



Valuation Principles to Value Healthcare Facilities and Equipment

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ME213 Senior Instructor
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Instructor's Background

- Jack Beckwith currently serves on the IVSC's Advisory Forum as ASA's Representative and is a Senior Instructor teaching MTS Principle of Valuation courses.
- Mr. Beckwith's professional career began in 1976, when he began distributing new and refurbished medical equipment to the healthcare industry. He owned and operated Mission Medical which had several offices in Texas and Mexico. He became aware of the importance of the appraisal methodology and the compliance issues associated with this profession. In 1996, he sold Mission Medical and entered the appraisal field full time and received his ASA designation.

Healthcare Valuations, important to ask who, how, and why.

- Who are the end users for healthcare appraisals?
- Who are asking for healthcare appraisals?
- Why do they need healthcare appraisals?
- Who are qualified to perform healthcare appraisals?
- Who are requesting these appraisals and for what reason?
- Why is there a demand for healthcare appraisals?
- How does this industry operate - as private or non-private entity?
- How do these entities succeed in a competitive economy?
- Who regulates this industry?



How has Covid-19 impact healthcare over the past 10 weeks?

- Primary care doctors and specialists have seen revenues drop by up to 90% by recent trade publication MDLinx; i.e. 4.8% contraction or 2.25% drop in our GDP.
- Healthcare accounts for 18% of nation's economic activity or \$3.6 Trillion dollars or \$10,739 per person in 2017; the Government (Medicare/Medicaid) spent \$1.1 Trillion on healthcare in 2018;
- In my home State of Texas, \$37B goes into San Antonio's economy and \$20B into Houston's economy related to healthcare;
- 676,000 Texans work as practitioners/technicians with 543,000 employed in support roles or 10% of State's workforce;
- Physicians practices are small business. They charge for their services where private insurance/Medicare pay most of their fees, generally physicians accept whatever they are paid;
- A brief 15-minute visit by the physician is not that they don't like you but they need more volume;



How has Covid-19 impact healthcare over the past 10 weeks?

- During the quarantine, Inov8 Orthopedics in Houston went from 25 surgeries a week to none eliminating 88% of their practice revenue;
- Paycheck Protection Program (PPP) and Medicare provided extra funds to help cover about 6 weeks of expenses, other business can raise prices to offset the loss of revenues, but not in healthcare;
- The concern is with reduction in patient volume & low reimbursement rate, will drive doctors to retire or leave private practice which just adds to an already shortage of physicians.
- Dallas Surgical Hospital lost 20% of business during the pandemic and they do not expect to get it back even where they can now operate at 100% capacity after the quarantine has been lifted.
- Low unemployment, uninsured, or under insured patient populations coupled with economic uncertainty may still have an impact on increase volume moving forward.
- Hospitals and clinics are still playing catchup due to the cancellation of elective cases.



How has Covid-19 impact healthcare over the past 10 weeks?

- Depending on some hospital systems financial position, some may have to lay off staff. B&SW announced they are laying off 1,200 employees even with the Payroll Protection Plan.
- At Dallas Surgical, a physician vested hospital, equipment now tends to get used until the end of life instead of substituting with the new and latest equipment on the market.
- Many hospitals are waiting to see if the Covid interruption will bring down cost of equipment during these uncertain times.
- Hospital capital vs. operational finances are two different cash flow perspectives. The difference is capital investment may not require an immediate out of pocket utilization of cash and can be paid for over a longer period of time, whereas, operation expenses must be met with current cash flow, cash on hand, or cash reserves.
- This could mean layoffs of employees at the same time that major infrastructure will proceed.
- As for physician recruitment and/or merger acquisitions, practices of all types have been hit hard with loss of case volume.



How has Covid-19 impact healthcare over the past 10 weeks?

- There may be an uptick in independent healthcare providers, like family or primary care physicians, who are not currently not aligned with larger institutions, will be interested to join due to financial necessity. This has been shown in the capitation care model like WellMed. Otherwise, specialists usually have better cash reserves than primary care practices and can wait to join larger institutions or form super groups on their own.
- Moving forward, hospitals will be making a push to recruit surgeons who can make a true impact with patient volumes with a strong reimbursement mix. Their will be a push to recruit surgeons who bring in PPO cases which pay more than Medicare/Medicaid. E.g. About a 40 cent to one dollar swing in revenue.
- As for STARK laws, which applies to valuing assets at fair market value for potential buyers and govern physician self-referrals, they are necessary even though they may need updating to the original intent and language.
- The last few weeks during the Covid crisis, auctions for hospital equipment has had a large uptick. They are busier than ever. Auctioneers are expecting an increase in bankruptcies. Shattuck Auctioneer with locations in Dallas, Houston, and Austin, is receiving top dollar for medical and diagnostic modalities than prior to the pandemic.

ME213 Advance Course in Healthcare is available in 3 Modules

- Module 1: Legal issues, terminology, facilities, and classifying/analyzing assets;
- Module 2: Valuation issues, due diligence, scope of work, pricing tools, reimbursement, and asset descriptions
- Module 3: Collection of data specific to each modality, their resources, leasing topics, and comparing both USPAP and IVS for report writing and development.

