



Capitation Handbook

2013

American College of Radiology and Radiology Business Management Association

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Section 1: Purpose

This handbook is an updated version of the *Risk Contracting in Managed Care: A Handbook for the Diagnostic Radiologist* prepared by the American College of Radiology's (ACR) Managed Care Task Force in 1995. The 1995 product was intended to aid the radiologist in making an informed decision regarding a proposed managed care contract.

The purpose of this handbook is to prepare radiologists and their executive staff to participate in payment systems where the traditional fee-for-service (FFS) model is replaced with shared savings models and the risk is shared by individual physician practices or integrated multispecialty physician practices. In many of these models, capitation — a fixed payment to a physician or multispecialty group to provide care for all of the members in the plan — may become an important physician payment alternative. In this environment, the providers may be known by a variety of designations, including Accountable Care Organizations (ACOs). Capitation is just one potential payment model for provider reimbursement of or within an ACO. Other models include discounted FFS with value-based payments and bundled payments for episodes of care. This handbook will examine the role of capitation of radiology services in future delivery systems and will address how radiologists can prepare themselves to be competitive in this environment. It is not intended to endorse any of the reimbursement models described.

In many instances, radiology practices are unaware of the information needed to make an informed and sensible financial decision as they negotiate a new contract. This handbook contains material that is designed to assist radiologists by providing ways to predict utilization based on aggregate and population demographics. While the methods described are based on negotiations with payers, the same principles apply for negotiations with multispecialty integrated service providers such as ACOs. As data and experience develop, future editions of the handbook will provide additional information on this subject.

Section 2: Introduction

Since the Deficit Reduction Act of 2005, the government has become convinced that imaging services are overvalued and that fee-for-service (FFS) promotes unnecessary procedures. In this era of declining budgets and increasing regulations and expectations, the Patient Protection and Affordable Care Act (PPACA) of 2010 was passed and has been upheld by the Supreme Court. This and other proposals for changes to the delivery system will likely keep health care payment reform in a state of flux over the next decade or more.

The radiologist should consider reimbursement options in contracts to be on a continuum, with FFS involving little or no risk for the radiologist at one end of the spectrum, and complete capitation with full risk at the other (see Figure 1). Between these two endpoints, there are many possible arrangements with differing levels of sophistication and risk. The radiologist may negotiate a FFS arrangement with discounts, an arrangement that is a percentage capitation with a percentage FFS, capitation with co-pays, risk corridors or carve-outs, up to full capitation.

Capitation is a form of payment based on a fixed fee per covered life. It has the benefit of giving a practice a guaranteed revenue stream. However, the payer transfers most or all of the risk associated with utilization to the radiology practice. Hence, radiologists should be wary of contracts in which patients are allowed to go to outside providers when the additional costs of care received from other providers are deducted from payments to the in-plan radiologist. Additionally, radiologists must have the ability to participate in managing utilization.

Capitation decisions cannot be made until the population to be served has been thoroughly examined. Historical practice data combined with the level of risk the practice is willing to assume will be the key elements needed to enter the negotiation. Appropriately negotiated, the contract terms will reflect the economic history of the radiologist's practice as applied to the specific population being considered. The levels of service required by a specific population may diverge considerably from that required by a "typical" population. Referral patterns, competition and referrals to out-of-plan providers will influence the negotiation process.

Volume and price are mentioned frequently below. There are four basic variables in determining the costs of health care: (1) the number of enrollees; (2) the benefit plan design; (3) the unit price; and (4) the volume. Insurance companies or payers compete for enrollees by offering benefit plans with premiums that the buyer (either the individual or their employer) find attractive. Providers agree to accept certain rates (price) in order to have access to the potential pool of enrollees covered by a payer. In the traditional FFS model

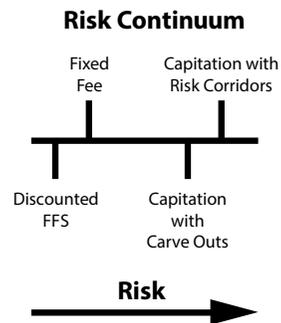


Figure 1

payers manage their risk by making sure that enrollees do not utilize services at a high rate (volume) and, therefore at a cost that exceeds what has been paid to cover those costs. Payers use such programs for utilization management and pre-authorization. They also employ radiology benefit managers (RBMs) to manage volume. In a risk-sharing environment, both sides, payer and provider, estimate what the volume will be for a certain enrollee population that has been offered a particular benefit plan and then will determine what the price should be for providing the entirety of those services that will cover the provider's cost and not exceed the payer's premiums. This simplistic risk-sharing model ignores the profit margin built into the payer's calculations as well as the possibility of modifying benefit plans and agreements with providers. Screening services such as mammography, in which increasing utilization is a goal, may be removed from the agreement (carved-out). Enrollees may choose a more restrictive plan in order to reduce their out-of-pocket costs. A radiology practice must understand the variables and its ability to influence any and all of these variables in order to effectively evaluate a risk-sharing agreement.

Radiology practices may encounter difficulty in transitioning from practice-specific utilization data to population-based utilization data. The information in this handbook will assist these practices in calculating population-based volume and price estimates. Knowledge of these elements and a comparison of the benchmarks with plan proposals will assist practices in deciding whether or not to participate in a risk contract.

Section 3: Establishing Utilization (Volume)

Accurately predicting utilization at the initial negotiation stage is essential to determining a financially sound capitation rate. Understanding utilization patterns in relevant populations and developing the ability to predict these patterns will enable practices to determine accurate pricing calculations for payer contracts. Later, during performance of the contract, there should be on-going utilization review with the opportunity to adjust the contract. Ongoing management with adjustments as needed is necessary to control the financial risk. Knowing how to measure and manage utilization is vital to risk reduction, because if utilization can be accurately predicted and controlled, then capitation can become a reasonable proxy for FFS.

It is important for the reader to understand the use of the term “population.” Expected imaging utilization in a typical population of patients is usually quite different from individual practice experiences. Unless a practice is the sole provider in a community or to the typical population for all imaging services, the distribution of services within a practice will likely be different than the population’s total imaging utilization. It is likely that competition for services or referrals for special services to a particular facility will skew the patient and utilization mix for individual practices. Furthermore, there are important regional differences in medical practice that will make the use of imaging different within distinct parts of the country or locales in the same region. Thus, one practice’s utilization data will likely not be transferable to another practice.

Predicting utilization can be simple or complex depending upon the quality of data that is available. The task will be facilitated if a managed care payer is established and willing to provide utilization data for the population being considered for capitation. It is recommended to obtain at least 12 months of data from the payer but a practice may want to get two to three years of utilization data to ensure that they have a clear sense of utilization trends for a given payer. In most cases, the payer will have this data and will be willing to share it with providers. When possible, the data should include the following components:

- Payer
- Product line (HMO, point-of-service, PPO, Medicare Advantage, etc.)
- Sex (male, female)
- Patient age
- CPT code
- Location of service (hospital, free-standing imaging center, physician office)
- Sub-location of service (hospital- inpatient, outpatient, ED, urgent care center, etc.)

If the payer is unable or unwilling to provide the requested data, most radiology providers’ practice management systems will be able to extract much of the data for the patients currently being seen by the radiology provider. However, the data will then have to be extrapolated to the larger population associated with the payer’s proposed contract.

This section attempts to provide information to assess the accuracy of data presented or, in the absence of data, methods for estimating volume. As a basis for comparison, Table 1 represents national utilization data from 2012.

Critical Concept: *You must analyze your own data, either from your practice or data from your potential business partner (managed care company). You cannot rely on data or tables in this document to make decisions regarding utilization for your contract. A database of less than 100,000 patients carries the risk of significant adverse selection.*

In a capitation contract scenario, third-party payers typically offer a per member per month (PMPM) rate for commercially covered lives and a separate PMPM rate for Medicare- or Medicare Advantage-covered lives. It is important to separately analyze each component as historical utilization trends have shown that Medicare subscribers typically utilize imaging services at three to four times that of commercially covered lives. Payers do not always understand this utilization differential when calculating capitation rates. For this reason, many radiology practices opt to exclude Medicare-covered lives from capitation (and remain under a FFS arrangement) unless they can negotiate a capitation rate for Medicare-covered lives that is three to four times that of the commercial capitation rate.

