



General

The Radiology Business Management Association* (RBMA) developed the Equipment Utilization Survey questionnaire to collect information on imaging center characteristics and equipment utilization by major imaging machine/modality. An invitation to participate in the survey, along with a link to the questionnaire, was e-mailed on April 20th, 2009 to 1,084 RBMA members who indicated they have imaging centers; this list included duplicate members from some practices. When the survey closed on May 15th, a total of 46 surveys were submitted by 17 members; RBMA membership includes representatives of 1,959 imaging centers.

Methodology

From the information obtained from this survey, RBMA was able to simulate equipment utilization rates for diagnostic imaging modalities and for centers located in rural and non-rural settings. Utilization rate data components first were cleaned: (1) by eliminating records for which the sum of weekly minutes in use and weekly minutes available but not used did not approximate the total number of weekly minutes available and (2) by eliminating records where individual equipment utilization rates exceeded 100 percent. For this analysis, two utilization rates were calculated: (1) a MedPAC-based rate (weekly minutes used ÷ weekly minutes available) and (2) the current Medicare utilization rate (weekly minutes used ÷ 3,000 [50 hours per week * 60 minutes per hour]). The rates were calculated for all machines by modality and for urban vs. rural centers. Rural vs. nonrural status was based on the CMS Rural Health Programs definition of "rural" as being outside a Census-defined Urbanized Area, and was determined by entering the ZIP Code into the Rural Assistance Center's "Am I Rural?" lookup page.

Results

Table 1 shows estimated utilization rates using both methodologies for the major imaging modalities. The Medicare-based rate resulted in consistently lower estimates than did the MedPAC-based one. In neither methodology did the calculated utilization rates approach those recommended by MedPAC (90 percent) or the Congressional Budget Office/White House (95 percent).

Table 1: Utilization Rates by Modality[†]

		All	MR	CT	PET-CT	GR	DEXA	U/S	Mammo-graphy	NM	B-IR	A-IR
MedPAC-based Utilization Rate	N	281	47	30	7	57	17	66	33	15	5	4
	Min	0%	12%	10%	59%	0%	9%	17%	9%	11%	12%	74%
	Q1	46%	62%	31%	72%	39%	23%	50%	46%	54%	33%	77%
	Mean	65%	73%	62%	82%	56%	57%	66%	69%	70%	47%	86%
	Median	68%	76%	59%	84%	50%	61%	64%	86%	68%	46%	87%
	Q3	90%	90%	90%	92%	90%	90%	90%	90%	90%	53%	96%
	Max	100%	100%	100%	100%	100%	90%	100%	100%	100%	90%	98%

Table 1: Utilization Rates by Modality† (continued)

		All	MR	CT	PET-CT	GR	DEXA	U/S	Mammography	NM	B-IR	A-IR
Medicare-based Utilization Rate	N	261	35	29	5	57	17	64	32	15	5	2
	Min	0%	10%	9%	50%	0%	8%	14%	6%	8%	10%	64%
	Q1	38%	50%	30%	55%	20%	20%	45%	41%	44%	16%	64%
	Mean	53%	64%	56%	69%	44%	44%	54%	53%	58%	35%	69%
	Median	54%	72%	50%	72%	47%	44%	55%	53%	58%	36%	69%
	Q3	72%	80%	79%	79%	72%	63%	66%	72%	72%	48%	74%
	Max	99%	99%	98%	87%	91%	93%	88%	90%	82%	65%	74%

†: PET had one respondent and was omitted

GR: General radiology

DEXA: Dual-energy x-ray absorptiometry

U/S: Ultrasound

NM: Nuclear medicine

B-IR: Basic interventional radiology services (e.g., biopsies)

A-IR: Advanced interventional radiology services (e.g., vein ablation, transcatheter procedures)

In Table 2, RBMA found that imaging centers in rural areas had lower utilization rates than centers in non-rural settings across both rate methodologies.

Table 2: Utilization Rates by Non-Rural/Rural†

		All	Nonrural	Rural
MedPAC-based Utilization Rate	N	281	233	48
	Min	0%	0%	1%
	Q1	46%	49%	30%
	Mean	65%	67%	57%
	Median	68%	71%	58%
	Q3	90%	90%	85%
	Max	100%	100%	100%
Medicare-based Utilization Rate	N	261	217	44
	Min	0%	0%	1%
	Q1	38%	43%	22%
	Mean	53%	55%	43%
	Median	54%	56%	48%
	Q3	72%	72%	64%
	Max	99%	99%	88%

†: PET had one respondent and was omitted

* Founded in 1968, the RBMA represents nearly 2,400 radiology practice managers and other radiology business professionals. RBMA is the leading professional organization for radiology business management, offering quality education, resources and solutions for its members and the healthcare community, and helping shape the profession's future.