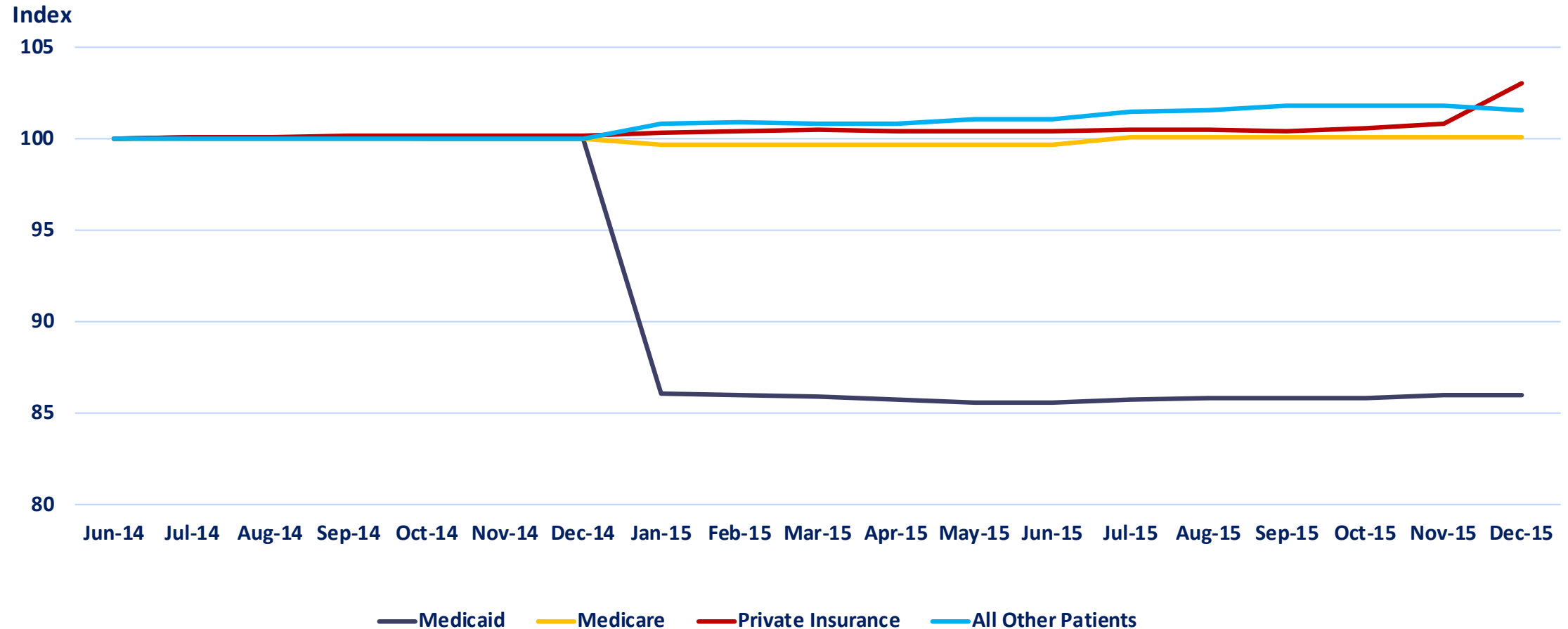
Source of Payment	CPI	PPI
Direct payments from patients	✓	✓
Private insurance	✓	✓
Medicare	Parts B&C	Parts A, B, C
Medicaid		✓
Other third party payers		✓

Physicians' services indexes: 2014-2015

Index values, June 2014 = 100



PPI physician care by type of payer



The important role of weighting of indexes



CPI medical care weights

Consumer Price Index (CPI)	Dec-2020 Relative Importance
Medical care	8.9
Medical care commodities	1.6
Medicinal drugs	1.5
Prescription drugs	1.1
Nonprescription drugs	0.4
Medical equipment and supplies	0.1
Medical care services	7.3
Professional services	3.7
Physicians' services	1.8
Dental services	1
Eyeglasses and eye care	0.4
Services by other medical professional	0.5
Hospital and related services	2.4
Hospital services	2.2
Nursing homes and adult day services	0.1
Care of invalids and elderly at home	0.1
Health insurance	1.2



CPI health insurance

- How to track the cost of health insurance?