TABLE 1: National Representative Utilization* 2012

General	470
US-General	58
US-ON + GYN	82
CT	100
MR/MRA	63
Mammography	182
Nuclear Medicine (excludes PET)	15
Nuclear Cardiology	31
Echocardiography	60
Fluoroscopy	24
Ang./Int.	13
PET	1
Other	4
Total	1,133/1,000

*Per 1,000 non-Medicare enrollees per year, all sexes

In comparison, the 1995 handbook from the ACR Managed Care Task Force reported insurance industry sourced utilization at 754 procedures per 1,000 enrollees. For a more detailed breakdown of utilization by age and sex, see Table 2.

TABLE 2: Utilization per 1,000 Enrollees by Age and Sex

Modality	Diagnostic Imaging Utilization Rate (Proc/1,000)										
	0 – 19		20 – 44		45 – 64		65+		Total		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Both
Angiography/Interventional	5	2	11	4	20	11	30	32	16	9	13
Bone Density	1	0	6	1	93	5	131	16	52	4	29
Computerized Tomography	26	28	71	56	132	111	237	251	107	91	100
DX Nuclear Medicine	4	3	13	5	25	14	35	37	18	11	15
Echocardiography	21	25	24	16	57	63	181	224	60	60	60
Fluoroscopy	5	5	18	14	34	26	61	54	27	21	24
Gynecological Ultrasound	11	1	92	1	114	5	58	20	74	5	41
Magnetic Resonance Angiography	0	0	2	1	5	4	9	12	4	3	3
Magnetic Resonance Imaging	18	18	54	44	95	75	103	92	66	53	60
Mammography	3	0	157	0	668	1	568	2	344	1	182
Nuclear Cardiology	0	0	4	5	37	49	94	128	28	33	31
OB Ultrasound	12	0	210	0	36	0	12	0	79	0	41
Other	1	1	5	1	16	3	2	3	7	2	4
Plain Films	256	318	289	281	574	449	1,127	933	509	427	470
Positron Emission Tomography	0	0	0	0	2	2	1	3	1	1	1
Ultrasound General	18	13	47	22	82	62	127	173	64	51	58
Total	380	414	1,002	453	1,991	878	2,777	1,979	1,457	772	1,133
Factor of Total	0.34	0.37	0.88	0.40	1.76	0.78	2.45	1.75	1.29	0.68	1.00

In more recent years, calculations of managed care capitation contract rates have moved from being based on examinations per 1,000 enrollees to relying on the resource-based relative value scale (RBRVS) relative value units (RVUs) generated to provide services to enrollees. Therefore, data collection for a capitation contract should focus on the relevant imaging services by CPT® code in order to allow the radiology group to calculate the revenue side of the capitation contract more accurately.

Although carve-outs are more specifically discussed in a subsequent section, a critical step in the calculation of utilization for any capitation contract is the early determination of what is included and what is not included in the capitation contract. For example, are the services provided by other physicians in their offices to be included in the radiologists' scope of services? Will the payer insist that board-certified radiologists read all x-rays performed in an orthopedist's office? Will screening exams be paid separately? The group needs to clarify such issues before they are included in the capitation contract without any reimbursement for the work to be done by the radiology practice.

While most of the guidelines discussed above apply to professional component or global payments, the specific issue of free-standing outpatient imaging facilities needs to be considered. If the radiology practice owns its own free-standing imaging center(s), the practice should determine whether the payer is willing to include technical component payments in the contract. If so, pricing for the technical component, in addition to the professional component, of services needs to be included in the contract.

Specialist Imaging Utilization

In some instances, capitation contracts may be a way for a practice to recover services lost to other specialties. Over the past few years, many radiologists have seen an erosion of their hospital-based exclusive contracts as a result of hospital administrators' unwillingness to support them in battles for procedures against other medical-specialty physicians. In most cases, the managed care contracts are not negotiated with or against these same administrators, but directly with the payers. This represents an opportunity for the radiology group to regain the exclusive provision of heretofore lost services (such as carotid and peripheral angiography) for this population of patients by including them in the capitated contract.

However, this also represents a risk. Significant utilization may occur beyond the purview and control of the radiologist which could result in sizable payments to other specialists. High-risk obstetrical ultrasound done by perinatologists, vascular imaging done by vascular surgeons, cardiac imaging done by cardiologists, and specialist pediatric imaging done at a children's hospital are all potential areas of conflict and risk.

PRACTICE TIP:

Comparing the percentage utilization rates for a population against the rates for a specific practice may provide better insight into the strengths and weaknesses of a department. For example, if a practice's mammography percentage is lower than the benchmark, it may indicate the strength of the competition.

Section 4: Pricing – Calculating Your Own Capitation Rate

This section outlines a method for calculating a practice's average receipt per examination. The results then will be corrected for the utilization most commonly encountered in a typical population. The intent of this exercise is to provide a number that will generally approximate a practice's current FFS income when multiplied by known or projected utilization and converted to a capitation payment. It is essential that the average receipt of the practice be converted to an average receipt for a normal population. This information allows the practice to determine how current receipts would appear in a capitation contract before the practice enters into negotiations with a payer.

There are three basic methods for determining a capitation rate: (1) receipts, (2) relative values, and, (3) average charge. Each approach will be described briefly. For a more detailed explanation, please see Appendix B.

- ▶ **Receipts:** Estimate total receipts from payer, then divide by covered lives, and multiply times 12 months/year. Total receipts can be calculated using the payer's fee schedule per code or actual receipts, controlling for collection costs, contractual adjustments, etc.
- ▶ **RVU:** The total FFS payment is calculated using each procedure's RVU and a conversion factor (known or estimated) and then totaled. The result is divided by the number of covered lives, then multiplied times 12 months/year.

One can acquire the RVU (including physician work, malpractice expense, etc.) for each CPT code, multiply by the Geographic Practice Cost Index (GPCI) per region, and calculate the Medicare physician fee schedule (MPFS) reimbursement. (CMS' website also has a [Medicare fee schedule look-up](#) feature.) This can be compared to your reimbursement per CPT code offered by your local insurer/payer and a ratio expressing your reimbursement with respect to Medicare can be calculated. Knowing the book of business you are being asked to bid on, this can be used to calculate a PMPM capitation rate.

- ▶ **Average Charge:** Total payment is determined by taking the average charge per modality/category and multiplying it by the modality's share of total utilization (i.e., a weighted average charge). This weighted average charge then is adjusted for the commercial collection rate and utilization rate, and then divided by 12 months.

CAVEAT: *While calculation by CPT code may seem a pedestrian process, payers may “play games” with the fee schedule. You may agree to a 150% of MPFS contract, but how is that calculated? Is it simple arithmetic, multiplying 1.5 times each CPT code in the MPFS? Or, do they average a high volume, high reimbursement code, say 70450 CT Brain without contrast @ 100% MPFS, with a low volume, low reimbursement code, say 73020, one view shoulder @ 200% MPFS and contend that you are receiving 150% of MPFS? For a more complete discussion see the [ACR/RBMA Contract Evaluation Checklist](#).*

CAVEAT: PAYMENT POLICIES MAY AFFECT CAPITATION RATES

One possibly important difference in methodologies is that the receipt method will take into account the various payment policies in effect by the commercial insurer/Medicare (e.g., multiple procedure payment discounts) while the RVU and average charge approaches do not. The practice may want to utilize several methods for estimating its capitation rate. The purpose of this exercise is to provide the practice with a capitation rate that approximates FFS as a starting point for negotiations with the insurer.

Section 5: Capitation – Things to Consider in the Negotiation

Capitation arrangements already exist in certain regions of the country, and there is reason to believe that they may become more popular in the coming years. In the era of bundled CPT codes, precertification denials and the increasing billing difficulties associated with FFS claims, one benefit of capitation arrangements is that providers know what they will be paid each month.

There is no perfect capitation rate for every practice. For an individual practice, it is important to determine an effective payment rate, which is equivalent to the FFS rate. Ideally, when negotiating a capitation rate, a practice would settle upon a PMPM amount that would generate revenue equal to or greater than the amount received under FFS reimbursement. Before entering into a capitation agreement with a payer, providers should consider the following:

- Is the plan financially sound?
- Will it increase or decrease in enrollees?
- Will an increase in enrollees result in additional costs in order to meet demand?
- Will additional staff or equipment be required? What effect will this have on costs?
- How are other specialists remunerated in the plan? Will this alter the predicted utilization?
- Is there excess capacity in the practice (e.g., radiologists, technologists, capital equipment), allowing accommodation of more work without incurring additional overhead or will the practice be stretching the limits of staff and equipment?
- Will the patients from the managed care plan represent new volume to the practice or are the patients already being treated?

