Research and Planning Consultants, LP

Sources and Methods for Current Prices In Life Care Plans

August 8, 2018

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Sources and Methods for Current Prices in Life Care Plans

Introduction

This document describes some of the data sources and methods Research and Planning Consultants, LP (RPC) uses to estimate current prices for life care plan. This document does not identify all data sources and methods RPC uses because the goods and services in a specific life care plan may require use of additional sources and methods. The information will give the lay reader an overview of the data sources and methods RPC uses.

2. The life care plan is a dynamic document based upon published standards of practice, comprehensive assessment, data analysis, and research, which provides an organized, concise plan for current and future needs with associated costs for individuals who have experienced catastrophic injury or have chronic health care needs.[1] A goal of the life care plan is to specify services and the charges for those services needed by the individual. According to the *Standards for Life Care Planners,* the life care planner "follows a consistent method for organizing data, creating a narrative life care plan report, and projecting costs, and develops and uses written documentation tools for reports and cost projections."[2] It is crucial that the costs associated with the individual's needs are estimated reasonably.

3. The prices in a life care plan are prices at which the injured party could reasonably expect to purchase the goods and services in the geographic area where he or she resides as of the date of the life care plan. RPC does not estimate a range of values in life care plans. According to the *Life Care Plan and Case Management Handbook,* ranges of values should not be included in a life care plan.[3]

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[1] Weed, Roger O., and Berens, Debra E. ed. 2010. *Life Care Planning and Case Management Handbook* 3rd ed. CRC Press. Page 941-942.
[2] The International Association of Rehabilitation Professionals *Standards of Practice for Life Care Planners* 3rd edition. (2015). https://rehabpro.site-ym.com/. Accessed May 24, 2018.
[3] Weed, Roger O., and Berens, Debra E. ed. 2010. *Life Care Planning and Case Management Handbook* 3rd ed. CRC Press. Page 314.

4. The prices in the life care plan do not represent purchase prices in future years when the purchases will occur. An economist calculates future prices based on projected price inflation for various categories of goods and services.

5. There are two methods RPC uses to estimate current prices: (1) calculation of usual, customary and reasonable charges and (2) price surveys by telephone and internet. Each method is explained in this paper. Each of the provider types and cost categories listed below are discussed in this report. Attached to this report is a summary of methods and sources by category of good or service.

- Physicians and Therapists
- Anesthesiologists
- Hospital Inpatient Services
- Hospital Outpatient Services
- Ambulatory Surgery Centers (“ASC”) Services
- Prescription and Over the Counter Medications
- Durable Medical Equipment (“DME”)
- Home and Vehicle Modifications
- Home Health and Personal Attendant
- Transportation Charges

Usual, Customary and Reasonable (“UCR”) Charges

6. Although some organizations and reference sources use the terms “usual and customary” (“UC”) and “usual customary and reasonable” (“UCR”) interchangeably, these two terms have distinct meanings. “Usual and customary charges” are the charge amounts on a provider’s chargemaster on the date of service. A chargemaster is a comprehensive list of charges established by a provider that apply to all patients, without regard to the expected source of payment. While a provider can change its chargemaster at any time, on any day the provider charges all patients receiving care the same amount for the same service.[4] Usual and customary

[4] See: *Holland v. Trinity Health Care Corp.*791 NW 2d 724 (2010), 287 Mich. App. 524 and Reinhardt, Uwe. 2009. How Do Hospitals Get Paid? A Primer. Economix. *The New York Times*. Available at: http://economix.blogs.nytimes.com/2009/01/23/how-do-hospitals-get-paid-a-primer/?_r=0&module=ArrowsNav&contentCollection=Business%20Day&action=keypress®ion=FixedLeft&pgtype=Blogs

charges are usually more than the amounts providers accept as payment in full from the patient and other payors.[5] Put briefly, UC charges are a provider's standard charges for specific services on the date of service.

7. The term "usual, customary and reasonable," refers to the highest Usual and Customary charge a payor considers reasonable. Providers set UC charges regardless of the payor. Each payor determines what it considers the UCR charge for a service in a geographic market absent a negotiated rate with a provider. The *Physicians' Fee Reference* software program explains that every third-party payor has its own policies on payment limits, and these limits are often called Usual, Customary and Reasonable, or UCR.[6] Similarly, FAIR Health explains on its FAQ page that UCR "is a term often used to describe how insurers determine reimbursement amounts for out-of-network care." For out-of-network care, insurers may base the payment for a service on a price it determines to be "usual, customary and reasonable" for a particular area. Subject to any state regulation, each insurance company sets its own UCR rates.[7] Similarly, HealthCare.gov defines the term as "the amount paid for a medical service in a geographic area based on what providers in the area usually charge for the same or similar medical service."[8]

Data Sources to Determine Current UCR Charges

8. There is no real-time data source that reports the billed charges for all hospitals, physicians and other medical providers. UCR charges must be computed from past claims data. When RPC relies on a publication for UCR charges, we implicitly rely on the data source the publication used. When RPC independently calculates UCR charges, we rely on several public use databases published by federal and state governments

[5] See *Midwest Neurosurgery, PC v. State Farm Ins. Cos*., 268 Neb. 642, 686 N.W.2d 572 (2004) as cited in *Holland v. Trinity Health Care Corp,* Op Cit.
[6] PFR Introduction. 2014. Physicians' Fee Reference. Page 2. Wasserman Publishing.
[7] FAIR Health. Consumer Cost Lookup. FAQ. Available at: http://fairhealthconsumer.org/faq.php
[8] HealthCare.gov. Glossary. UCR. Available at: https://www.healthcare.gov/glossary/UCR-usual-customary-and-reasonable/

CMS Standard Analytical Files[9].

