

## Cost Comparison: Hospital-based Versus Freestanding Outpatient Imaging Services

As the imaging marketplace considers the move toward more cost-efficient delivery of high-quality imaging, understanding and comparing where the two major imaging market segments stand, relative to the cost of delivery, has bearing on both profitability and accountability.

**Introduction:** This second installment of the Imaging Market File quantifies the cost variance between hospitals and freestanding centers by comparing four major

direct-expense lines in imaging operations: staff benefits and costs, supply costs, depreciation, and other direct costs. This by no means represents the total cost of operating imaging services. This analysis does not include indirect costs, such as facility costs, administrative costs, and imaging IT hardware and software. These results (Figures 1–4) represent a total of 55 unique locations (33 hospitals and 22 imaging centers), more than 2.3 million exams, and nearly \$1 billion in revenue during 2009 and 2010.

**Staff and benefits cost:** For hospital calculations, staff and benefits costs generally include clinical personnel related to delivering imaging services (technologists, nurses, and technologist aides). Administrative personnel and physicians have not been included in the data, as they are typically allocated as overhead expenses that cannot be attached to any one service line or modality.

For freestanding imaging providers, staffing costs are usually not broken out between clinical and administrative functions. Regents Health Resources (Franklin, Tennessee) used its knowledge of staffing levels, compensation, and benefits at various facilities and, based on volume, determined that the average staff expense for freestanding imaging providers is split 70% for clinical staff and 30% for administrative staff. These percentages were applied to any facility that did not provide delineated clinical and administrative staff cost data.

**Supply cost:** Supply costs reflected in these data are directly related to volume and are therefore variable, based on exam volume. Factors affecting a provider's ability to have an impact on supply costs include purchasing power (either through group purchasing organizations or corporate supplier agreements), exam mix, physician preferences and protocols, and overall staff efficiency.

In addition, freestanding imaging facilities typically do not break out supplies by modality. Advanced imaging, however, tends to have higher supply costs; therefore, Regents Health Resources used revenue by modality as a means of assigning supply costs to each service. The supply costs are variable based on volume and are allocated based on revenue.

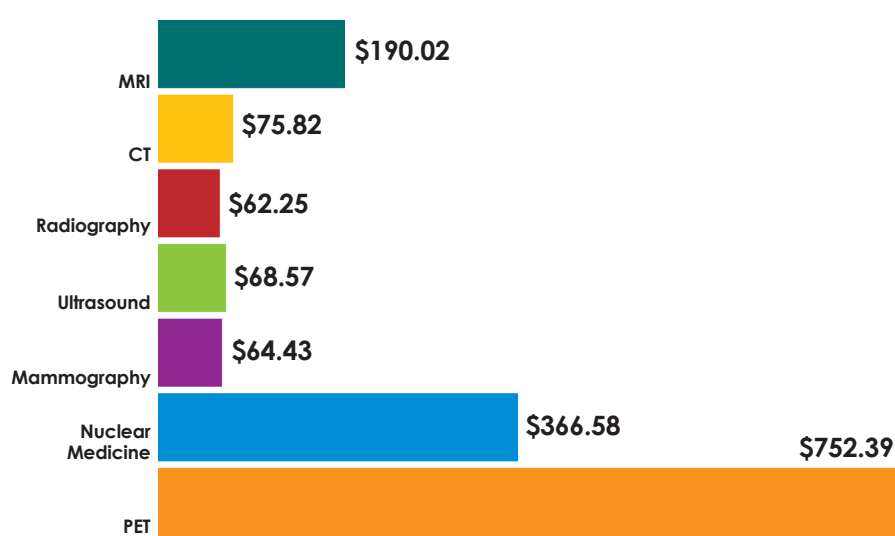


Figure 1. Average expenses per procedure, by modality, in the hospital setting.

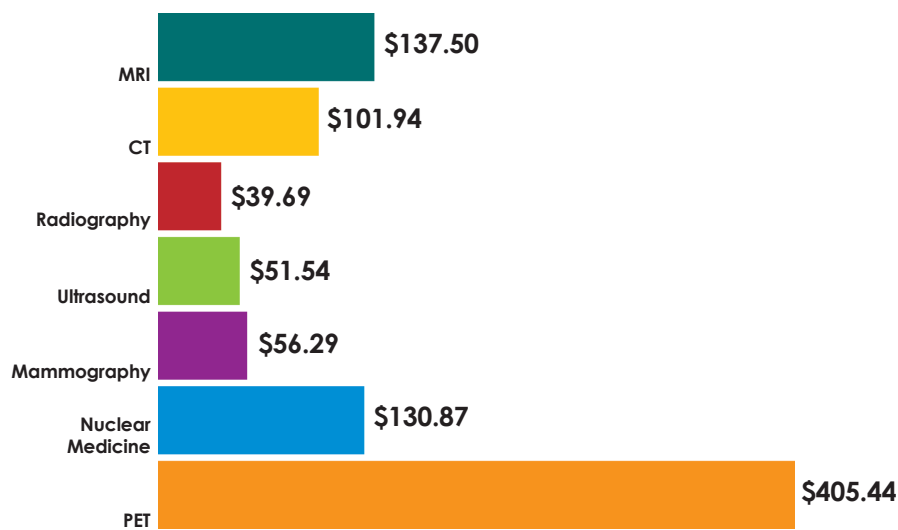


Figure 2. Average expenses per procedure, by modality, in the freestanding-imaging-center setting.