Section 5a: Capitation with Risk Corridors

As mentioned previously, full capitation involves complete assumption of risk by the radiologist. Reimbursement based on full capitation can place the radiology practice at significant risk, especially if there is sparse practice data or little experience with capitated arrangements. To protect against large variations in actual versus expected results, consider building risk corridors into the contract. Capitation with risk corridors is an example of incremental stop-loss.

Risk corridors establish thresholds that define the upper and lower limits beyond which risk will be shared with the plan as shown in Figure 2. In this example, if utilization exceeds 20 percent, the plan commits to adjusting the capitation rate according to the negotiated amount. However, if the utilization falls below the lower limit, then the radiologist consents to refund a portion of the capitation payment to the plan. For example, the plan may agree to share 50 percent of the costs of services if utilization exceeds projected targets by 20 percent. Similarly, if actual volume is less than previously predicted, the practice will be expected to accept a reduction in the capitation rate by a proportionate amount.

Symmetric Risk Corridors

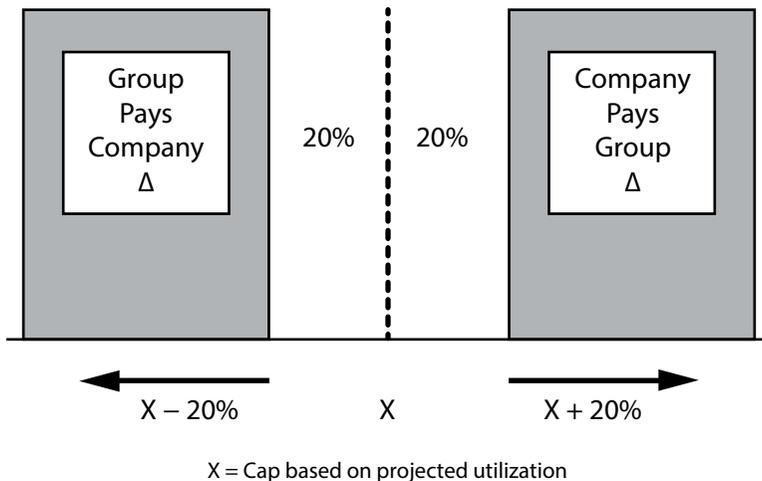


Figure 2

There are no hard and fast rules for establishing the upper or lower limits for the risk corridors. Narrow risk corridors provide the greatest protection against unexpected overutilization but also require that savings realized by strict utilization management will be shared by the plan. To establish more appropriate incentives, consider asymmetric risk corridors in which the plan agrees to share risk above 10 percent of expected utilization, but

the groups are not obligated to refund money to the plan unless utilization is diminished by a larger amount, such as 20 percent (see Figure 3). Asymmetric risk corridors provide protection against unexpected overutilization while encouraging significant but appropriate utilization reduction.

Asymmetric Risk Corridors

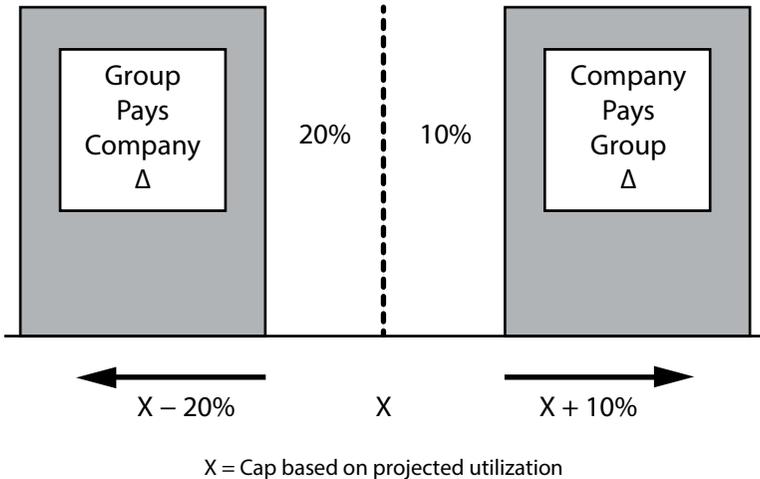


Figure 3

CAVEAT: RISK CORRIDORS MAY HELP PROTECT PRACTICES FROM SUBSTITUTION

In a fully capitated situation, a practice should expect shifts in utilization from other specialties to radiology. For example, appropriateness criteria may start to steer patients who would previously have coronary angiography to CT angiography studies. This type of shift would increase CT utilization for the radiology group. If this change were to occur mid-stream of a capitation contract, this type of shift could be detrimental to the radiologist on the payment side. A risk corridor for CT utilization or overall utilization could help protect the radiologist in the event of “substitution” or procedure shifts from another specialty to radiology. Other examples could be a shift of colonoscopy to CT colonography or expanded use of coronary CTA in place of a cardiology work-up for patients through the emergency room.

CAVEAT: RISK CORRIDORS MAY HELP OVERCOME INCOMPLETE DATA

As the figures for individual HMOs indicate, utilization within some populations may vary significantly from calculations based on the averages contained in these tables. In the absence of actual data, practices can reduce their risk by incorporating risk corridors into the contract.

Section 5b: Capitation with Carve-Outs

Another way to decrease the risk associated with a capitation contract is to carve out particular services from the capitation amount and agree on another reimbursement mechanism for these services. This technique is particularly helpful in the early years of a capitated contract. Carve-outs are generally reserved for those services that are done infrequently, lack historic data, or are especially sensitive to market forces, such as screening procedures. During the initial phase of a contract, such services may be carved out, but practices can expect these services to be gradually folded back into the capitation formula as data become more available. From a health policy standpoint, screening procedures, such as mammography, should not be subjected to the negative utilization incentives inherent in capitation. Promoting screening to increase the overall health of the population should not conflict with the payment policy. Most payers, and soon ACOs, will seek National Committee for Quality Assurance (NCQA) accreditation. One of the accreditation criteria and ongoing measurements is the Healthcare Effectiveness Data and Information Set (HEDIS), which includes mammography utilization goals that promote the use of screening mammography in age-appropriate populations. Trying to limit or reduce the utilization of screening mammography is detrimental to the health of the population. Consequently, screening mammography, and perhaps other screening examinations subject to a HEDIS quality measure, should not be included in a capitation rate calculation, but should be negotiated as a carved-out service to be paid at an agreed upon FFS rate or added to the capitation rate. There should be provisions for adding new screening examinations, such as CT colonography, lung cancer screening with computed tomography, calcium scoring, CCTA, etc., to become covered services as evidence supports their use. Usually, socially responsible plans agree to individual payment for these services on an adjusted FFS basis. Additionally, certain interventional procedures are done infrequently and can be very costly to perform. It is prudent to review the history of these costly cases and negotiate carve-outs when appropriate. Typically, radiology capitation contracts encompass the 70000 CPT codes and 93000 CPT codes in vascular ultrasound with surgical codes being excluded. Future capitation contracts may include all radiology services.

Section 6: Managing Utilization

Once a practice enters into a capitation arrangement with a payer for imaging services, managing utilization is the key to assuring the financial viability of the contract. For the radiology practice itself and the multispecialty ACO as a whole, utilization management is vital to achieving shared savings in a capitation contract. Historically, many strategies have been employed to manage utilization. The term “utilization review” is defined as the collection and analysis of information related to the use of diagnostic imaging and interventional procedures, while “utilization management” refers to changing aberrant clinical behavior identified by utilization review and improving quality of care.

Current concepts of managing utilization include computerized physician order entry with decision support (CDS), prior notification, prior authorization, and other network strategies. Unit cost reductions and increased co-pays and deductibles have been used as financial incentives for doing less imaging. Accreditation and credentialing programs ensure minimum quality parameters are met. Of these methods, CDS is best suited for managing utilization in a capitated population.

CDS is computer software that supports the clinical decision process at the time of order entry. Referring physicians use CDS at the time of order entry to ensure the use of imaging is appropriate and to aid in selecting the proper examination. Decision support systems use evidence-based multidisciplinary appropriateness criteria (such as the ACR Appropriateness Criteria®). The study is approved or feedback is given regarding the accepted best study given the information entered. The strengths of the system are its simplicity, transparency, and accessibility. Feedback is immediate, and the system can serve as an educational tool for users.