9. These files are published annually by CMS and have claims-level data for all Medicare beneficiaries nationally. These files are available for Inpatient Hospital, Outpatient Hospital, Skilled Nursing Facility, Home Health Agency, Hospice, and Durable Medical Equipment claims. A 5% sample of the data is available for Carrier claims (physician and other non-institutional providers). The files contain data identifying the provider; patient information such as age, race, and sex; diagnosis and procedure codes; charges, Medicare payments, and other fields found on the CMS-1500 and CMS-1450 billing forms.

CMS Physicians and Other Suppliers Public Use Data File[10].

10. This file is published annually by the Centers for Medicare and Medicaid Services (CMS). The file published in May 2016 has data for 2014. The file contains data on the average charges by CPT/HCPCS[11] code for each named provider that delivered services to Medicare patients in a calendar year.

Texas Health Care Information Collection Public Use Data File.[12]

11. This file is released quarterly by the Texas Department of State Health Services and contains discharge level records from Texas hospitals for inpatient stays and visit level records for outpatient and emergency room visits. These files have data for all payors and self-pay and uninsured patients. The files contain data similar to those found on a UB-04 hospital billing form and identify the facility, patient origin, diagnoses and procedures, units, charges, dates of service, and other variables.

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[9] https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/LimitedDataSets/StandardAnalyticalFiles.html
[10] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/Physician-and-Other-Supplier.html
[11] HCFA Common Procedure Coding System (HCPCS) codes are 5-digit alphanumeric codes defined by the AMA and based on CPT codes. They expand on the set of CPT codes to include supplies and non-physician services, equipment, ambulance services, and other medical services.
[12] https://www.dshs.texas.gov/thcic/hospitals/Inpatientpudf.shtm

Other State Public Use Data Files.

12. RPC also maintains a current database of the most recent available Florida hospital data from the Florida Agency for Health Care Administration (AHCA).[13] This data contains hospital inpatient discharge, outpatient, and emergency room visit records and is released quarterly.

Common Issues in Calculating UCR Charges

Medical Coding

13. When we have a medical coding problem or question, we contact a Certified Coder for assistance. Problems and questions can include what HCPCS/CPT code best describes a service, whether a code was appropriately billed based on the Correct Coding Initiative and other coding standards, and whether there are other equivalent codes that can be used.

Adjusting Data to the Relevant Year

14. The data released by CMS and by state agencies is 1 to 2 years old by the time we receive it. For future medical expenses, we can estimate the charges in today's dollars by applying an inflation rate to the old data. We calculate that inflation rate using components of the Consumer Price Index (CPI) published by the BLS. For hospital services, we choose either the inpatient or outpatient hospital component. For physician and anesthesia services, we use the physician services component. There may be other provider-specific components for other charges we analyze. To inflate the charges to their current estimated rates, we divide the 80th percentile charge by the CPI component for that year (using the month in the middle of the year of the charge) and multiply by the CPI component.

Insufficient Data

15. When we do not have sufficient records to calculate the percentile values (for instance not enough hospitals in the HRR), we expand our analysis of the market to include

[13] http://www.floridahealthfinder.gov/Researchers/OrderData/order-data.aspx

neighboring HRRs or neighboring counties. We consider five providers to be the minimum required to determine an 80th percentile charge for a region. We decide how to expand the market definition to include sufficient data case-by-case.

16. If none of our data sources have sufficient data on charges for a specific service, we offer no opinion. These charges are listed separately in any table or report.

75th vs 80th Percentile

17. A percentile measures the smallest value at or below which a percentage of ordered measurements fall. So, for a specific service, the 80th percentile of charges represents the dollar amount for which 20% of providers charge more and 80% charge that amount or less. There is more than one definition or formula for calculating a percentile of a range of observations. RPC adopts the Excel function PERCENTILE () or, in newer versions of Excel, the identical PERCENTILE.INC(), to calculate the 75th and 80th percentile values of a range of charges.

18. We use both 75th and 80th percentiles as a measure of reasonable charges. When we calculate the percentile data using our own sources, we choose calculate both the 75th and 80th percentiles. The PFR and MFB provide the 75th percentile, but not the 80th.

Definition of Percentiles and How they are Determined

19. The industry resources and reference materials discussed in this paper present UCR charge limits for a specific service, and usually define UCR charges as an amount that falls at a certain percentile of charges for that service in a geographic area. A percentile is a value on a scale of one to one hundred that indicates the percent of the observations in a group of observations equal to or below it. To determine the percentile distribution of a set of provider charges for a service, the observations are sorted from the lowest charge to the highest charge. The resulting distribution of charges is then reviewed to determine what values lie at a given percentile. For example, if there are 13 observations of charges for a specific service, the charge

ranked 7th highest is the 50th percentile, as half of the charges are less than the 7th charge and half are more, as shown in the example below.[14]