- ▶ Track out-of-pocket premiums

- Cannot control for plan quality

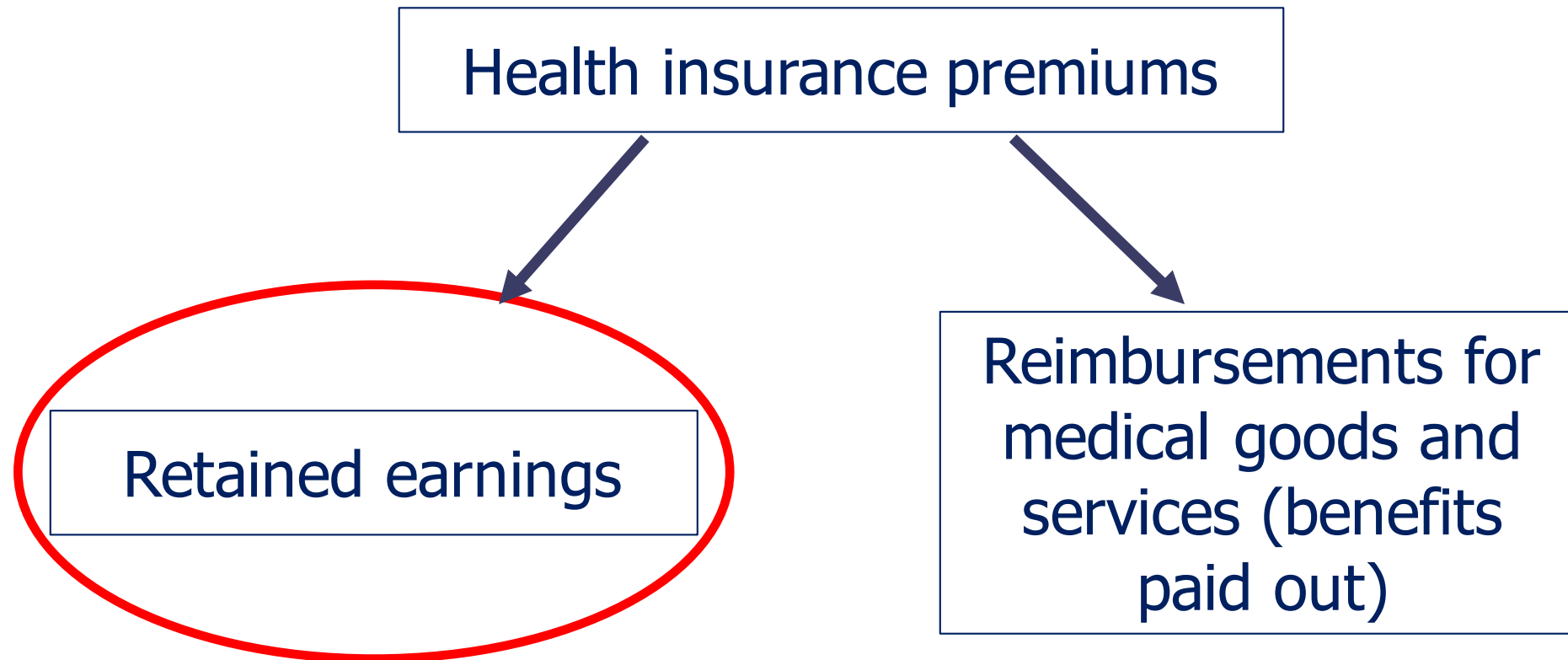
- ▶ Changing benefits

- Indirect retained earnings method