Other strategies focus on the providers of imaging services. Accreditation assesses the quality of the imaging facility, including the equipment, technologists, and quality improvement processes. ACR Accreditation is one of the recognized leaders in the field and is approved by CMS in its Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) legislation, which requires facility accreditation for “high-tech imaging” (defined as CT, MRI, nuclear medicine, and PET) as of January 1, 2012.

Credentialing focuses on the personnel (specifically physicians), who provide imaging interpretations, focusing on board certification, fellowship training, continuing education, and maintenance of certification (MOC). Economic credentialing, under which insurance plans approve only lower cost providers, has become more prevalent and can lead to steerage of patients away from centers designated by ordering physicians. However, in a capitated population, this should not be an issue.

CMS has espoused the belief that overutilization of imaging is caused by overcompensation. This belief led to the severe unit cost reductions that started with the Deficit Reduction Act of 2005 and have continued since. While imaging utilization continues to grow, Medicare

spending on utilization, as a percentage of overall spending, has shrunk from a high of 13.1 percent in 2006 to 9.8 percent in 2010.

For an extensive discussion of the topic of utilization and its management, see Bernardy M, Ullrich CG, Rawson JV, et al. "Strategies for Managing Imaging Utilization." (JACR 2009;6(12):844–50).

Section 7: Summary

There is no perfect contract for every radiology practice. Each agreement and reimbursement method should be tailored to the practice's unique situation. The ACR and RBMA developed this handbook to assist radiologists when deciding whether or not to deliver services under a managed care contract. The general concepts presented are applicable to most practice settings, but the individual circumstances of the population and the group should always be considered. These principles could also apply to negotiations with ACOs or other integrated health service providers. The next edition of this guide will focus on new payment models in more detail as they begin to develop in the U.S. health care system.

Appendix A – Volume

This appendix attempts to provide information to assess the accuracy of data presented, or in the absence of data, methods for estimating volume. Early data collected from the insurance industry in the mid 1990s and other sources indicated a national utilization rate of 660 examinations per 1,000 covered lives, or .66 examinations per enrollee per year. If the heavily managed care experience of California is removed from the database, the average for the rest of the country was closer to 730 to 750 examinations per 1,000 covered lives, or .73 to .75 studies per enrollee per year.

It is important to recognize that specific procedure utilization by modality has changed significantly since the 1990s and that total utilization can vary greatly from payer to payer. More current utilization data are found in Table 2. This data represents 2012 diagnostic imaging utilization rates per 1,000 enrollees and is broken out by modality, sex, and age. Medicare utilization rates are typically two to three times the all-patient norm. Again, it is critical for the practice to use its own utilization history.

Although carve-outs were discussed previously, a critical step in the calculation of utilization for any capitation contract is the early determination of what is included and what is not included in the capitation contract. For example, are the services provided by other physicians in their offices to be included in the radiologists' scope of services? Will the payer insist that board-certified radiologists read all x-rays performed in an orthopedist's office? The group needs to clarify such issues before they are included in the capitation contract without any reimbursement for the work to be done by the radiology practice.

Furthermore, as previously discussed, it should be determined whether screening examinations, such as mammography, will be included in the capitation contract and whether there will be provisions for additional payment if new screening examinations, such as CT colonography and lung cancer screening with computed tomography, become covered services. Considering that one purpose of a capitation agreement (from the payer's perspective) is to manage the risk associated with the utilization of imaging services, separate payments for screening examinations could be negotiated, so that promoting screening to increase the overall health of the population does not conflict with the payer's payment policy.

PRACTICE TIP:

Comparing the percentage utilization rates for a population against the rates for a practice may provide better insight into the strengths and weaknesses of a department. For example, if a practice's mammography percentage is lower than the benchmark, it may indicate the strength of the competition.

CAVEAT: RISK CORRIDORS MAY HELP OVERCOME PROCEDURE SHIFTS

In a fully capitated system, expect some shifts in utilization of particular procedures from other specialties to radiology. For example, in a community medical practice still relying heavily on open breast biopsy procedures, once capitated, the radiology provider can expect the responsible payer to begin denying open breast biopsy procedures in favor of the less costly stereotactic- or ultrasound-guided breast biopsy. Furthermore, it is widely recognized that once a practice is capitated, referring physicians' utilization often increases despite the presence of a strong practice management program. This fact argues for the inclusion of risk corridors and carve-outs in a proposed contract.

To make these calculations, first, the current year RVUs should be obtained from the Medicare website. For 2013, the RVUs may be found in the Medicare Physician Fee Schedule Addendum B, [here](#). The work, practice expense, and malpractice RVUs that make up the PC are then updated for the group's locale. To do this, multiply each component by the region's geographical practice cost indices (GPCI). Once completed, add the work, practice expense (PE), and malpractice (MP) RVUs together for each CPT code to provide a complete table of professional adjusted RVUs per CPT code. Table 3 is just a small sample of how this would look. This information will then be used to determine the group's current income per commercial RVU and calculate the price the group would like to charge in a capitated contract.

Appendix B – Pricing

This section outlines various methods for calculating a practice's total FFS income. The results will then be corrected for the utilization most commonly encountered in a typical population. The intent of this exercise is to provide a number that will generally approximate a practice's current FFS income when multiplied by known or projected utilization and converted to a capitation payment. It is essential that the average receipt of the practice be converted to an average receipt for a normal population. This information allows the practice to determine how current receipts would appear in a capitation contract before the practice enters into negotiations with a payer.

Total Receipts Method

The following is a sample calculation to determine a capitation rate. The numbers used in the calculation are examples only and should not be treated as anything other than hypothetical.

Main Street Radiology Associates (MSRA) is a 20-member radiology group performing about 250,000 exams per year. The group operates three full-service free-standing imaging center locations.

Payer offers a switch to capitation from a FFS model.

One of MSRA's large payers, Health Network, indicated that they wanted to move away from the FFS contract model to a capitation model. Health Network currently compensates the group at 115 percent of the current Medicare payment rates.

Does capitation make more sense than a FFS arrangement?

The group was receptive to the switch to capitation. The group was currently tied into a multiple of current-year Medicare and was concerned that with Medicare rates dropping each year, rates with Health Network would also decrease annually. The group thought that capitation would better protect MSRA's financial interests with Health Network and also help with bundling changes. Currently, their billing staff spends a lot of effort fighting pre-certification denials with Health Network, even when MSRA follows appropriate steps and has a pre-certification before the studies are done.

What lines of business should MSRA include in a capitated deal?

The initial discussions with Health Network revolved around a capitation payment arrangement for MSRA's HMO/POS line of business and its Medicare HMO business. MSRA had reservations about going to a capitated deal for the Medicare line of business with Health Network. They were also aware that Medicare utilization typically runs three to four times higher than non-Medicare utilization.

Data gathering

Since the practice has a fairly robust billing system, they managed to generate data on Health Network utilization by modality and by CPT code. This data was separately generated for the HMO and POS business with Health Network as well as the Medicare line of business. They used the patient ID number as the basis. The different plans with Health Network use different prefixes on the patients' identification number to differentiate the HMO plans (YHM plus nine digits) from POS (YPO plus nine digits) from Medicare (YME plus nine digits).

Health Network then provided data to MSRA, including the number of covered lives in each line of business. The data was sorted by county.

The decision was made to focus on the HMO and POS product line first and exclude the Medicare line of business for the initial calculations. They took data from another MSRA capitated payer agreement, WellPlan, to get a sense for what the utilization could be.

Does the practice have other experience with capitation?

The data for WellPlan showed the following trends (mammography services were carved out of the WellPlan capitation agreement):

- DEXA (35 studies per 1,000 members per year)
- Diagnostic x-ray (330 studies per 1,000 members per year)
- CT scans (70 studies per 1,000 members per year)
- MRI (85 studies per 1,000 members per year)
- Ultrasound (150 studies per 1,000 members per year)
- Nuclear medicine (10 studies per 1,000 members per year)
- TOTAL (680 studies per 1,000 members per year)

Health Network's initial offer

The contract negotiator for Health Network sent MSRA an initial offer for a new capitation agreement. The offer was \$5.50 PMPM for the HMO and POS business and \$10.55 PMPM for the Medicare line of business. Mammography services were excluded as carve-outs from their offer and would be paid by FFS.