Important Legal Considerations

- **How Does HIPAA Affect Me As An Appraiser?**
- **Health Insurance Portability Accountability Act, passed Congress 1996.**
 - Respects Patient Privacy - do not go into areas (ORs, Pre-op or Post-op stations, etc.) where patients are present. Also – do not “stare” in OR windows etc.
 - Do not look at any health files (either electronic or on paper)
 - If there is a conversation going on which involves health etc., walk away and come back later

Important Legal Considerations

- **How Does the Stark Law Affect Me As An Appraiser?**

This is actually pretty simple (for us as tangible asset appraisers)

In essence, when placing value on the assets, we have to make sure that we are valuing the assets at a Fair Market Value (or Fair Value) that would be applicable to **ANY potential buyer**, not to the specific buyer.

In addition, we have to assure that we are **NOT** including any “added value” due to potential future referrals.

Passed by Congress in 1989 to govern physician self-referrals

Where are experienced Appraisers needed?

- Acute Care: branch of secondary health care where a patient receives active but short-term treatment for a severe injury or episode of illness, an urgent medical condition, or during recovery from surgery.
- Ambulatory Surgery/Outpatient Center: surgery that does not require an overnight hospital stay. Patients may enter and leave the facility on the same day.
- Conventional medicine: a system in which medical doctors and healthcare professionals treat symptoms and diseases using drugs, radiation, or surgery.



Where are experienced Appraisers needed?

- **Specialty Care:** after completing medical school, physicians or surgeons usually further their medical education in a specific specialty of medicine by completing a multiple year residency to become a medical specialist.
- **Long Term Care:** period of duration that relies on a single type of health and social care service.

Hospital Footprint

- Acute Care facilities can range from 25 beds to 250 beds or more that are responsive to life-threatening emergencies, acute exacerbation of chronic illnesses and many routine health problems requiring prompt action. Includes promotion, prevention, cure, rehabilitation and palliation (hospice care) efforts.
- Typically 20,000 to 250,000 sq. ft. in size (but can be smaller or larger).
- Services include emergency care, urgent care, trauma care/acute care surgery, critical care, pre-hospital care, short –term stabilization.



Hospital Departments

- Operating Rooms
- Radiology
- Pre-Operative
- Post-Operative
- Cardiology
- Intensive Care
- Endoscopy Unit
- Maternity Wards



Hospital Departments

- Admitting and Patient Records
- Psychiatric
- Central Sterile Services
- Hospital Pharmacy
- On-Call Room
- Post-Anesthesia Care Unit
- Physical Therapy
- Miscellaneous areas include: Geriatric, Kitchen, Doctor/Nurse Lounges, MIS, IT, Maintenance

ASC Facilities

- Ambulatory Surgery Centers (**ASC**), also known as outpatient surgery centers or same day surgery centers, are health care facilities where surgical procedures not requiring an overnight hospital stay are performed. Such surgery is commonly less complicated than that requiring hospitalization. (Wikipedia)



ASC Footprints

- ASCs are typically focused on providing same-day surgical care, including diagnostic and preventive procedures.
- Typically 5,000 to 20,000 sq. ft. in size (but can be smaller or larger)
- ASCs MAY include a few overnight patient rooms (minimal).
- May have between one to five ORs (STERILE) and one to five procedure rooms (for endoscopic procedures, minor eye surgery, etc.) (NON-STERILE).



Typical Surgical Procedures in ASCs

- **Endoscopy:** A nonsurgical procedure used to examine a person's digestive tract. Using an **endoscope**, a flexible tube with a light and camera attached to it, your doctor can view pictures of your digestive tract on a color TV monitor.
- **Arthroscopy** (also called **arthroscopic** surgery): A minimally invasive surgical procedure on a joint in which an examination and sometimes treatment of damage is performed using an **arthroscope** device (may be rigid or flexible) that is inserted into the joint through a small incision.
- **Cataract Surgery:** The lens inside an eye is removed and replaced with an artificial lens (called an intraocular lens, or IOL) to restore clear vision.
- **Refractive Surgery:** A procedure that corrects common vision problems (nearsightedness, farsightedness, astigmatism and presbyopia) to reduce your dependence on prescription eyeglasses and/or contact lenses. This surgery often utilizes a laser to perform the surgery (common term "LASIK").



Multi-Specialty Clinics

- Specialty Care – a term that consists of physician offices that include Family Medicine, Orthopedics, OB/GYN, Internal Medicine, Ophthalmology, Cardiology, Physical Therapy, etc. These facilities can be individual practices or multi-specialty facilities accepting Medicare, Medicaid, private insurance, Blue Cross etc. that can treat specific anatomy, e.g., chronic pain treatment, rehab, ophthalmology-laser surgery, nuclear cardiology-lithium stress testing, podiatry surgery, endoscopy non-invasive diagnostic exams, echo ultrasound, MRI-PET-CT. These can be independent offices or staffed by regional or county hospitals in satellite clinics.