- ▶ Track the cost of health insurance

Retained earnings

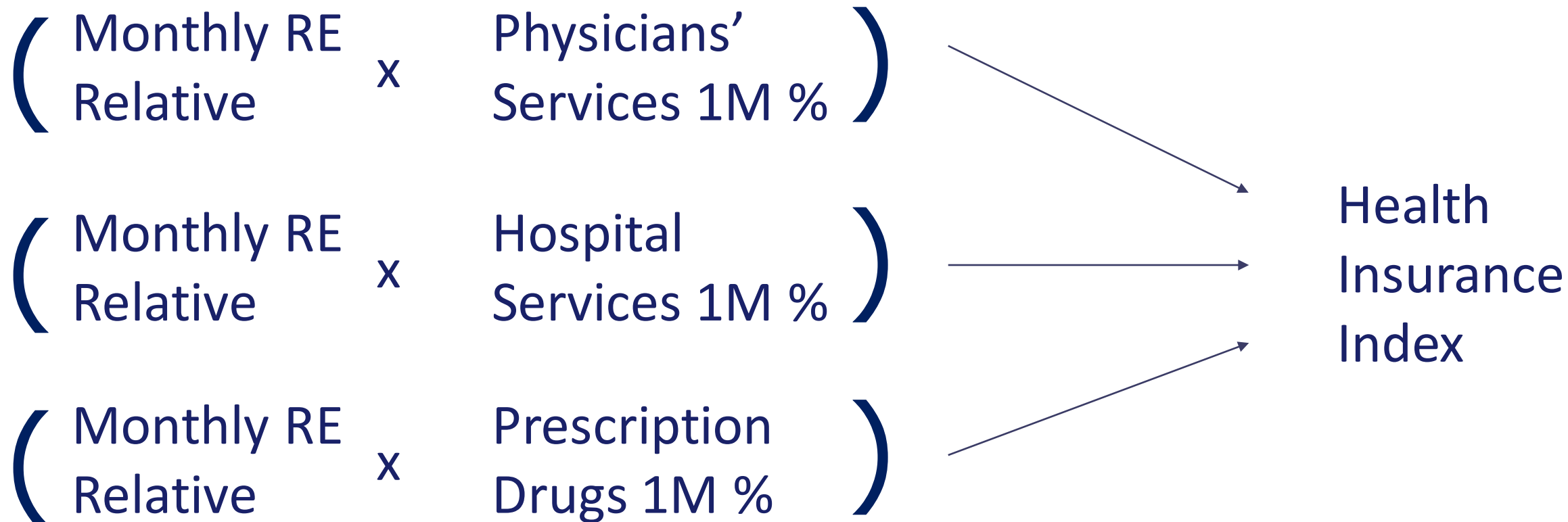
Figure A. Breakdown of health insurance premium components