MSRA calculations

The group estimated that MSRA would be able to get a third of the HMO/POS members within their county capitated to their imaging center practice. They projected that this would be worth 6,000 members per month capitated to MSRA.

Using the WellPlan data from above, they then took the average RVU for each modality and calculated the expected RVUs generated by 680 studies per 1,000 members per year, based upon the distribution above and based upon 6,000 members per month.

14,000 RVUs X \$33 (conversion factor) = \$462,000 annual dollars at 100% of Medicare
 6,000 members per month \times 12 = 72,000
 Projected per member per month rate at 100% of Medicare = $\$462,000 / 72,000 = \6.42

Thus, Health Network's offer of \$5.50 represented 86 percent of Medicare rates. In order to get an equivalent rate at 115 percent of Medicare, MSRA will have to get \$7.38 PMPM.

Other thoughts to consider

Based upon the hypothetical calculations above, the Medicare per member per month rate would have to be around \$20 if the utilization is roughly three times the commercial utilization in terms of studies per 1,000 members per year. Many payers are unwilling to negotiate a Medicare PMPM rate that is well above the commercial rate. For this reason, many practices decide to keep the Medicare line of business under a FFS model.

Other issues to consider involve co-pays. Some payers will set-up a tiered per member per month rate schedule based upon the patient's co-pay level. This adds complexity into the calculations, as practices have to project co-pays into the mix.

RVU Method

There is another way of making this calculation. Improvements over the past decade in radiology practice management systems and service companies (billing), including line item posting of receipts to specific charges, have provided radiology practices with a wealth of billing and collections information previously unavailable to the average radiology practice. With the ability to analyze receipts by specific CPT code and by different payers, radiology practices are better able to determine the current overall reimbursement experience and to better estimate the potential financial impact of various payer contract rates, both capitated and FFS.

Table 3 is a small demonstration of what this process would look like for a radiology practice. In this example the group determines the specific amount paid by a payer (Payer A) by CPT code or by the weighted average by CPT category. In the example in Table 3, Payer A is interested in capitating radiology services for a given population and the radiology group is interested in putting together a proposal. Payer A provided the practice with data for the entire universe of imaging services provided to the given population for the past year. Since the practice has already been providing some imaging services to this population on a FFS basis, the group is able to analyze its own data to determine the actual payer FFS receipts and CPT code by CPT code. (Note: The actual receipt is not the figure in the group's contract; that figure is usually reduced by such elements as denied claims after the service has been rendered, no

TABLE 3: 2011 Medicare Reimbursement

Sample CPT codes	Description	Medicare Allow – Reg 99	Payer A Unweighted	Payer A Annual Volume	Potential Reimbursement at Medicare Rates	Payer A Weighted
71020	CHEST pa and lateral	11.08	17.25	1,212	13,429	20,907
72040	CERVICAL spine ap and lateral	11.81	18.35	356	4,204	6,533
72072	THORACIC spine ap and lat inc swimmers	11.08	17.20	615	6,814	10,578
72100	LUMBOSACRAL spine Ap and lateral	11.85	18.40	971	11,507	17,866
72170	PELVIS ap	9.36	14.55	1,239	11,597	18,027
	Average		17.15		10.82	16.82
73721	MRI any joint of lower extremity	68.97	102.00	852	58,762	86,904
70553	MRI head with and without contrast two seq	119.59	185.00	1,468	175,558	271,580
72148	MRI spinal canal and contents lumbar without contrast	75.29	112.00	1,372	103,298	153,664
73221	MRI any joint of upper extremity	69.33	100.00	779	54,008	77,900
72141	MRI cervical spine add seq without contrast	81.26	122.00	23	1,869	2,806
	Average		124.20		88.01	131.92
74177	CT abdomen and pelvis with contrast	89.95	105.00	958	86,172	100,590
71260	CT thorax with contrast	63.15	89.00	1,424	89,926	126,736
70450	CT head without contrast	42.90	65.00	696	29,858	45,240
72125	CT cervical spine	51.93	80.00	862	44,764	68,960
	Average		84.75		63.63	86.68
76536	ECHOGRAPHY, soft tissues of head and neck (eg, thyro)	28.31	45.00	645	18,260	29,025
76645	SONOGRAPHY breast bilateral/unilateral	27.44	40.00	1,381	37,895	55,240
76700	ECHOGRAPHY abdominal complete	40.79	60.00	867	35,365	52,020
76805	SONOGRAPHY pregnant uterus, complete	50.11	75.00	245	12,277	18,375
	Average		55.00		33.08	49.29
	Total	864.20	1,266	14,753	795,726	1,162,951
	Average revenue per procedure by payer contract				53.94	78.83
	Contract as a percentage of medicare					146%

payment of co-pay, etc.) The number of procedures in the example is limited to 18 different CPT codes. Column 1 will list over a thousand different CPT codes for a typical practice. Medicare-allowed payment for each of the CPT codes has been added, as this helps determine the current reimbursement in terms of a percentage of Medicare; payers continue to attempt to negotiate contracts in terms of a percentage of Medicare. Column 4 lists, by CPT code, the reimbursement received by the group from Payer A. Column 5 is the total annual volume Payer A paid to the universe of providers for the specified population. Columns 6 and 7 are the total projected receipts from Medicare and Payer A, respectively, arrived at by multiplying the CPT codes' average receipt (for Payer A) or approved amount (for Medicare) by the volumes provided by Payer A. Those data were used to develop an average revenue per procedure by payer contract and the contract payment in the form of a Medicare percentage. Since the practice will be attempting to determine the amount it is currently receiving from each payer and what that amount might look like in the form of a capitation payment, it is important to determine the actual amount received rather than an estimated payment amount. In the example, using the volumes provided by Payer A, the group will receive \$795,726, if all services are paid at 100 percent of Medicare, and \$1,162,951, if all services are paid according to the group's existing FFS contract with Payer A. A comparison shows that the Payer A contract reimburses the group at an overall rate 146 percent that of Medicare.

Since there is considerable variability between many of the payers’ fee schedules, it is useful for practices to normalize the payer’s fees using the standard method of applying a conversion factor (CF) to each CPT code’s RVUs to determine payment. Not only does this provide balance in the payer’s fee schedule, but it also provides the practice with the ability to compare that fee schedule against Medicare’s fee schedule. Thus, payer CPT code rates that are inconsistent with the RBRVS can be brought to the attention of the payer either during the current negotiations or any future discussions.

Table 4 using the 18 CPT codes from Table 3 demonstrates how this process works. Column 3 is the work RVU (obtained from the CMS website mentioned in Section 3). The work RVU is then adjusted by the appropriate GPCI (in this example, the appropriate GPCI is Region 99: all other California), which gives the adjusted work RVU for each CPT code in column 5. Columns 6, 7, and 8 are the same calculation for the practice expense RVUs and columns 9, 10, and 11 for the malpractice RVUs. Columns 5, 8, and 11 are then added together to provide the total adjusted professional RVU values, per CPT code, in column 12.

TABLE 4: 2011 National Physician Fee Schedule Relative Value File
CPT codes and descriptions only are copyright 2010 American Medical Association
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 Northern California, Region 9
 Professional RVUS only