Charge Ranking and Percentile Example

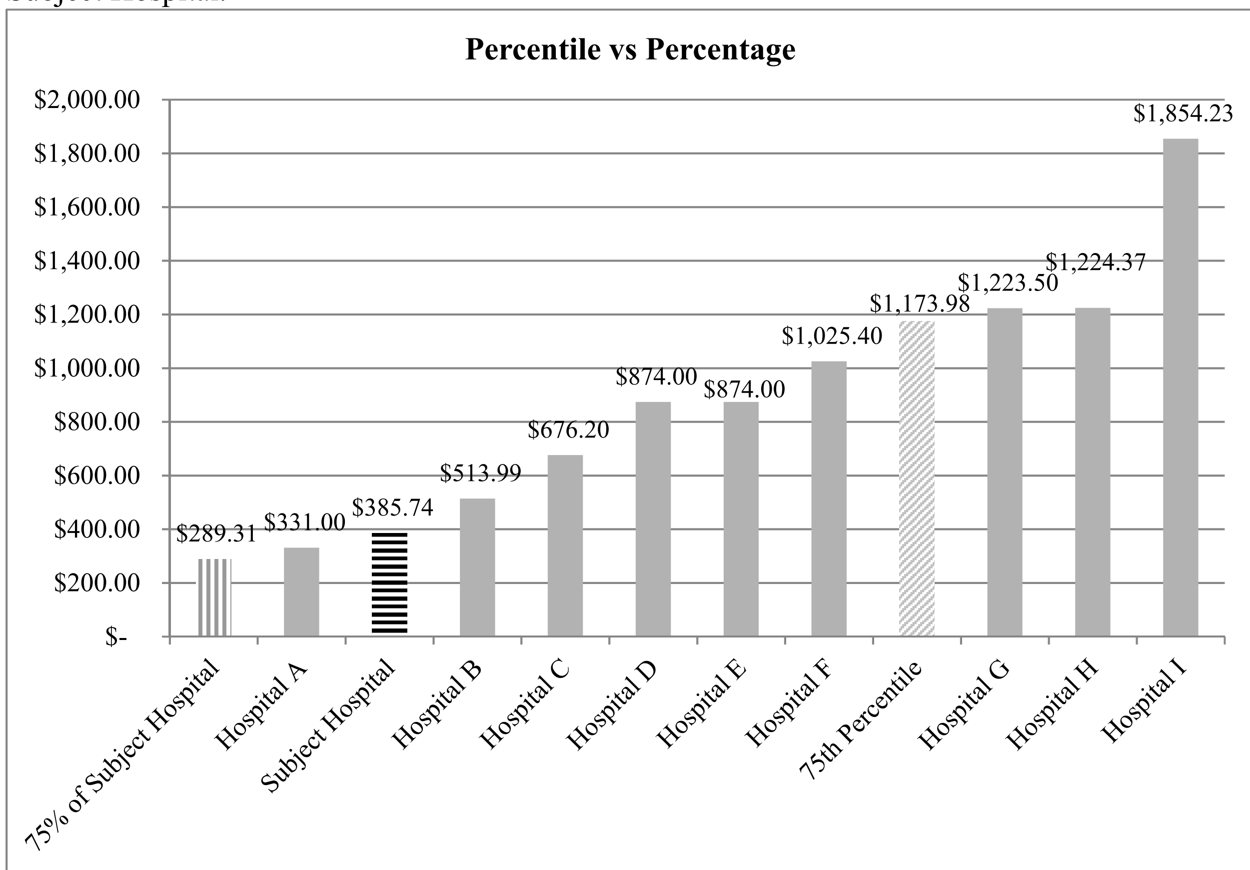
Charge	Rank (from Lowest to Highest Charge)	
$97.00	13	
$83.00	12	
$81.00	11	
$79.00	10	
$77.00	9	
$75.00	8	
$73.00	7	*50th Percentile*
$71.00	6	
$69.00	5	
$67.00	4	
$65.00	3	
$63.00	2	
$61.00	1	

20. There are publications and data services that compile charge data and publish percentile values for various provider services. Providers may look to these publications when they establish their chargemasters. Payors may look to these publications in establishing allowable amounts. For other services there are no publications that calculate percentiles, but there are reliable data sources from which one can calculate charge percentiles.

21. A percentile differs from a percentage. A percentile represents the rank order of a specific value within a set of values (as shown in the chart above). A percentile is a rank assignment when one value is compared amongst other values. If a set of values is ordered from smallest to largest, the percentile compares the rank of a value relative to the others. For any percentile, the percentage of values which lie at or below it is equal to the percentile. For example, the 75th percentile lies midway between the 50th percentile and the 100th percentile for a set of data points. For that set, 75% of the values within the set lie below the value of the 75th percentile.

[14] Example and explanation adapted from text of *Medical Fees 2015*. Op Cit.

22. A percentile value is the observation (actual or interpolated) which is at this location. A percentage is not a comparison of a set of data points but is a fraction of one particular value. This difference is illustrated in the figure below, which provides charges for a service at various hospitals, arranged in ascending order by amount. The chart shows the 75th percentile of those charges in diagonal stripes—75 percent of all hospitals in the example have charges equal to or less than that amount. Here, 75 is the percentile rank, and $1,173.98 is the 75th percentile value. The vertically striped bar shows the value of 75% of the charges at the Subject Hospital.



23. Payors that set the allowable amount based on the UCR charge method normally pay the lower of a provider's actual charge or the UCR percentile value. If a provider's charge is less than or equal to the UCR charge the allowable amount will be 100% of the provider's charge. If the provider's charge is higher than the UCR charge the allowable amount will be a percentage of the billed charge less than 100%. Payors who set the allowable amount based on a

percentage of the provider's billed charge will pay providers in the same market who set higher charges more than those that set lower charges. At any point in time payors using the UCR method to set the allowable amount will treat all providers in a market equally rather than reward providers who charge the most.

Payors' Use of Charge Percentiles in Determining Allowable Amounts

24. In researching industry standards of what percentile different payors use in determining a UCR charge for a service, RPC looked to past and current practices of major payors. We first turned to Medicare, as the largest single payor in the United States, to determine what percentile it used in paying physicians. Although Medicare no longer uses a UCR-based payment system, until 1992 it relied on a percentile analysis to determine a UCR charge. We also researched the payment policies of major insurance companies and found that both Aetna and United Healthcare use percentiles in determining allowable amounts for out-of-network services for some health plans. We also reviewed medical charge reference publications and software, and expert monographs.

Medicare

25. Before moving to a resource-based relative values scale (RBRVS-based) fee guideline, Medicare paid approved amounts for services, which were defined as "the lesser of a physician's bill, his or her customary (median) charge in the preceding year, or the fee that prevailed among like-specialty physicians (the 75th percentile of the local distribution of customary charges for that procedure, subject to limits imposed by the Medicare Economic Index)."[15] This was often called the customary or prevailing rate method of determining payment. The 75th percentile remains a standard reporting threshold and is often used by payors to determine a UCR charge in a given geographic area.