Become Familiar with Sterile and Processing Environments

- What is Deep Clean?
- What is Dirty Processing?
- What is a Clean Room?
- What is being Wrapped?
- What does a covered Piece of Equipment indicate?
- Who should open Washers and Sterilizers?

Proper Attire

- To Gown or Not to Gown
 - Operating Rooms-Lines of Demarcation
 - Proper Attire and the Indications of Use
- Sterile Rooms and Environments
 - Sterile vs. Aseptic vs. Clean
 - Operating Rooms
 - Cath and Special Labs
 - Procedure Rooms
 - GI Suite
 - Isolation and Healthcare Rooms



Hospital Acquired Infections

- 1.7 million hospital acquired infections annually;
- 99,000 of these infections lead to death;
- 8,000 deaths related to surgical site infections
- Hospitals are paid on how well they perform and are subject to Inpatient Prospective Payments;
- As an appraiser, do not contribute to patient risk and the hospital liability;
- Be knowledgeable how to gown, wear protective covering as to not compromise the worksite;
- Be aware that 73% of surfaces positive for bacterial growth after cleaning, may include: Pseudomonas and Staphylococcus;
- Touching equipment in dirty processing can lead to Hepatitis C virus cross-infection after endoscopy.



Careful not to overlook various spaces

- It is important to note that some practices have high dollar equipment sitting in procedure, exam, or storage rooms that would be considered major assets in your scope of work, as an example:
 - **Consider an Eye Clinic.**

CMS TelScreen Digital Imaging System





What is the Purpose of the Appraisal?

- To Determine:
 - Reproduction cost new
 - Replacement cost new
 - Fair market value in continued use
 - Fair market value-Installed
 - Fair market value
 - Fair market value-Removed
 - Orderly liquidation value
 - Forced liquidation value
 - Any other Values or purposes



Which Methodology is Appropriate for your Subject?

- Cost Approach using Depreciation Analysis
 - Physical deterioration
 - Functional obsolescence
 - Economic obsolescence
- Sales Comparison Methodology
 - Valuation analysis using like to like with adjustments
- Income Approach based upon equipment reimbursement for specific procedure
- Conclusion of Value(s)



What is the Value of the Subject as a Business Unit?

- Can I find a market to rent the Equipment?
- What income will it generate?
- $\text{Future Income} / \text{Capital Rate} = \text{Capitalization Rate}$
- Forecasted Benefit, is it stable?
- Choosing Discount Rate must consider:
 - Good Will
 - External Factors
 - Equipment Condition
 - Features.



Terminology using the Income Approach

- WACC (discount rate) is an appropriate benchmark rate to use to discount future returns or costs that are generated or incurred by the business.
- There are three basic methods (formulas) used to determine the cost of equity:
 - **Build-up or Summation method**
 - **CAPM method**
 - **APT method.**
- The **Build-up** and **CAPM** methods are most common since
 - **APT** is fairly sophisticated and not in general use within the appraisal community.



Rate of Return of an Investment

- The purchaser expects to receive a certain rate of return on the income stream specifically attributable to the asset.
- Formula: $\text{Value} \times \text{Rate} = \text{Income}$
- $\$40,000$ (Value) \times 40% (Rate of Return) = $\$16,000$ (Income)



Simple Version of the Income Approach

- ***Income Approach***

- Gross income \$16,000
- Less expenses (10%) - 2,000
- Net income \$ 14,000
- Divided by “cap” rate ÷ 0.40
- Fair market value \$ 35,000



FMV Exercise

- Cost Approach RCN of Subject Asset \$100,000
- less depreciation or 40% good \$ 40,000
- Sales Comparison, adjusting comps to the Subject Asset
- ranges from \$35,000 to \$40,000
- Income Approach, see prior example \$35,000

Important Information for Preparation

- Questionnaire/Memo:
- The following items will be needed in preparing the forthcoming appraisal:
 - Introduction to your department heads, accounting, biomedical/maintenance engineers or supervisors;
 - A cursory tour of the facilities;
 - Copy of site/plot plan for each building;
 - A list of surgical instruments, OR accessories, etc.
 - Operation manuals, original invoices, list of equipment that is leased or not owned;
 - Clearance to take photographs or use dictators and phones.



Sample Questionnaire

- Please provide a listing or be able to identify the idle equipment on site, or equipment which is to be idled or disposed of in the near future. It would be extremely helpful if these assets could be “tied back” to the asset listings.
- Please provide a listing of all equipment under operating lease or rental including estimated original cost and age or estimated replacement cost.
- Please provide service agreements still in effect for all applicable assets in use.
- Please provide drawing or footprint (e.g., fire evacuation outline) of the professional site.