HCPCS		Work RVU	GPCI *	Adjusted Work RVU	PE RVU	GPCI *	Adjusted PE RVU	Malpractice RVU	GPCI	Adjusted MP RVU	Total Adjusted PRO RVU
71020	CHEST pa and lateral	0.22	1.016	0.22352	0.09	1.078	0.09702	0.01	0.546	0.00546	0.326
72040	CERVICAL spine ap and lateral	0.22	1.016	0.22352	0.1	1.078	0.1078	0.03	0.546	0.01638	0.3477
72072	THORACIC spine ap and lateral inc swimmers	0.22	1.016	0.22352	0.09	1.078	0.09702	0.01	0.546	0.00546	0.326
72100	LUMBOSACRAL spine ap and lateral	0.31	1.016	0.31496	0.1	1.078	0.1078	0.03	0.546	0.01638	0.43914
72170	PELVIS ap	0.17	1.016	0.17272	0.08	1.078	0.08624	0.03	0.546	0.01638	0.27534
73721	MRI any joint of lower extremity	1.35	1.016	1.3716	0.56	1.078	0.60368	0.10	0.546	0.0546	2.02988
70553	MRI head with and without contrast two seq	2.36	1.016	2.39776	0.97	1.078	1.04566	0.14	0.546	0.07644	3.51986
72148	MRI spinal canal and contents lumbar without con	1.48	1.016	1.50368	0.61	1.078	0.65758	0.10	0.546	0.0546	2.21586
73221	MRI any joint of upper extremity	1.35	1.016	1.3716	0.57	1.078	0.61446	0.10	0.546	0.0546	2.04066
72141	MRI cervical spine add seq w/o contrast	1.60	1.016	1.6256	0.66	1.078	0.71148	0.10	0.546	0.0546	2.39168
74177	CT abdomen and pelvis with contrast	1.82	1.016	1.84912	0.69	1.078	0.74382	0.10	0.546	0.0546	2.64754
71260	CT thorax with contrast	1.24	1.016	1.25984	0.52	1.078	0.56056	0.07	0.546	0.03822	1.85862
70450	CT head without contrast	0.85	1.016	0.8636	0.35	1.078	0.3773	0.04	0.546	0.02184	1.26274
72125	CT cervical spine	1.00	1.016	1.016	0.45	1.078	0.4851	0.05	0.546	0.0273	1.5284
76536	ECHOGRAPHY, soft tissues of head and neck (eg,thyro)	0.56	1.016	0.56896	0.23	1.078	0.24794	0.03	0.546	0.01638	0.83328
76645	SONOGRAPHY breast bilateral/ unilateral	0.54	1.016	0.54864	0.22	1.078	0.23716	0.04	0.546	0.02184	0.80764
76700	ECHOGRAPHY abdominal complete	0.81	1.016	0.82296	0.3	1.078	0.3234	0.04	0.546	0.02184	1.1682
76805	SONOGRAPHY pregnant uterus, complete	0.99	1.016	1.00584	0.42	1.078	0.45276	0.03	0.546	0.01638	1.47498

*GPCI: Geographical Practice Cost Indices (a multiplier applied to national RVUs to adjust for the difference in geographical cost factors such as wages, malpractice costs, etc.)

In order to complete Tables 3 and 5, the radiology group will need the entire book of business from the payer (which contains total annual volume by CPT code) that the payer wants the radiology group to bid on, as well as the annual member months for the same time period. Table 5 shows the current Payer A FFS payments expressed as a conversion factor for each CPT code. Column 5, Payer A reimbursement per RVU, shows that the Payer A FFS conversion factor for 71020 (chest PA and lateral) is \$52.91, \$52.78 for 72040 (cervical spine AP and lateral), and so on. In the aggregate, the overall Payer A conversion factor for the existing FFS business paid to the example group was \$33.98 per RVU, or 146 percent of the rate of Medicare.

Now that the practice knows what it is currently receiving under the existing Payer A FFS contract, it can decide what FFS equivalent would be acceptable. It can then calculate the corresponding capitation rate for the exclusive provision of radiology services to the given population of Payer A. Table 6 shows this calculation for the sample data. Given that the current reimbursement is 146 percent of Medicare, the group decides to reduce that figure to 140 percent of Medicare in order to balance the group's chance of getting the whole contract while ensuring it maintains existing reimbursement. The following formula can be used to determine this capitation rate:

Given that Payer A has provided the total universe of services and the annual member months, the group calculated a capitation rate of \$2.47 per member per month, shown on Table 6.

TABLE 5: Commercial Reimbursement By RVU

		Total Adjusted PRO RVU	Payer A Reimbursement	Payer A Reimbursement Per RVU
71020	CHEST pa and lateral	0.326	17.25	52.91
72040	CERVICAL spine ap and lateral	0.3477	18.35	52.78
72072	THORACIC spine ap and lateral inc swimmers	0.326	17.20	52.76
72100	LUMBOSACRAL spine ap and lateral	0.43914	18.40	41.90
72170	PELVIS ap	0.27534	14.55	52.84
73721	MRI any joint of lower extremity	2.02988	102.00	50.25
70553	MRI head with and without contrast two seq	3.51986	185.00	52.56
72148	MRI spinal canal and contents lumbar without con	2.21586	112.00	50.54
73221	MRI any joint of upper extremity	2.04066	100.00	49.00
72141	MRI cervical spine add seq without contrast	2.39168	122.00	51.01
74177	CT abdomen and pelvis with contrast	2.64754	105.00	39.66
71260	CT thorax with contrast	1.85862	89.00	47.88
70450	CT head without contrast	1.26274	65.00	51.48
72125	CT cervical spine	1.5284	80.00	52.34
76536	ECHOGRAPHY, soft tissues of head and neck (eg,thy-ro)	0.83328	45.00	54.00
76645	SONOGRAPHY breast bilateral/unilateral	0.80764	40.00	49.53
76700	ECHOGRAPHY abdominal complete	1.1682	60.00	51.36
76805	SONOGRAPHY pregnant uterus, complete	1.47498	75.00	50.85
Average Reimbursement per RVU		49.61		
Reimbursement per RVU Medicare		\$33.9764		
Current Payer A Reimbursement per RVU Compared to Medicare		146%		

TABLE 6: Capitation Rate Calculation

Formula:
$$\frac{(\text{All of the individual CPTRVUs from Payer} \times \text{Annual Payer Volume} \times \text{Radiology Group target CPT reimbursement})}{\text{Total Annual Member Months Provided by Payer}}$$

Example:
$$\frac{((0.22898 \times \$47.56696 \times 1,212) + (0.2399 \times \$47.56696 \times 356) + (\text{and so on for all services provided to payer over the given period}))}{\text{Total Annual Member Months Provided by Payer}}$$

$$\frac{\$5,935,461,283}{2,400,000} = \mathbf{\$2.47}$$
 Per Member Per Month (PMPM)
 (200,000 members per month - from Payer A)

2011 Medicare Conversion Factor (CF) = \$33.9764
 140% of the Medicare CF = \$47.56696

Average Charge Method

The information presented in Table 2 allows practices to develop an accurate weighted average price per service based on population experience using exams-per-1,000 calculations. Unless there is a single-source provider in a community, the price of an average examination in a practice may be subject to both referral patterns and price competition. Therefore, it is very important to calculate a weighted average price per service using population experience data and to understand that practice level utilization percentages may vary significantly from those seen in a typical total population.

One should take the average charge per exam in a category, multiply by the average utilization in that category and get an average charge. You then sum all the average charges to get an average weighted charge. You can then take this average charge and convert to an average receipt (multiply by collection rate) and even calculate a cap rate. Table 7 shows the calculation for a hypothetical radiology practice.

TABLE 7: Average Charge Calculation for a Hypothetical Radiology Practice

Examination Category	Avg Charge Per Exam	Weighted Avg Utilization	Normal Population Avg Charge
General	20.0 x	.70 =	14.00
Ultrasound	90.0 x	.12 =	10.80
CT/MR	207.0 x	.09 =	18.63
Nuclear Medicine	140.0 x	.04 =	5.60
Fluoroscopy	70.0 x	.04 =	2.80
Angio/Interventional	350.0 x	.01 =	3.50
Average Weighted Charge			\$55.33
Practice's <i>Commercial Collection Rate</i>		x	0.70
Average Receipt – Normal Population			\$38.73
Utilization Rate		x	0.75
Cap Rate PMPY			\$29.05
Cap Rate PMPM		÷	12
			\$2.42

Column two shows the practice's average charge by specific category. Note that CT/MRI is a blend of charges with a ratio of approximately 3 CTs to 1 MRI. The second column represents utilization by a normal population in each of the categories shown. If a facility is either an MRI or an angio/interventional referral center, one would naturally expect to see a higher utilization of these procedures. The average charge for the practice would reflect this aberration. Thus, if one calculates the average charge for a practice in contrast to the average charge for a typical population, the result would be considerably higher than the typical population. Relying on this skewed data without adjusting for the fact that a practice is a referral center for these procedures could result in a bid that is too high and, therefore, not competitive.

For practical reasons, unless a practice's data system can support category-specific posting (or line-item posting) of receipts, receipts must be calculated by multiplying gross charges by the practice's commercial collection rate. This method assumes an equal rate of collection in each of the categories listed. Next, gross charges are adjusted by the known commercial collection ratio in a practice. Then the average receipt per procedure is equated to a PMPM capitation rate. This rate, based on the practice's current charges and modified by the practice's collection rate, equals the average receipt per category in a typical population. This average receipt, together with volume estimates based on utilization in the proposed population, will be the basis for the practice's capitation calculation.