**Depreciation cost:** Depreciation generally refers to an accounting concept that provides for the reduction in value of an asset or the partial use of an asset over time. In determining the net income from an operation, the assets and their associated cost of use must be considered. Depreciation provides a method for calculating the usage cost of an asset, to be spread out over its usable lifetime (rather than considered all at once). It allocates a portion of the cost of an item to each year that the asset helps generate income. Depreciation terms for imaging equipment typically range from five to seven years, based on the apportioning methodology used in accounting.

It is possible to depreciate an asset completely, yet keep the asset in operation, thereby reducing the depreciation-expense line item. The total depreciation-expense line could be interpreted as a gauge for an organization's ongoing investment in technology or facilities.

**Other direct costs:** Several categories of expenses are represented here. It is important to note that freestanding imaging operators can most often quantify the cost of the facility, whereas hospital-based imaging operations see an allocation-expense line item that encompasses many items to account for the overhead needed to support imaging as part of a much larger organization. Therefore, in order to present a more accurate comparison, any rent or space allocations were removed from both datasets, as were office expenses and general administrative costs. Repair and maintenance costs for equipment are included, but PACS costs are not, due to the variability of delivery and cost models.

**Summary statement:** When comparing the average expenses per procedure of hospital-based outpatient imaging and freestanding outpatient imaging, freestanding sites appear to be performing all modalities more cost-effectively, even with administrative

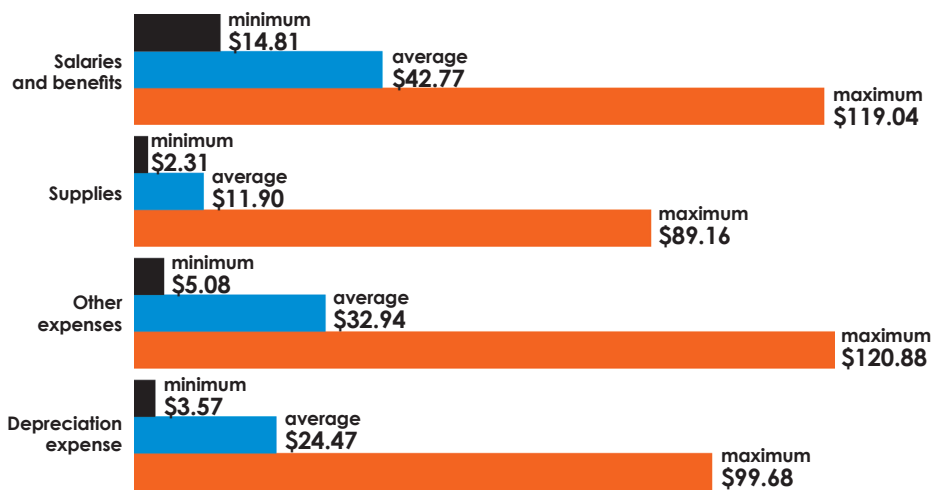


Figure 3. Expenses per procedure for each direct-cost category in the hospital setting, including minimum, maximum, and average costs.

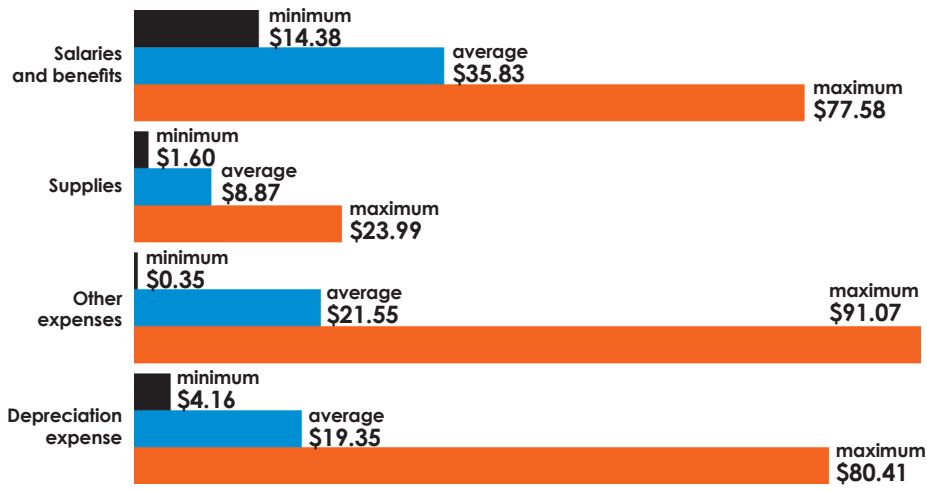


Figure 4. Expenses per procedure for each direct-cost category in the freestanding-imaging-center setting, including minimum, maximum, and average costs.

<b>Average expense, hospital:</b>	<b>\$85.78</b>
<b>Average expense, imaging center:</b>	<b>\$69.33</b>

and facility costs removed to normalize both settings.



**About the sponsor:** Regents Health Resources was formed in 1996 to assist hospitals and physicians in the development and management of their medical-imaging and oncology services. The consultancy has served more than 500 clients nationwide with a diverse range of services, from strategic planning and operational assessments to joint-venture planning, valuations, and imaging-center sales and acquisitions. [www.RegentsHealth.com](http://www.RegentsHealth.com)



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