Important Information to Have

- Fixed asset records for each location in Excel which have the following fields:
 - Account/category
 - Original acquisition date
 - Original acquisition cost
 - Accounting life
 - Accumulated depreciation or Net Book Value as of the valuation date
 - Asset description
 - Any additional information such as manufacturer, model, serial number etc. as available



Important Information to Have

- Biomedical equipment list for each location including the following fields **in Excel** including the following fields:
 - Tag Number
 - Manufacturer
 - Equipment Description
 - Model Number
 - Serial Number
 - In Service date (if recorded in database)
 - Cost (if recorded in database)
 - Last date serviced (if recorded in database)
 - Age (if known)



Issues to Address with Biomedical Department

- What it is and what it is not – can be a GREAT source of data BUT has to be utilized with caution
- Only includes items that particular company checks/ maintains
- May not include ALL of the equipment (i.e., surgical lights, C-Arms, other radiology equipment, anesthesia machines, anything that is under another maintenance agreement)



Caution, not all data comes from Biomedical Department

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Data you do need for Research and Analysis

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Would this Asset be Serviced and Tagged by Biomedical Department?



By the Way, Future of Robotic Surgery

- As of 2016: Movement toward smaller electronics and smarter circuitry than what Intuitive uses today
- Competitors will expand the range of procedures in which surgical robots can be involved
- Many of Intuitive patents are expiring or have expired – opening market to others to compete
- Some competitors may come to the market by the end of 2018 and 2020
- There is a huge opportunity for robotics in surgery
- Challenge for competitors is to make them cheaper

New Competitors in Robotic Surgery

Medtronic:

- Working with the German Aerospace Center to incorporate a sense of “touch” through force sensors etc. (lack of this tactile sensation has been a criticism of the da Vinci system)
- Has been under development since 2013 and is on its 10th prototype
- Expected to launch the Hugo system in 2020 that includes a tower, surgeon console, surgical end effectors, and robotic arm cart



Key Aspects to the Hugo

- Modularity-Arms are modular and on wheels allowing flexibility to swapping parts. A surgeon could complete a procedure with one arm, push it away, and start a laparoscopic procedure still using the tower
- Universal use-The tower visualization system, generator, processors and endoscope can support both robot-assisted surgery and laparoscope applications
- Upgradeable-Designed so new components can be swapped for newer parts when available, without buying an entirely new system
- Open console-Open design allows surgeon to interact with patient or staff during procedures

Medtronic Hugo System





Important Information before you walk into the Hospital

- List of trays and instrumentation (issues)
- Floor plans
- Any other listings of equipment (i.e. camera heads, phaco heads, powered surgical instruments, ridged scopes etc.)
- Building lease (for lease terms, etc.)
- Equipment leases (operating and capital)



Important Information

- Whether the OR tables, sterilizers, etc. are “original”, “rebuilt”, “remanufactured”, “new” etc. – can affect value.
- Do the sterilizers have incorporated (individual) or external boilers (shared or dedicated)
- Expensive items may be in drawers, cabinets etc.what is your policy?
- Is the item within specifications/has it been recently checked? (biomed tag) – Not useful unless it is

Important to know how to Categorize your Assets



Valuation Issues

- Where the item is in its technology curve is more important than age
- Continually changing market place
- Values are sporadic and can vary greatly over time
- RCNs for many items are going down over time
- Very hard to “model” values (sporadic etc.)
- **No one should pay list! Each health provider can negotiate their own “deal”.
Example, GPOs**



Valuation Issues

- Planned and unplanned obsolescence (i.e., Steris System 1) – now system 1E (newer model). Need to be aware of what is going on in the industry (i.e., CT - \$10K)
- Reimbursements can effect value (i.e., Da Vinci robots)
- Restrictions on sale (Da Vinci robots - can they be sold??)
- Medical air compressors and vacuum pumps very expensive (not standard!)



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Role of GPOs in Healthcare

- In the 1980's, Congress endorsed Group Purchase Organizations (GPOs) as offering competition and lowered prices in the medical supply market.
- In recent years, the cost-savings benefits attributed to GPOs have been the subject of some debate based upon vendor-paid administrative fees may hamper GPOs from providing competitive benefits.
- The role of the GPOs are to source and negotiate prices for products and services through lower transaction costs and lower prices through joint negotiations.

Largest GPOs in the States

- **The 4 Largest GPOs in 2017;**
- **Vizient** (Irving, TX)-\$100 billion annual spend volume. Serves 50% of the nation's acute care providers. Also serves more than 20% of the nation's ambulatory market.
- **Premier** (Charlotte, NC)-More than \$50 billion annual spend volume. Members include 3,750 hospitals, which account for 76% of U.S. community hospitals, and more than 130,000 other provider organizations.
- **Health Trust** (Nashville, TN)-\$30 billion annual spend volume. Founded in 1999, HealthTrust members include 1,600 hospitals and more than 26,000 non-acute care sites in U.S. and U.K.
- **Intalere** (St. Louis, MO)-\$9 billion annual spend volume. Privately owned company was established in 1986 as Amerinet, but rebranded last year. Substantially owned by Salt Lake – based Intermountain Healthcare.