Caveats:

1. Practices' utilization may vary. Practices should obtain current utilization information from their payers and query their management software.
2. Medicare utilization tends to run two to three times that of the general population with Medicare HMO utilization at the lower end of the range and Medicare FFS at the upper end of the range.
3. Angiography/interventional typically excludes surgical codes.
4. Mammography is usually carved-out
5. Few radiology practices provide echocardiography.

Appendix C – Managed Care Terminology

ADJUSTED GROSS COLLECTIONS. Gross collections less collection offsets.

ALL-PAYER SYSTEM. All payers of healthcare bills, such as the insurance company, employer, government, and the individual, would pay the same price, set by the government, for the same services.

ANTITRUST. A legal term used to define laws to protect trade and commerce from unlawful restraints and monopolies or unfair business practices. (See separate listing of related terms.)

AVERAGE RECEIPT PER PROCEDURE (CPT® CODE). An estimate of the average amount paid per procedure (or per CPT® code) by commercial insurers, determined by multiplying a procedure's gross (unadjusted) charge by the **COMMERCIAL COLLECTION RATE**.

BENEFICIARY. A person who is eligible to receive benefits under an insurance plan.

CAPITATION. A payment method that calls for a fixed payment to a health care provider or health plan for each member enrolled in a plan, regardless of the amount of care a member receives. Reimbursement is usually provided for each enrollee on a monthly basis in "per member per month" (PMPM) terms.

CAPITATION (MIXED). Exclusion of specified services from an agreement with a capitated reimbursement method. These excluded services are then reimbursed on a fee-for-service basis, with discounts, if any have been previously negotiated.

CAPITATION THRESHOLD. A sliding scale or other negotiated rate for services that exceed a projected utilization threshold.

COLLECTION OFFSETS. Collection offsets take the forms of: (1) refunds and (2) returned checks. Refunds are any repayment of gross collections where the funds were collected in error. returned checks are Gross Collections paid by negotiable instruments, where the negotiable instrument was not honored upon presentation to the entity's depository institution.

CONTACT CAPITATION. A set fee for a specified service. Examples range from surgical procedures such as an appendectomy or in the case of radiology, a single fee for an abdominal CT regardless of contrast usage.

CARVE-OUTS. Services for which excess risk would be assumed, if they were included in a capitated payment plan, due to the lack of sufficient historic data to calculate a capitated rate. An example would be a site where there were not sufficient patients to predict statistically

whether the previous patients were representative of all patients who presented for the diagnostic test at a particular site. Another reason for a carve-out would be for those services that are market sensitive. For instance, mammography is often carved out because of market factors.

COINSURANCE. Percentage of the healthcare bill that the patient is expected to pay. For example 20% of usual and customary charges.

COMMERCIAL COLLECTION RATE (ALSO KNOWN AS GROSS COLLECTION PERCENTAGE). A rate determined by dividing adjusted collections by gross charges for commercially insured (non-Medicare) patients (**COMMERCIAL COLLECTION RATIO**), then multiplied by 100. Adjusted collections are amounts which are never expected to be collected, by virtue of laws, regulations, contracts or internal policies applicable to the services provided by the entity.

COMMUNITY RATING. A method for determining a premium amount without regard to the individual patient's expected use of services, but based on expected use of services by a particular population.

COPAYMENTS. The patient's share of the total medical bill: usually a specific dollar amount.

COVERED LIVES. The specific number of beneficiaries enrolled in a health plan at a given time for whom the radiologist will be responsible.

DEDUCTIBLES. Preset dollar amounts that patients must pay before insurance reimbursement begins. Used particularly in traditional indemnity insurance plans to reduce premiums.

DIAGNOSIS-RELATED GROUPS (DRG). A system of classifying any hospital stay into diagnostic groups for purposes of payment.

EFFECTIVE PAYMENT RATE. For a specific patient population and assumed utilization, total capitation-based payments vs. total payments under FFS.

EMPLOYEE RETIREMENT INCOME SECURITY ACT (ERISA). A federal law governing the funding, vesting, and administration of pension and employee welfare and benefit plans.

ENROLLEE. A beneficiary covered or eligible to receive benefits under a particular plan.

EXCLUSIVE PROVIDER ORGANIZATION (EPO). In this arrangement, physicians are paid a negotiated fee on an as-used basis, rather than being prepaid for their services. Patients usually must see a primary care physician gatekeeper, who will then refer them to specialists if necessary.

FEE-FOR-SERVICE. A reimbursement mechanism under which medical providers are paid for each service they provide. Patients may or may not be permitted to see the provider of their choice.

FORMULARY. A list of drugs selected by a plan as the only drugs the plan will cover. Typically, the list includes generic drugs that have been found to be safe, efficacious, and cost-effective. The formulary generally excludes expensive brand-name drugs for which there are equal but less-expensive substitutes.

FOUNDATION. A nonprofit, tax-exempt entity created by either a hospital or medical group to acquire both the tangible and intangible assets of a medical group and provide all nonphysician services.

GATEKEEPER. A method to control patient referral by a managed care plan. A patient must see a primary care physician first, who will then refer to a specialist if necessary.

GLOBAL BUDGET. The current term used for the idea of placing a nationwide limit on the spending for health care services, covering both public and private expenditures.

GROSS UTILIZATION. Total number of procedures for a specific population and utilization rate of services.

GROUP MODEL HMO. Contracts with one independent group of physicians that provide health care to the HMO's members, usually in HMO-owned or managed facilities.

GROUP WITHOUT WALLS. A formal legal organization that bills under one provider number and provides certain core administrative and management services to physicians who maintain separate, individual offices.

HEALTH MAINTENANCE ORGANIZATION (HMO). A prepaid, organized health care plan in which services are provided by a preselected group of providers and hospitals. Such a system controls costs by contracting with providers for comprehensive benefits, often in return for a fixed, prepaid monthly rate per person (see Capitation), and employing a strict utilization review program.

HEALTH NETWORK. HMOs, PPOs, or any cooperative system of insurers, doctors, or hospitals that contracts with employers to provide medical care.

INCREMENTAL STOP-LOSS. A protection built into a capitation agreement to prevent against unplanned or unanticipated financial losses.

INDEPENDENT PRACTICE ASSOCIATION (IPA). An HMO contracts with IPAs, which are groups of physicians in private practice who have joined together to bid on

contracts to provide services. IPA physicians typically see private patients as well as patients from other HMOs.

INTEGRATED DELIVERY NETWORK (IDN). This is essentially an HMO and differs from an IHO (see below), in that, in addition to the provision of hospital and professional services, the full range of ancillary services are usually included.

INTEGRATED HEALTHCARE ORGANIZATION (IHO). In this model, a new parent corporation is created to oversee both a hospital and medical group that practices in that hospital.

LINE-ITEM POSTING. The recording of specific transactions in accounting report or the generation of an invoice.

MANAGED CARE. Any system of health care delivery in which providers, hospitals, and others agree to provide care to those covered by a plan, ranging from health maintenance organizations to preferred provider groups.

MANAGED COMPETITION. An evolving system of health care in which those paying for care are organized into large groups and providers or insurers compete for their business.

MANAGED SERVICES ORGANIZATION (MSO). A separate corporation set up to provide management services to a medical group for a fee. It has also been used to refer to a corporation that owns the assets of one or more physician groups.

MEDICARE VOLUME PERFORMANCE STANDARDS (MVPS). The MVPS are projected annual target rates of growth for physician expenditures that will be used to determine fee updates in future years. If actual expenditures are higher than the MVPS, fees on the updates could be reduced. If the expenditures are below the MVPS, fees on the updates could be increased.

MEMBER. A participant in the health plan who makes up the plan's enrollment (enrollee).

MIXED MANAGED CARE MODEL. A managed care plan that mixes two or more types of delivery systems. For instance, HMOs and PPOs and traditional FFS might be included in one model and another would be a combination of staff model physicians augmented by nonstaff or IPA providers.

NETWORK MODEL HMO. Contracts with two or more large, independent group practices or smaller HMOs to provide managed care to their members.

OPEN ENROLLMENT. The annual period, usually occurring for one month of the year, when an employee may change health plans.

PER DIEM. Reimbursement based on a set rate per day rather than by charges.