[15] Juba, David A. 1987. Medicare physician fee schedules: Issues and evidence from South Carolina. *Health Care Financing Review,* 8:3.

Texas Department of Insurance

26. At the direction of the state legislature the Texas Department of Insurance ("TDI") appointed a technical Advisory Committee on Health Network Adequacy ("the Committee") that included representatives from the health benefit plan, physician and hospital sectors. The Committee was charged with evaluating healthcare network adequacy and balance billing. As part of its work, the Committee surveyed insurance companies regulated by TDI which asked for "detailed information on claims for services provided by both in-network and out-of-network health care providers."[16] The survey asked health plans about the methodologies used "to determine reimbursement rates for non-network physician" providers.[17] The responding health plans represented 95% of the enrollment in state-regulated health plans in Texas. In 2009, the Committee published the results in a report, and reported that the 75th percentile was "the most commonly cited percentile level" used in calculating allowable amounts.[18]

New York Statutes

27. New York State Budget Bill S6914, which became effective April 1, 2015, includes provisions aimed at providing increased transparency of insurers' out-of-network coverage and provisions addressing payments for emergency care and "surprise bills" by out-of-network physicians.[19] Under the Bill, insurers must describe their reimbursement methodologies "and make available at least one alternative option" for out-of-network coverage "using UCR after the imposition of 20% coinsurance."[20] The Bill defines usual and customary cost as meaning

> *The eightieth percentile of all charges for the particular health care service performed by a provider in the same or similar specialty and provided in the same geographical area as reported in a benchmarking database maintained by a nonprofit organization…*[21]

[16] Texas Department of Insurance. 2009. Report of the Health Network Adequacy Advisory Committee: Health Benefit Plan Provider Contracting Survey Results
[17] *Ibid*., p. 16.
[18] *Ibid*., p. 4.
[19] Medical Society of the State of New York. State Advocacy-Out of Network. Final Budget Includes Out-of-Network Transparency and Coverage Reform Provisions Sought by MSSNY, Medical Specialty Societies and Physician Leaders.
[20] New York Department of Financial Services. Out-of-Network Law (OON) Guidance. Available at: http://www.dfs.ny.gov/insurance/health/OON_guidance.pdf
[21] This definition occurs several times throughout the bill. For an example, see S. 6914 161 A.9205.

Guidance issued by the New York Department of Financial Services clarified that FAIR Health can "be used as the independent source to determine UCR" in satisfaction with the requirements of the Bill.[22]

28. Insurers must also provide standardized examples that allow consumers to compare costs across plans. In doing so, they must use the 80th percentile charge. However, insurance plans can base their allowable amounts on other percentiles, data sources outside of FAIR Health or Medicare fees.[23] However major insurers not exempted under the Bill must provide at least one plan that uses the 80th percentile of charges as its usual and customary charge for out-of-network services.

United Healthcare

29. United Healthcare's website explains that "certain health care benefit plans" administered by UnitedHealth and its affiliates "provide 'out-of-network' medical and surgical benefits for members." Under such plans, "members may be entitled to payment for covered expenses" if they use out-of-network health care professionals. If a claim for an out-of-network provider is submitted, UnitedHealth will pay based on the terms of the specific plan, which "in many cases" provides for payment at the lower of either the out-of-network provider's actual charge billed to the plan member, or the "reasonable and customary amount" in a geographic area.[24] The website explains that "plans determine the amounts payable under these standards by reference to various available resources."[25] The website focuses on payments for professional services and explains what sources are used to calculate the payments. The professional services are generally paid at the 80th percentile of FAIR Health's benchmarking for what the charge is for any service or procedure in an area.[26] The allowed amounts calculated using this

[22] New York Department of Financial Services. Out-of-Network Law (OON) Guidance. Available at: http://www.dfs.ny.gov/insurance/health/OON_guidance.pdf
[23] FAIR Health Consumer. FAQ. Available at: http://fairhealthconsumer.org/faq.php#std_cost_examples
[24] United Healthcare also uses the terms "the usual, customary, or reasonable amount." and "the prevailing rate" and indicates that other similar terms base payment on what other healthcare professionals in a geographic area charge for the same services.
[25] United Healthcare. 2015. Information on Payment of Out-of-Network Benefits. Available at: http://www.uhc.com/legal/information-on-payment-of-out-of-network-benefits. Accessed February 25, 2015.
[26] FAIR Health is an independent, non-profit organization "whose mission is to bring transparency to healthcare costs and health insurance information." FAIR health has the nation's largest collection of private medical claims data. FAIR Health was established in 2009 as the successor to Ingenix as part of a settlement with the State of New

methodology will "at times, be less than the amount billed for particular professional services." In such instances, the patient is "responsible for the difference between the professionals' charges and what the UnitedHealth Group affiliate pays."[27]

Aetna

30. Aetna uses several methods for paying for out-of-network services, and the exact calculation depends on the specific Aetna plan. However, under those plans that pay for out-of-network services, many do so using the "reasonable charge" and "prevailing charge" methodology. Under that system, Aetna uses information from FAIR Health to determine how much providers in any geography are charging for particular services. For most health plans, Aetna uses the 80th percentile to calculate how much to pay for out-of-network services. Aetna then uses the specific details of each health plan to determine how much of that charge it will pay, and what portion the patient is responsible for (in the example on the website, the plan covers 70 percent of the allowed amount). Aetna notes this methodology does not apply to every case. Some Aetna plans "set the prevailing charge at a different percentile" while others do not use FAIR Health data at all.[28]

Medical Fees in the United States

31. *Medical Fees in the United States* provides "a listing of medical procedure codes, descriptions, UCR charges at the 50th, 75th and 90th percentiles" and "Medicare fees and Medicare relative value units." The UCR charges "are derived from an analysis of over 600 million actual charges" and are designed as a resource "for reviewing, adjusting and setting fees."[29] As the editor explains in the introduction, "there is no 'secret' list of fees that health insurance plan and third-party payers use to determine the appropriateness" of a provider's

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York. As an independent organization, FAIR Health is a conflict-free and transparent data source, available to payors, providers, researchers and consumers in various formats. We discuss FAIR Health in more detail in subsequent sections of this paper.