Retained earnings relative

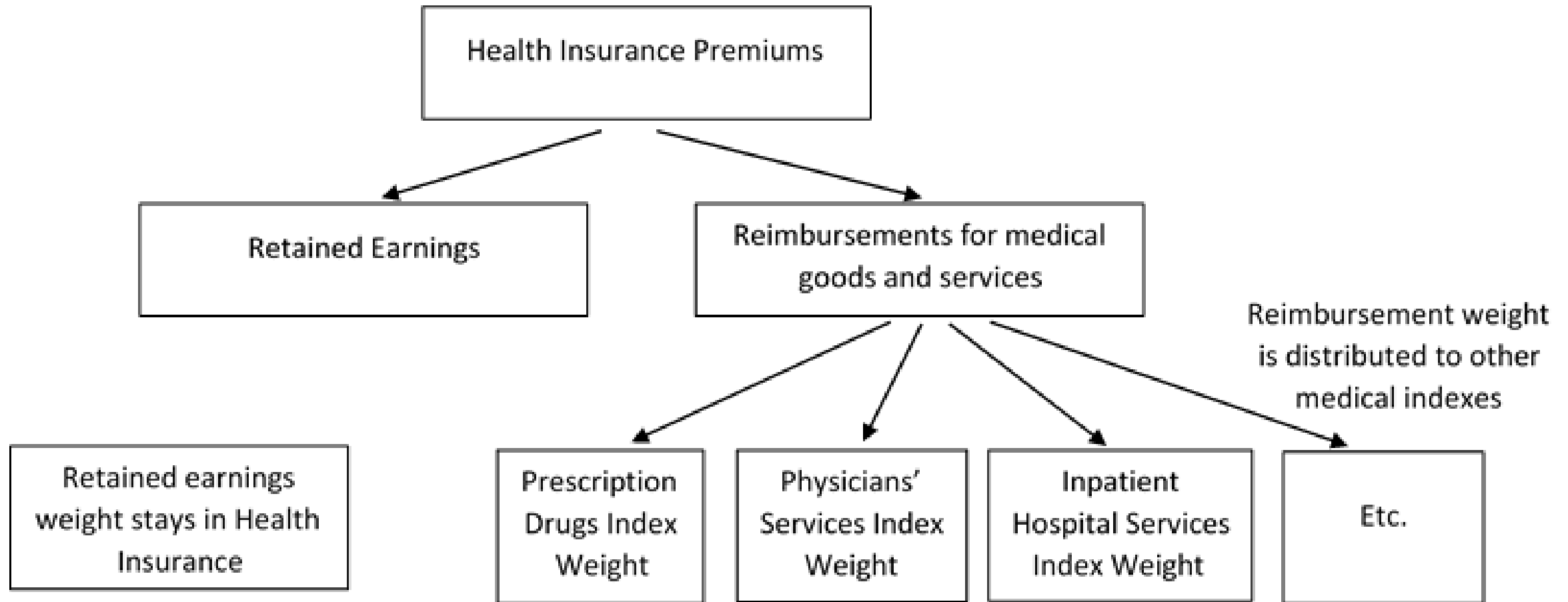
$$\left(\frac{\frac{\text{Retained Earnings}_T}{\text{Benefits}_T}}{\frac{\text{Retained Earnings}_{T-1}}{\text{Benefits}_{T-1}}} \right)^{1/12} = \text{Monthly RE relative}$$

Index aggregation



Reassigning weight

Figure B. Health Insurance Weight Redistribution.



CPI health insurance (cont.)

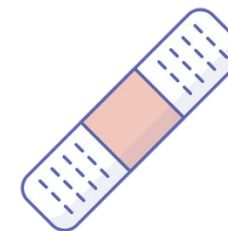
- Effects of indirect method of pricing health insurance
 - ▶ Increases relative shares of other medical care items
 - ▶ Includes payments by third parties when measuring prices for medical care
- [Medical Care Factsheet](#)

Disease based price indexes



What are disease based price indexes?

- Measure changes in the average price level to treat an episode of specific disease
- Includes all goods and services prescribed in the episode, from all providers:
 - ▶ Medical procedures
 - ▶ Drugs
 - ▶ Office visits



How are disease based indexes different?