List Pricing vs. Institutional Quotation

#	Item Type	Model And Description	Kit Component(s)	Qty	List Price	Contract Price	Unit Price	Total Price
1	New	K10022086 : K10022086 WM-DP2 Standard Cart with CO2		2	\$9,550.00	\$8,162.70	\$8,162.70	\$16,325.40
2	New	MAJ-1638 : MAJ-1638 SCOPE POLE KIT WM-P2		2	\$464.50	\$374.92	\$374.92	\$749.84
3	New	MAJ-1641 : MAJ-1641 LCD MONITOR ARM WM-P2		1	\$1,510.00	\$1,201.20	\$1,201.20	\$1,201.20
4	New	CV-190 : CV-190 EVIS EXERA III VIDEO PROCESSOR		2	\$30,100.00	\$24,206.00	\$24,206.00	\$48,412.00
5	New	CLV-190 : CLV-190 EVIS EXERA III LIGHT SOURCE		2	\$17,400.00	\$13,923.00	\$13,923.00	\$27,846.00
6	New	MAJ-1430 : MAJ-1430 VIDEOSCOPE CABLE EVIS EXERA II		2	\$3,210.00	\$2,575.30	\$2,575.30	\$5,150.60
7	New	MAJ-1918 : MAJ-1918 REMOTE CABLE PERIPH DEVICE 1.8M		2	\$24.50	\$19.38	\$19.38	\$38.76
8	New	MAJ-1916 : MAJ-1916 CV-190 INTERFACE CONVERT DEVICE		2	\$890.00	\$715.26	\$715.26	\$1,430.52
9	New	55645L10-1 : 55645L10-1 10"CV- 140/160/190 DIGI FILE		2	\$196.00	\$158.34	\$158.34	\$316.68
10	New	OBCU : OBCU OLYMPUS BALLOON CONTROL UNIT (120V)		1	\$20,500.00	\$16,471.00	\$16,471.00	\$16,471.00
11	New	QFP-2 : QFP-2 FLUSHING PUMP		2	\$2,270.00	\$1,713.26	\$1,713.26	\$3,426.52
12	New	GIF-HQ190 : GIF- HQ190 EVIS EXERA III HDTV DF NBI		3	\$48,500.00	\$39,039.00	\$39,039.00	\$117,117.00
13	New	PCF-H190DL : PCF- H190DL W/ SCOPEGUIDE		3	\$53,100.00	\$42,770.00	\$42,770.00	\$128,310.00
14	New	CF-HQ190L : CF- HQ190L EVIS EXERA III HD COLONOSCOPE		2	\$53,100.00	\$42,770.00	\$42,770.00	\$85,540.00
15	New	GIF-XP190N : GIF- XP190N ULTRA-SLIM SCOPE, 4-WAY, NBI		1	\$43,800.00	\$35,308.00	\$35,308.00	\$35,308.00
16	New	GF-UCT180 : GF- UCT180 Curvilinear EUS scope, 3.7 mm		4	\$107,700.00	\$88,042.99	\$88,042.99	\$352,171.96
17	New	MAJ-2056 : MAJ-2056 DETACHABLE CABLE FOR EUS&EBUS S		2	\$10,600.00	\$8,472.10	\$8,472.10	\$16,944.20
18	New	ARIETTA 850 :		2	\$267,000.00	\$242,970.00	\$242,970.00	\$485,940.00

List Pricing vs. Institutional Quatations

#	Item Type	Model And Description	Kit Component(s)	Qty	List Price	Contract Price	Unit Price	Total Price
19	New	Exclusive Olympus Config EUS Processor AR850 ELASTOGRAPHY : AR850 ELASTOGRAPHY SOFTWARE		2	\$30,000.00	\$27,300.00	\$27,300.00	\$54,600.00
20	New	TJF-Q180V : TJF-Q180V VIDEO DUODENOSCOPE NBI, GUIDEW		3	\$50,400.00	\$39,406.80	\$39,406.80	\$118,220.40
21	New	SIF-Q180 : SIF-Q180 SMALL INTESTINAL VIDEOSCOPE WIT		1	\$52,400.00	\$42,224.00	\$42,224.00	\$42,224.00

* DENOTES OPEN MARKET ITEM
 Pricing may be based on a local agreement or the following contract(s):
 Vizient CE2834 GI Tier 4

	<i>Total List Price: (Before Trade-Ins)</i>	\$1,854,620.00
MEDICAL CENTER		
Signature: _____	Total Net Price: (Before Trade-Ins)	\$1,557,744.08
Name: _____	Total Trade-In Value:	\$0.00
Title: _____	Sub Total:	\$1,557,744.08
Effective Date: _____	Freight:	\$1,272.11
Purchase Order #: _____	Grand Total:	\$1,559,016.19

Olympus CV190/CLV190 Video Processor & Light Source



Olympus GIF-XP190 Gastrointestinal Scope





Cost Approach using Indices from a Reliable Source

- Databases, Tables & Calculators by Subject
- Series Id: WPU1562
- Item: Surgical and medical instruments