[27] United Healthcare. 2015. Information on Payment of Out-of-Network Benefits. Available at: http://www.uhc.com/legal/information-on-payment-of-out-of-network-benefits. Accessed February 25, 2015.

[28] Aetna. 2015. How Aetna Pays Out-of-Network Benefits: Reasonable Charge & Prevailing Charge (Health). Available at: https://www.aetna.com/individuals-families/member-rights-resources/claims-coverage/out-of-network-doctor-costs/reasonable-charge-out-of-network-payments.html

[29] Davis, James B. Ed. *Medical Fees 2015*. Foreword, page iii.

charges. Instead, some payors use data purchased from databases and set payment amounts at different levels. The editor contends that while some insurers may pay claims at the 90th, 80th or 75th percentile, "HMOs and other managed care groups typically negotiate fees that are closer to the 50th percentile for a given area."[30] The editor gives no precise reason for including the 75th percentile rather than another potential percentile such as the 70th or 80th, but the introduction states that "the 50th, 75th and 90th percentile fees provided in this text are based on national averages and are generally reflective of payer allowables."[31]

Physicians' Fee Reference

32. The Physicians' Fee Reference software ("PFR") displays charge information at the 50th, 75th and 90th percentiles. According to the PFR's introduction, the charges are derived from the most recent CMS Standard Analytical File. PFR does not explain why it included the 75th percentile instead of another percentile. It does, however, discuss how physician practice managers can use the percentiles in the book.

33. PFR's Introduction has a section on designing and reviewing a charge schedule which notes that setting charges is "a question of the practice's or medical group's pricing philosophy, financial budgeting or 'revenue target' for the period rather than an objective industry 'norm' or standard."[32] Some practice management consultants advise physicians to "always charge the maximum allowable charge" to minimize the potential for any lost income. However, the PFR Introduction cautions that doing so may make other area providers more attractive to patients and may not provide "the pricing flexibility" needed to negotiate managed care contracts. The PFR Introduction notes that other practice consultants recommend setting charges between the 50th and maximum allowable amount, and that setting the charge at the midpoint between the 50th and 75th percentile would allow physicians to be comfortable that their charges are not in the bottom half but are still below the maximum. The PFR Introduction states

[30] *Ibid*., pages 2-3.
[31] *Ibid*. RPC contacted PMIC on March 18, 2015 and none of the staff or customer service representatives were able to answer the question. Upon the recommendation of PMIC staff, RPC has emailed its account representative and asked her to research the issue.
[32] PFR Introduction. 2014. Physicians' Fee Reference. Page 6. Wasserman Publishing.

that "Most practice consultants advise against a too aggressive pricing strategy especially for pricing common office visit services."[33] RPC interprets this to mean that while PFR publishes the 90th percentile for their "too aggressive" customers, the 75th percentile is the highest they see as reasonable.

34. To summarize, health care provider charges are reasonable charges if they are at or below the 75th to 80th percentile for charges for a service in the geographic market. Charges at these percentiles are recognized by major payors and by some state governments as a reasonable basis to determine Usual, Customary, and Reasonable charges for healthcare goods and services.

Telephone and Internet Price Surveys

35. For some goods and services RPC uses a price survey method. To conduct a price survey, RPC usually obtains prices from three sellers in the individual's geographic area and averages the three observations. RPC includes contact information on the sources surveyed, according to life care planning standards.[34] For goods that can be purchased through the internet, RPC obtains up to three prices and averages the observation

Estimation of Current Prices by Type Goods and Services

36. The remainder of this paper is organized by the types of goods and services commonly found in a life care plan. For each type we explain how we estimate the current prices. For any type for which we use UCR charges, the charges are adjusted to the date of the life care plan using BLS consumer price indices.

Physicians and Therapists

37. RPC identifies the highest reasonable charge for physician and therapist services using the Medical Fee Book (MFB)[35] and Physician Fee Reference (PFR)[36] software for the

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[33] PFR Introduction. 2014. Physicians' Fee Reference. Page 7. Wasserman Publishing.
[34] Riddick-Grisham, Susan, and Deming, Laura M. ed. 2011. *Pediatric Life Care Planning and Case Management* 2nd ed. CRC Press. Pages 63.
[35] Medical Fees. Practice Management Information Corporation. http://www.pmiconline.com
36 Physicians' Fee Reference. Wasserman Medical Publishers. https://wasserman-medical.com/product-category/software/

relevant year. These sources do not provide anesthesiology fees, which are discussed separately. These are widely used, independent data sources that show various percentile charges by CPT code for services delivered by physicians. Each source is published annually and provides data on fees for the specified year based on analysis of historic data from a prior year. The MFB lists charge amount by CPT code[37] for the 75th percentile and provides a table of geographic adjustment factors (GAF) for each geographic area defined by Medicare.[38] To determine the highest reasonable charge in the MFB, we take the national 75th percentile charge for that code and multiply by the GAF for the area.

38. The PFR software provides the 75th percentile charge for each CPT code for each three-digit zip code area in the U.S. (e.g., 752xx). It does not require further adjustment for geography, as this adjustment is automatically calculated in the software. RPC uses the MFB 75th percentile if it is available, and the PFR is used otherwise. Neither source gives consistently higher or lower estimates of 75th percentile charges.