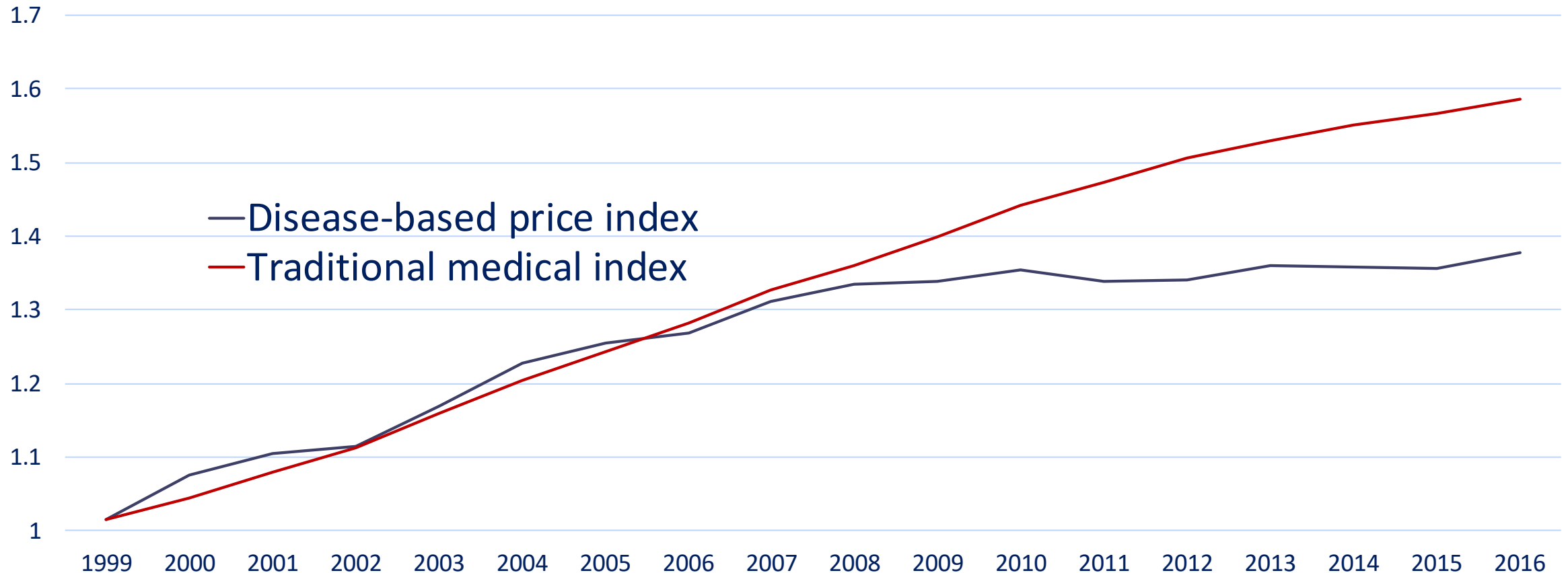
- Specific medical condition vs. specific goods and services
- Changes in utilization of services for treating a disease
- Include technological improvements
 - ▶ Type of treatment: drugs vs. surgery
 - ▶ Intensity of treatment: inpatient vs. outpatient

Disease based price indexes

- First published in July 2015
- Quantities from Medical Expenditure Panel Survey (MEPS)
- BLS price data from both CPI and PPI
- Update monthly about 1-2 weeks after release of CPI & PPI
- [Disease Based Price Index background, methodology, and data](#)



A comparison of the growth of the disease based price index with the traditional medical price index, 1999-2016



[“The cost of care: new insights into healthcare spending growth,”](#) *Beyond the Numbers: Prices & Spending*, vol. 6, no. 7 (U.S. Bureau of Labor Statistics, June 2017)