Year	Annual	2019 Base Year Index
2009	136.6	1.04
2010	137	1.03
2011	136.4	1.04
2012	137.3	1.03
2013	138.1	1.03
2014	137.3	1.03
2015	138.9	1.02
2016	141	1.00
2017	140.9	1.00
2018	141.6(P)	1.00

- **TOOLS OF LAST RESORT**
- **FOR THE APPRAISER**

Weighted Effective Age

Purchase Date	Cost	Circa	Index	THC	Weighted THC
2006	\$500,000	10.0	1.00	\$500,000	\$5,000,000
2013	\$76,000	7.0	1.05	\$79,800	\$558,600
2015	\$89,000	1.0	1.07	<u>\$95,230</u>	<u>\$95,230</u>
				\$675,030	\$5,653,830
				Effective age= Weighted THC total/THC Total = \$5,653,830/\$675,030=8.38 years	



Samples of Incurable Functional or Economic Obsolescence

- **Examples:**
- Can an asset be upgraded from analog to digital capability? If not, this may be considered incurable **functional** obsolescence based on the diagnostic modality required.
- Should the original version of a CT Slice capability be less than 16 Slices and **can not** be updated to the higher slice count required by Health Departments for reimbursement due to radiation exposure (**functional and also economic**) could be considered a form of incurable functional obsolescence.



Diagnostic Related Group (DRG)

- Patient classification system that standardizes prospective payment to hospitals and encourages cost containment initiatives. In general, a DRG payment covers all charges associated with an inpatient stay from the time of admission to discharge.
- There are over **740 DRG** categories defined by the Centers for Medicare and Medicaid Services (CMS). Each category is designed to be "clinically coherent".



Challenges to Reimbursement

- **CMS uses standardized coding systems to help process these claims.**
- **Coding is used to translates the various care settings for medical devices used into the language needed for payment.**
- The U.S. reimbursement scheme is based on the Healthcare Common Procedure Coding System (HCPCS) that CMS derives from broader systems.



Challenges to Reimbursement

- 2015 U.S. OPPS vs. ASC reimbursement schedule:**

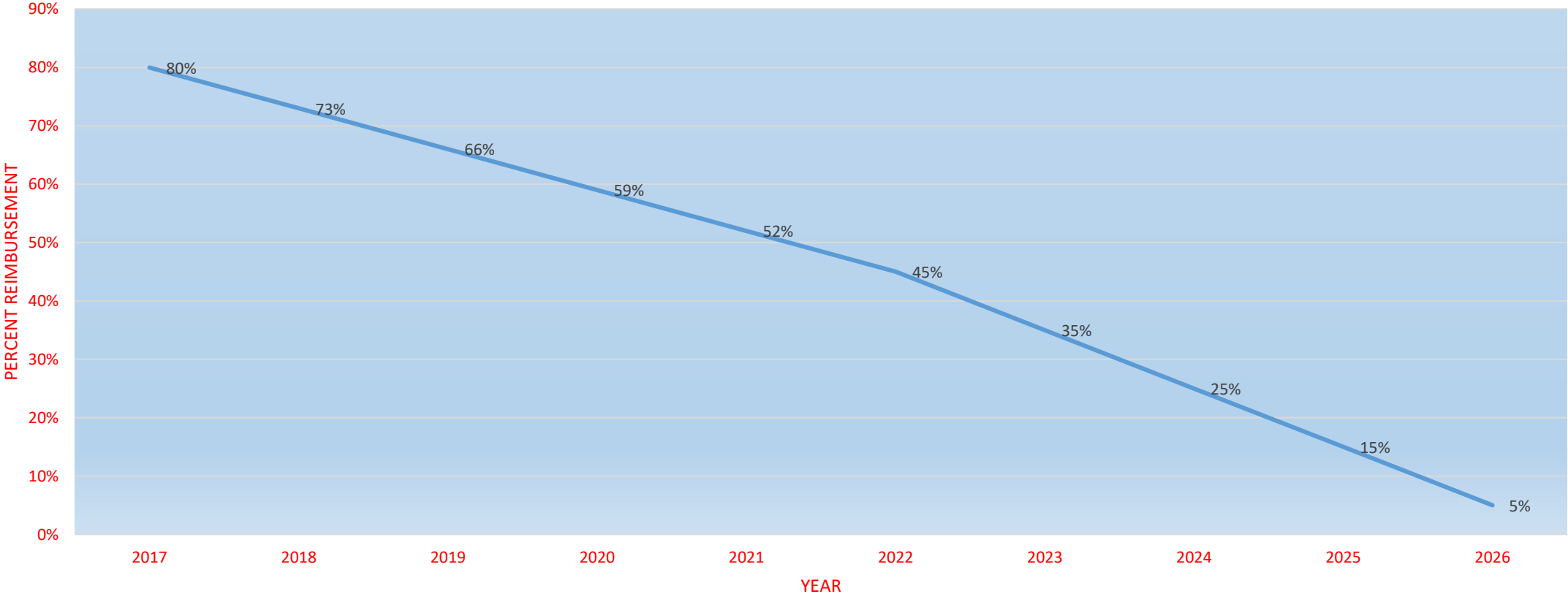
- Ultrasound of Kidney, CPT 76770, \$134.80/\$73.92
- MRI of Abdomen
w/o contrast, CPT 74181, \$286.30/\$156.99
- CT Head with contrast, CPT 70460, \$240.83/\$104.54,
w/o contrast, CPT 70450, \$119.97/\$65.78,
with and without, CPT 70470, \$269.60/\$127.09