39. Sometimes neither the PFR nor the MFB has the 75th percentile value of a CPT code. For those codes, RPC calculates the 75th or 80th percentile charge using the Medicare Physician and Other Supplier (MPOS) Public Use File.[39] RPC uses the ZIP codes associated with the county or Hospital Referral Region (HRR)[40] where the patient resides to identify relevant providers in the MPOS. RPC then calculates the 75th and 80th percentiles of the average charge for each code. RPC applies an inflation factor calculated from data published by the Bureau of Labor Statistics (BLS) to adjust from the MPOS data year to a desired year after the most recently released MPOS data. RPC prefers using the MFB and the PFR to determine reasonable physician charges, but for many CPT codes the MPOS is an equally valid source.

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[37] Current Procedural Terminology (CPT) Codes are 5-digit numeric codes defined by the American Medical Association that uniquely identify medical, surgical, and diagnostic services delivered by a physician or other healthcare provider.
[38] https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Medicare-PFS-Locality-Configuration-and-Studies.html
[39] https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/medicare-provider-charge-data/physician-and-other-supplier.html
[40] Hospital Referral Regions (HRR) are defined by the Dartmouth Atlas of Healthcare and represent "regional health care markets for tertiary medical care that generally requires the services of a major referral center". http://www.dartmouthatlas.org/data/region/

Anesthesiologists

40. Anesthesiologists bill using American Society of Anesthesiologist (ASA) codes, which are a subset of CPT/HCPCS codes that begin with "0". Each ASA code corresponds to a surgical or other procedure code for which an anesthesiologist or certified registered nurse anesthetist ("CRNA") provides anesthesia. The PFR and MFB do not have charge data for ASA codes, so RPC uses the MPOS data to calculate the 75th and 80th percentile charges for anesthesia services.

41. Charges for anesthesiology codes are calculated based on a base unit for each surgical procedure code and a time unit measured in quarter hours. The base and time units are summed and multiplied by the anesthesiologist's unit rate to determine the charge for the surgical code. RPC uses the MPOS to calculate the 75th and 80th percentile charges for the anesthesia code. The steps in this procedure are:

- Identify the CPT code for the procedure requiring anesthesia
- Identify the county or HRR in which the patient resides
- Identify the CMS unit rate (anesthesia conversion factor) for the HRR and year
- Identify all anesthesiologists with practice addresses in the county or HRR
- Pull all records for ASA codes in the MPOS for providers in the HRR
- Divide the average Medicare allowed amount of the records in step d by the anesthesia conversion factor in step c to determine average units by provider
- Divide the average charges of the records in step d by the average units in step e to determine average unit charge by provider
- Calculate the 75th and 80th percentile of the average unit charges in step f
- Use BLS data as necessary to adjust the charges for the date of service

42. Sometimes the documents from the anesthesiologist do not show the units billed for an anesthesia service. In those instances, we calculate the average number of units for the specific ASA code using data in the MPOS for providers in the county or HRR. Then, to

calculate the highest reasonable charge, we multiply the average units for the code by the 75th and 80th percentile charges. The steps in this procedure are:

- Identify the HRR
- Identify the CMS anesthesia conversion factor for the HRR and year
- Pull all records from the MPOS for providers in the HRR for the HCPCS code
- Divide the average Medicare allowed amount of the records in step c by the anesthesia conversion factor in step b to determine average units by provider
- Calculate the weighted average of units in step d using MPOS count of services as the weight
- Multiply the average units calculated in step e by the 75th and 80th percentile anesthesia unit charges for the HRR
- Use BLS data as necessary to adjust the charges for the date of service

Diagnostic services

43. Diagnostic services including imaging and laboratory tests are classified using CPT codes. We based our analysis on two of the publications: the *Medical Fee E-book* and the *Physician's Fee Reference Pricing Program.* RPC uses the 75th percentile of UCR fees.

Hospital Inpatient Services

44. RPC calculates the highest reasonable charge for an inpatient hospital stay based on the Diagnosis Related Group (DRG) assigned to the patient, or sometimes, both the DRG and principal surgical procedure. When we have the UB04 or similar form used to bill for the hospital's services, we can identify the DRG directly from those records. When the hospital assigns no DRG, we use a DRG grouping software, Encoder-Plus, to determine the DRG. The software assigns DRGs for discharges in multiple years.

45. RPC uses the DRG to calculate the 75th and 80th percentile of charges for a procedure from records in our databases from either the calendar year matching the discharge date or the most recent 4 quarters of data for planned procedures. Charges are calculated only from hospitals in the same HRR. When the procedure being analyzed was performed in an HRR

with limited data (e.g. only 3 hospitals performed that procedure in the year), an adjacent HRR may be included. For Texas hospitals, we use the THCIC Inpatient Public Use Data File to calculate 75th and 80th percentile charges. For Florida hospitals, we use the AHCA Inpatient Discharge Data File. For hospitals in all other states, we use the Medicare Standard Analytical File (SAF).

46. We calculate the highest reasonable charge by measuring the 75th and 80th percentile of **average total charges** at each hospital by DRG. This means we calculate the reasonable charge based on total charges associated with the discharge (as opposed to charges for individual line items such as the procedure code for the surgery). These charges are only the facility fees for the inpatient stay. Since these charges are calculated only for a specific geographic region, no GAF is needed. The steps in calculating the 80th percentile charge are:

- Identify the DRG
- Identify the HRR or HRRs
- Pull records for the year for patients in that DRG and facilities in the HRR(s) from the correct database
- Calculate an average charge for each facility using the records in step c
- Calculate an 80th percentile of the average charges in step d
- Use BLS data as necessary to adjust the charges for the date of service

47. Surgical DRGs cover more than one principal surgical procedure code. Sometimes we may determine the reasonable charge for the principal procedure and compare it to the reasonable charge for the DRG. If there is a material difference in the two we will make a judgment on the more appropriate charge to use for the specific case.