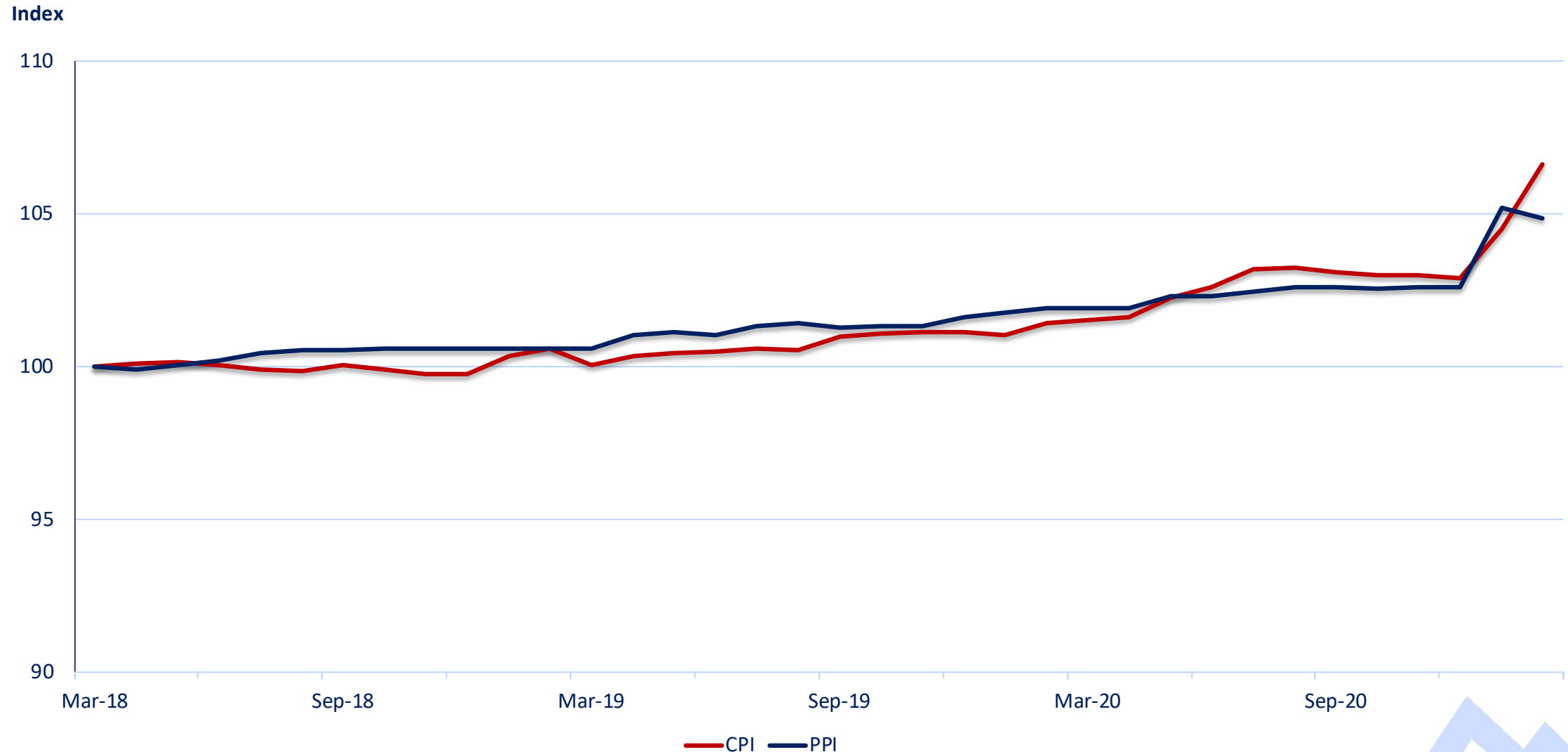
Recent changes & research



CPI physicians' services index weighting by payer-type

- Medical Expenditure Panel Survey (MEPS) weights by payer-type
- Better reflects current market weights
- Increases the share of payments covered by private insurance relative to self-pay and Medicare part B

Physicians' Services Indexes March 2018-February 2021



Recent PPI changes

- Publishing by ICD Chapter instead of MDC
- CPI/PPI Hospital Data Sharing
- New Input to Industry Health Care Indexes
- Use of Corporate Data
 - ▶ Respondents provide data files with transaction level data for all services provided for the month



CPI ongoing projects and research

- Using medical claims data in the CPI
 - ▶ [AEA paper](#)
- Reduce respondent burden and increase participation
- Improve the health insurance index
 - ▶ Timeliness improvement
 - ▶ CNSTAT to review methodology



PPI ongoing projects and research

- Using medical claims data in the PPI
- Evaluating changes to CMS payment models and the impacts on medical care prices and PPI quality adjustment methods
- Monitoring the impact of the COVID-19 pandemic on health care providers, services, and prices
- Research into covering additional industries in the healthcare sector

Cross-program research

- Research into quality adjusting disease based price indexes – use of Medicare claims data
- Potential application of this research to CPI and PPI indexes



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