Lease Justification over Time

Month	Start Balance	Principal	Interest	Payment
1	\$500,000.00	\$6,456.86	\$4,166.67	\$10,623.52
2	\$493,543.14	\$6,510.66	\$4,112.86	\$10,623.52
3	\$487,032.48	\$6,564.92	\$4,058.60	\$10,623.52
4	\$480,467.56	\$6,619.63	\$4,003.90	\$10,623.52
5	\$473,847.94	\$6,674.79	\$3,948.73	\$10,623.52

Medicare Reimbursements – Value Effects

ANALOG RADIOLOGY REIMBURSEMENT



2013 Philips Brilliance Big Bore 16 Slice CT



Collection of Data for CTs

Manufacturer	Is it currently installed?
Model	Is it operational?
Serial Number	Number of slices on X-ray tube
Date of Manufacture	Number of slices on gantry
Installation Date	Scan rotations on gantry
	Original generator?
Computer/Workstation Model	
Console software version	
Does it have an independent workstation?	
If Yes, what model?	
Software options: select what applies	
3D	
Angio	
MPR	
Bone	
CT Fluoro	
Cardac	
Is the system still supported by the OEM?	
	Name of service provider
	Site ID
	Contact name
	Phone number
Accessories:	
Laser camera and model	
CT injector and model	
Phatom Simulation equipment	
List any upgrades	

2010 Toshiba Vantage Titan MRT-1504



Collection of Data for MRs

Manufacturer	Is it currently installed?
Model	Is it operational?
Serial Number	Tesla Rating?
Date of Manufacture	Helium or Hydrogen Refrigerant
Installation Date	Long or Short Bore?
	Has the MR Tube been replaced?
	Original magnet?
Computer/Workstation Model	
Console software version	
Does it have an independent workstation?	
If Yes, what model?	
Is there ACGD gradiance package	
Is the system still supported by the OEM?	
	Name of service provider
	Site ID
	Contact name
	Phone number
List of Coils and whether they are 4 channel, 8 channel or 16 channel units:	
Laser camera and model	
MR injector and model	
Phantom Simulation equipment	
List any upgrades	



Associated Direct Costs

- **Direct Costs:** Directly Applicable to Individual Assets
 - Freight
 - Rigging and moving
 - Electrical
 - Foundations
 - Gas Supply Systems and Fixtures Connections
 - IT
 - Labor for erection
 - Sales tax if applicable

2011 Varian TrueBeam Linear Accelerator





Collection Data

- **Linear Accelerator Questionnaire**
- Primary Contact: Facility:
- Phone: Address:
- Email:
- Technical Contact: Title: Phone:
- Service Provider: OEM Service ID: Phone:
- **System Information**
- Manufacturer: Model:
- Serial Number: Manufacture date: Install Date:
- Estimated Removal Date: Standard Rig-Out (no stairwells, stairs, cranes, etc. req'd)? Yes No*
- Is the system installed? Yes No Operational? Yes No Software Version:
- What type of record and verify software is the unit configured for?
- Photon Energies: _____
- Electron Energies: _____
- Beam Hours: _____
- Filament Hours: _____



Collection Data

- **Linear Accelerator Questionnaire**
- Accessories Version: Couch Type: System Scale: Varian IEC
- Independent Jaws:
- Dual Single None
- Base-Frame Style:
- Standard 36" VEO 52" VEO "Dropping-Floor"
- Included in Sale?
- Yes No
- **Primary Components: Have any of the following been replaced?**
- Thyatron: Yes, on: _____ No Klystron/Magnetron: Yes, on: _____ No
- RF Driver: Yes, on: _____ No Waveguide, Gun & Target: Yes, on: _____ No
- **Installed System Options Installed System Options Accessories and Additional Opt**
- 4D Workstation DMLC Software
- Multi-Leaf Collimator, Type:
- 80MKII 80Mill 120
- 120HD Other
- AFS Software/XVI
- Portal-Vision, Version: _____
- PV Unit Configuration:
- Separate Workstation
- R-Arm or E-Arm option
- Beamstopper (retractable)

Be Aware of the Difference of Values over Time

General Electric New

CT Model	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
64 Slice	1,500,000	1,350,000	1,200,000	1,050,000	900,000	820,000	730,000	650,000	575,000	505,000
64 Slice % Good	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

General Electric FMV

CT Model	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
64 Slice			750,000	650,000	525,000	450,000	390,000	340,000	285,000	240,000
64 Slice % Good			63%	62%	58%	55%	53%	52%	50%	48%