48. Sometimes we do not have the DRG assigned to the patient or we have only the line item charges on the bill and cannot identify the DRG without diagnosis codes. In those cases, we may calculate the 75th or 80th percentile **charge for each line item** on the bill (assuming our data sources have sufficient data) and compare those percentile charges to the charges on the bill to determine reasonableness. It is preferable to have a bill with a DRG, since

most claims include line items without HCPCS codes that cannot be compared to other facilities using any of our data sources.

Hospital Outpatient Services

49. RPC calculates the highest reasonable charge for an outpatient hospital visit in one of two ways, depending upon the situation:

- If RPC has a bill with HCPCS or CPT codes assigned to most or all lines on the outpatient bill, we calculate the average charges for those codes at other hospitals in the HRR or HRRs. We can then determine the 75th or 80th percentile charge by code and compare the percentile charges to the charges on the bill to determine reasonableness. This method works best when we have complete claim data or a copy of the paper claim and can identify each of the HCPCS/CPT codes billed.
- If we do not have a complete claim form or only know the primary procedure (for a planned procedure, for instance), we calculate the highest reasonable charge at the visit or claim level using only the primary procedure code for the outpatient visit. This is calculated on the average total charges and includes all services delivered as part of the visit.

50. For the first method, RPC uses THCIC data for Texas and Medicare SAF data for all other states. Because individual line item charges do not vary by payor, we can compare charges for Medicare patients to charges for any other patient at a line item level. For the second method, RPC uses THCIC data for Texas, AHCA data for Florida, and Medicare SAF data for other states. RPC uses BLS data as necessary to adjust the charges for the date of service.

Ambulatory Surgery Center (ASC) Services

51. RPC has data for Texas ASCs in the THCIC Outpatient PUDF. We calculate the 75th and 80th percentile charge on either a line item or primary procedure basis as we do for outpatient hospital claims. On a case by case basis, we compare ASC charges to hospital outpatient charges or include both types of providers in our analysis. For other states we use the CMS Standard Analytical File for ASCs. RPC uses BLS data as necessary to adjust the charges for the date of service.

Outpatient treatment programs

52. Outpatient cognitive rehabilitation programs are priced using a price survey method. For the price survey, prices are obtained from three programs in the individual's geographic area to determine average costs. The prices reflected in the life care plan is an average of the three prices.

Skilled Nursing and Assisted Living Facilities

53. RPC considers the highest reasonable charge for long-term care such as skilled nursing or assisted living to be an average of the charges of two to three facilities in the community where the patient resides. The survey method is used to obtain these costs. In choosing facilities to contact we consider the specific services the patient needs and contact only facilities that provide those services. We also consider the published government quality rankings of facilities and choose ones with high rankings for the area.

54. From the facility costs, RPC subtracts the average expenditures the patient avoids by being in the facility. If the stay is short-term, the only avoided costs may be food. If the stay is long-term, the avoided costs may be food, housing and transportation. The average expenditure measures are in the Consumer Expenditure Survey published by the Bureau of Labor Statistics and available from www.BLS.gov.

Home Health and Personal Attendant Services

55. Prices for home health services and personal attendant services are obtained through a price survey. Prices for specific services are obtained from three programs in the injured party's geographic area and averaged. State regulations set the qualifications of the caregiver: registered nurse, licensed vocational nurse, or unlicensed person in the home health setting. Agencies are used versus private hires due to their consistent background checks and ability to fill in if the usual provider is absent.

56. Prices for homemaking and lawn services are obtained through a price survey or if the injured party is currently purchasing these services, the current cost being paid by the injured party is included.

57. Sometimes the injured party's family members are willing and able to provide some of the needed services. RPC still includes the cost purchasing the services provided by family members in the life care plan, in accord with life care planning standards. If the injured party is a young child, the cost of care that family members would provide were the child not injured should not be included in the life care plan. Children unable to perform activities of daily living in an age-appropriate manner may need twenty-four-hour care and supervision to be safe.

Prescription and Over the Counter Medications

58. RPC considers the highest reasonable charge for medication to be an average of the charges for the same medication at three pharmacies in the area where the patient resides. For over-the-counter medications we refer to online pricing from pharmacy websites. For prescription medication, we telephone the pharmacies and request a cash price quote. RPC uses pricing for generic drugs where applicable unless the individual has a documented medical need for the brand name medication, in accord with life care planning standards.[41]

59. In the past, RPC has used HealthTrans' online drug look up tool[42] for local medication pricing. RPC has also evaluated sources such as RedBook,[43] which publish metrics such as Average Wholesale Price and Wholesale Acquisition Cost. However, when RPC compared these sources to actual cash price quotes from real pharmacies, we found that the published prices were not sufficiently close to be reliable, even after employing common adjustments used to estimate retail prices.

[41] Riddick-Grisham, Susan, and Deming, Laura M. ed. 2011. *Pediatric Life Care Planning and Case Management* 2nd ed. CRC Press. Pages 830.
[42] http://cashcard.lc.healthtrans.com/Pages/DrugSearch.aspx?host=default
[43] http://micromedex.com/products/product-suites/clinical-knowledge/redbook

Durable Medical Equipment (DME)

60. RPC considers the highest reasonable charge for DME to be an average of the charges for the same equipment at three available online locations. We look for the same HCPCS/CPT codes in the item description to ensure comparable equipment. For many DME items the national price is the relevant prices. For DME items that require local service we obtain prices from the area where the person resides. Because the products can be shipped nationally, there is a range of sellers. Some frequently used websites are www.allegromedical.com, www.medsupply.com, and www.pattersonmedical.com. Certain items are also available from pharmacy websites such as www.walgreens.com and www.cvs.com. Some items can be ordered from general merchants, such as Walmart and Amazon.