PER MEMBER PER MONTH (PMPM). A reimbursement method under which radiologists are reimbursed on a fixed amount for each member in the plan on a monthly basis. (See Capitation.)

PER MEMBER PER YEAR (PMPY). A reimbursement method under which radiologists are reimbursed on a fixed amount for each member in the plan on a yearly basis. (See Capitation.)

PHYSICIAN-HOSPITAL ORGANIZATION (PHO). An organization formed by physicians and hospitals to negotiate contract with insurers.

PREADMISSION CERTIFICATION/CONTINUED STAY REVIEW (PAC/CSR). Utilization review programs that evaluate the necessity of hospital admissions and determine how long a hospital stay should be in order to accomplish appropriate and effective treatment.

POINT OF SERVICE. A plan that allows members to choose in-network providers or out-of-network providers at the time of service.

PREFERRED PROVIDER ORGANIZATION (PPO). A managed care system under which an insurance company or HMO contracts with a wide variety of doctors and hospitals to provide services. Physicians usually are paid on a fee-for-service basis but have agreed to discount charges in return for a projected number of patients. Generally, the patients pay deductibles, coinsurance, and/or copayments. If plan subscribers do not use the “preferred” providers, and go to a doctor or hospital outside of the plan, they generally will have lower benefit coverage, higher deductibles, and/or coinsurance.

RISK. The chance of hazard of loss. In any payment method other than fee-for-service the radiologist assumes the financial liability for treating patients without a relationship to the amount of revenue received. In a capitated reimbursement method, a specific payment is received (e.g., PMPM) regardless of the number of patients treated; therefore, the radiologist assumes the financial risk to treat all patients referred for a set payment.

RISK CORRIDOR. This concept is also referred to as shared risk. It involves the notion that each party to the contract shares the financial risk. In the case of capitated arrangements, there is an upper and lower limit established for the number of treatments or patients treated. If utilization exceeds the upper limit, the payer agrees to reimburse the radiologist at a higher rate. If the utilization falls below the lower limit, then the radiologist agrees to refund to the payer a portion of the capitation payment. An **ASYMMETRIC RISK CORRIDOR** provides greater risk protection for the radiologist or capitation plan. An example of an asymmetric risk corridor is when the plan agrees to share risk above 10% of expected utilization, but the

groups is not obligated to refund money to the plan unless utilization is diminished by a larger amount, i.e., 20%.

RISK-SHIFTING. The transference of risk to another entity/third-party.

SELF-INSURED. An employer or group that assumes total financial risk for the cost of care to its employees or members. These are ordinarily managed by an established health plans who are paid on an administrative services only contract (ASO). Less commonly, this term can be applied to an individual who assumes all risk for his/her own care as necessary.

SEVERITY ADJUSTMENT. A classification of diseases based on projected resource consumption.

SERVICE AREA. The geographic area served by the plan.

SINGLE PAYER. A plan where one entity, the government, pays for all health care. It is funded by taxes, and the government is billed for services by the provider. The patient has freedom of choice in selecting the provider. The system in Canada is a common example of the single-payer system.

STAFF MODEL HMO. An HMO that directly employs its physicians and medical personnel and either owns or manages its hospitals and health centers.

THIRD PARTY ADMINISTRATOR (TPA). An organization or entity other than the benefit plan or healthcare provider that collects premiums, pays claims, and provides administrative services. Medicare operations are processed in this system in most cases. The government is, therefore, self-insured, but contracts for administrative services provided by very large TPAs called Medicare contractors.

TRADITIONAL INDEMNITY INSURANCE. A system that allows consumers to choose their physicians and have greater control over the services they receive in return for agreeing to pay for a portion of the costs, typically 10% to 30% in the form of coinsurance, as well as an annual deductible. If there is no co-pay it is called a first-dollar coverage policy.

TYPICAL POPULATION. Expectations based on assumptions for a known population.

UNDERWRITE. The act of an insurer accepting an application for insurance coverage. The basis for determination varies by insurer and the type of coverage requested.

UTILIZATION RATE. A term used to describe how often health care services are used over a given period of time. It is usually expressed as number of services per 1,000 or per 100,000 persons eligible for these services over time, most commonly annual.

UTILIZATION MANAGEMENT/UTILIZATION REVIEW. Process used in managed care systems to control health care costs. Such programs examine the medical necessity of nonemergency hospital admissions and the appropriateness of medical procedures or tests. Prospective utilization review may include preadmission certification of hospital admissions, assigned lengths of stay, and second surgical opinions on elective procedures. “Concurrent review” monitors inpatient stays to make sure they continue to be medically necessary. “Retrospective review” involves an audit to determine if services that were provided were medically necessary or showed evidence of quality of care problems.

WEIGHTED AVERAGE PRICE PER SERVICE. Is the calculated gross charge from a population’s expected utilization of services. $\sum(\text{Charge}_i * \text{Utilization}_i) / \text{Total Utilization}$ (all modalities), where i is a modality (e.g., CT, MRI, mammography).

WITHHOLD. A portion of the radiologist’s payment that is withheld until a specific time period to create an incentive to deliver cost-efficient quality care.

Appendix D – Antitrust Terminology

ANTITRUST. A legal term used to define laws to protect trade and commerce from unlawful restraints and monopolies or unfair business practices.

BOYCOTT. A concerted refusal by competitors to provide goods and services to a buyer; an agreement by competitors that has the primary purpose of excluding some other competitor from the market.

CLAYTON ACT. The second federal antitrust law, passed in 1914. Includes the Robinson-Patman Act as section 2, which prohibits certain types of differential pricing, or “price discrimination”; section 3 prohibits certain tying arrangements and exclusive dealing contracts; section 7 concerns mergers and acquisitions.

FEDERAL TRADE COMMISSION ACT. A statute passed in 1914 that created the Federal Trade Commission and prohibits certain unfair methods of competition.

GEOGRAPHIC MARKET. The relevant area in which a seller of products or a provider of services operates. The goal is to determine the smallest area in which consumers would not be able to purchase acceptable substitute good or services if a seller or supplier imposed a price increase. If a price increase causes consumers to make purchases in a different area, that area must be included in the geographic market definition.

HORIZONTAL AGREEMENT. An agreement or relationship among competitors.

MARKET POWER. The power that a monopolist, a dominant firm, or a cartel has to depress total industry output sufficiently to allow prices to consumers to rise above competitive levels for a sustained period of time.

MARKET SHARE. Usually measured by a firm’s relative size in relation to both the product market and the geographic market in which it operates.

PER SE RULE. A rule under which courts do not consider justifications for an allegedly anti-competitive practice. The rule is applied only to areas in which judicial experience has convinced the U.S. Supreme Court that certain practices are almost always anti-competitive. Application of the rule avoids expensive litigation. The per se rule is generally applied to horizontal price-fixing, horizontal territorial or customer division, vertical price-fixing, and some tying and refusal-to-deal arrangements.

PRICE-FIXING. An agreement, either express or implied, among two or more competitors to establish or set maximum or minimum prices, fee schedules, or credit terms. Other forms of price-fixing may include bid-rigging, agreements to control production, allocate customer, or divide markets; or the systematic exchange of price information. Price-fixing agreements are per se unlawful, regardless of their economic justifications, reasonableness, or ineffectiveness.

PRODUCT MARKET. The relevant market that includes all the products or services (and their suppliers) that consumers would regard as interchangeable substitutes or alternatives if there were a price increase (an effort to exert market power) in the product or service in question. If the product increase would cause so many buyers to shift to other products or suppliers of services that potential monopolist would not find it profitable to raise prices, then that product or service is included in the relevant product market.

RULE OF REASON. A method of analysis for alleged antitrust violations in which courts make detailed inquiries into the effects of a certain practice on price and output, including any possible beneficial effects on competition, such as new products or services.

SHERMAN ACT. The first federal antitrust law, passed in 1890, where section 1 of the Act prohibits contracts, combinations, or conspiracies in restraint of trade and section 2 prohibits monopolization and attempts and conspiracies to monopolize.

TYING. Condition imposed by a seller that requires the buyer to also take an additional product that the buyer may or may not want. Some tying arrangements violate section 1 of the Sherman Act or section 3 of the Clayton Act.

VERTICAL AGREEMENT. A relationship or agreement between a buyer and a seller.

VERTICAL INTEGRATION. When a firm operates in two or more production or distribution levels. For example, an oil refinery that owns and operates in its own gas stations is vertically integrated.