General Electric OLV

CT Model	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
64 Slice			490,000	420,000	350,000	300,000	260,000	210,000	170,000	135,000
64 Slice % Good			41%	40%	39%	37%	36%	32%	30%	27%

Measuring Functional and Economic Obsolescence over Time

Description	Make	Model	Serial No.	Circa	OC	Index	RCN	% good	DEC	FMVI	OLV
Computerized Tomography System, 64 Slice, Aquilion 64 CFX Fast Whole Body Scanner, 100 kVA, DICOM 3.0 Standard, 0.4 Second Full Rotation, with MegaCool X-ray Tube, CT Phantom, Wedges, Pads, Head Supports, and Power Conditioner, including:	Toshiba	TSX-101A	ELA05Y2211	Nov-05	\$ 1,467,520	35%	\$ 515,000	46%	\$ 238,445	\$ 238,150	\$ 132,000
Gantry, Aquilion 64 Series, 72 cm Aperture, 25kVA	Toshiba	CGGT-019B	2AB05Y2036	Nov-05						Included	Included
Patient Long Couch, Aquilion 64 Series	Toshiba	CBTB-019A	1AA05Y2362	Nov-05						Included	Included
Console, 8kVA	Toshiba	CKCN-012B	2AA05Y2379	Nov-05						Included	Included
Generator, 85 kVA	Toshiba	CXXG-008A	3AA05Y2098	Nov-05						Included	Included
Imaging Viewing Workstation Console Desk, 65" x 36", with H/P 2035 Flat Screen Monitor and Keyboard	Hewlett Packard	Workstation xw8200	Not Visible							Included	Included
System Software, V2-04R008	Vital Images Inc.	Vitrea 2 Ver 4.1.2.0 by Vital	Not Applicable							Included	Included



Comparison Sources, are they Relevant?

- New equipment dealers or Used equipment dealers
- www.dotmed.com
- www.medwow.com
- www.labx.com
- www.medused.com
- www.prizmedimaging.com
- www.ebay.com
- www.mdpublications.com
- www.slapsale.com
- www.dimesllc.com

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Auction Item Listing



GE OEC 9800 Plus Mobile C-Arm (Loc: Ground Floor Radiology)
Lot # L43934, Item # 143219
Seller: AffinityMedHHS (Affinity Medical Center Surplus Equipment-Massillon)

Time Left	AUCTION IS OVER Friday, March 30, 2018 CST
Current Bid	US \$34751.00 [77] e***2
Buyer Premium	13.00% Watch Item
Location	Massillon , Ohio , 44646 Email to friend
	United States

Description	GE OEC 9800 Plus Mobile C-Arm unit was operational as of the time of auction setup
Removal	All winning bidders must also complete the Bill of Sale in order to remove your items from the hospital. If you do not send your completed for you wont be allowed removal and no refunds given. Click here to fill it out goo.gl/me7hYg and send the completed... [view all]
Inspection	By appointment only. Please call 512-482-0270 for an appointment. Location: 875 8th St NE, Massillon, OH 44646



True Lease (Operating Lease)

- A lease that qualifies as a lease under the Internal Revenue Code so that the lessee can claim rental payments as tax deductions and the lessor can claim the tax benefits associated with ownership, such as depreciation and other benefits
- The lessor is the owner of the equipment and has an “at risk” position in regards to the equipment.
- The benefit is a lessee does not have the assets on the lessee’s balance sheet, thus increasing the lessee’s liquidity ratios.

Understand the Written Provisions of the Lease

- The appraiser needs to:
 - Determine who is responsible for the de-installation and shipping of the equipment.
 - Have a valuation date identified, which is normally consistent with the timing of the return of the equipment.
 - **NOTE:** Value date refers to whether the equipment has to be moved on the day after expiration or if the equipment can remain on the lessee's property for a period of time to enable the lessor to sell the equipment from that site.



Residual Value Considerations

- **Description of the Equipment**
 - A. Special or limited use
 - B. Manufacturer and model
 - C. Year of manufacture
 - D. Number of units manufactured
 - E. Number of units on lease
 - F. Original costs
 - Hard costs
 - Basic cost of machine itself
 - Soft costs
 - Generally not recoverable in fair market value concept; e.g., freight, taxes, installation, financing

Portfolio Analysis

- Appraisers can be used to do a review of a lessor's portfolio to determine whether it protects the lessor by the underlying equipment values.
- Lessors review their leases on an annual basis for FASB and to start establishing reserves for any losses.
- By reviewing the residual position on each lease, gives the lessor the option to try to renegotiate the lease agreement or reserve for a potential loss.



What Lies Ahead?

- **Reimbursement vs. Price**
- More Cuts in Reimbursements?
- Will Technology Costs Decrease?
- Will Technology Continue to be an Enabler?
- Utilization vs. Optimum Patient Care Results.

Healthcare Will Effect Us All in Some Way, Understand It!