61. When identical products are available from multiple vendors, RPC uses the average price. The most objective price is the manufacturer's suggested list price (MSLP) as this is the price provided by every manufacturer and is consistent. RPC does not use discounted prices.[44]

62. Sometimes, trade-in value of equipment may be present. If the equipment was initially purchased using funds provided by the life care plan, the cost in the life care plan should only include the out-of-pocket cost of the equipment. If the equipment was owned by the individual prior to the life care plan, the full replacement value should be included in the life care plan.[45]

63. For prosthetic devices, the *Life Care Planning and Case Management Handbook* explains that the full, non-discounted list prices include a significant markup that is almost never paid by the prosthetist. RPC uses the Medicare L code to determine the price of the prosthetic

[44] Weed, Roger O., and Berens, Debra E. ed. 2010. *Life Care Planning and Case Management Handbook* 3rd ed. CRC Press. Page 905.
[45] Weed, Roger O., and Berens, Debra E. ed. 2010. *Life Care Planning and Case Management Handbook* 3rd ed. CRC Press. Page 315.

device, in accord with life care planning standards. The L code is the Medicare system of providing specific numbers for specific prosthetic components.[46]

64. Implanted devices are assigned HCPCS codes and are usually associated with a surgery and billed by the surgery facility. We analyze the implants as part of the facility bill for the surgery using the methods already described for inpatient and outpatient facility bills.

65. For wheelchairs, RPC obtains the specifications for the item that meets the injured party's needs from the current physical therapist, if possible, or from past order forms if the injured party has a wheelchair and the price is for a replacement. RPC then conducts a price survey for any non-custom wheelchairs and accessories.

Home and Vehicle Modifications

66. For home and vehicle modifications, RPC includes in the life care plan only the extra cost for the modifications and not the cost of the unmodified home or vehicle. For example, an individual would normally have an automobile paid for as a regular living expense. The only vehicle costs in the life care plan would be modifications needed due to the individual's impairments (e.g., hand controls for a paraplegic) and the difference in price between a sedan and a van.

67. The highest reasonable charge for home modifications can be based on actual bids given by contractors or the annually updated Specially Adapted Housing (SAH) Grant used by the U.S. Department of Veteran Affairs.[47]. If home modifications are priced by local contractors, RPC prefers to have at least two bids per job. When planning for a young person, we allow for later modifications based on the assumption of moving to different homes several times during one's lifespan.

68. The highest reasonable charge for a modified vehicle (e.g. a wheelchair van) is calculated by pricing the needed vehicle through three geographically relevant providers, usually

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[46] Weed, Roger O., and Berens, Debra E. ed. 2010. *Life Care Planning and Case Management Handbook* 3rd ed. CRC Press. Page 335.
[47] Available at: http://www.benefits.va.gov/homeloans/adaptedhousing.asp

online, and subtracting the average cost of a new vehicle from the total cost. The average cost of a new car can be found at the Kelley Blue Book website, www.kbb.com

Transportation Charges

69. The highest reasonable charge for transportation depends on resources in the community and the needs of the person. Taxi services can transport a person to an appointment or deliver medical supplies. Taxifarefinder.com allows pricing across the U.S. Some persons may require a non-emergency ambulance or other modified vehicle for transportation. RPC telephones local providers to obtain prices for the specific services required.

Other Types of Providers

70. We occasionally must determine reasonable charges for services delivered by other types of providers – infusion therapy, laboratory, hospice, etc. RPC determines charges for other types of providers case-by-case. For some, data is available in the MPOS. For others, we may determine that it is appropriate to compare charges with another type of provider that can provide the same services (for instance, ASC charges vs. the technical component of general anesthesia services in a physician office).

Summary of Sources and Methods by Category of Good or Service

Category of Good/Service	Primary Data Source	Level of Analysis	Code Type	Summary of Method
Physicians and Therapists	Medical Fees in the United States ("MFB")	Line Item	CPT	75th Percentile Geographically Adjusted Charge
Anesthesiologists	Medicare Physician and Other Supplier File ("MPOS")	Line Item	ASA	80th Percentile per-unit code in the HRR x Average Units Billed
Diagnostic Services	Medical Fees in the United States ("MFB")	Line Item	CPT	75th Percentile Geographically Adjusted Charge
Hospital Inpatient Services	Medicare SAF File, THCIC Inpatient PUDF, or AHCA Inpatient Discharge File	Hospital Stay	DRG or Principal Procedure	80th Percentile average charge by hospital
Hospital Outpatient Services	THCIC Outpatient PUDF, Medicare SAF file, or AHCA Outpatient file	Either Line Item or Visit	Either HCPCS/CPT or Primary Procedure	Either 75th/80th Percentile charge by line item or 80th Percentile average charge by hospital by primary procedure
Ambulatory Surgery Center Services	THCIC Outpatient PUDF or Medicare ASC SAF file	Either Line Item or Visit	Either HCPCS/CPT or Primary Procedure	Either 75th/80th Percentile charge by line item or 80th Percentile average charge by hospital by primary procedure
Outpatient Treatment Programs	Price Survey	Program	N/A	Average of three quoted prices (or as many as are available)
Skilled Nursing and Assisted Living Facilities	Price Survey	Daily/Monthly / Annually	N/A	Average of two to three quoted prices minus avoided food and housing expenditures
Prescription and Over-the-counter Medications	Price Survey	Per dose or Monthly	N/A	Average of three quoted prices (or as many as are available)
Durable Medical Equipment ("DME")	Price Survey	Per unit	HCPCS	Average of three quoted prices (or as many as are available)
Home and Vehicle Modifications	SAH Grant from VA or Price Survey	Per modification or unit	N/A	Grant amount or average, minus any avoided expenses (e.g. normal vehicle purchase)
Home Health and Personal Attendants	Price Survey	Hourly/Daily/ Monthly	N/A	Average of three quoted prices (or as many as are available)
Transportation Charges	Price Survey	Per trip or mile	N/A	Average of three quoted prices (or as many as are available)