

Community Picture Archiving and Communications Systems: Burgeoning Market

Stacilee Whiting and Ben Brown

Choosing a Picture Archiving and Communications Systems (PACS) is tougher than it used to be. More and more vendors are offering solutions in the smaller hospital space, and analyzing the sheer number of vendors, the various technology choices and breadth of product offerings is challenging.

However, even the smallest healthcare organizations are documenting the return on investment (ROI) from reduction in film and film storage costs, reduction in lost films, and an increase in radiologist and physician satisfaction and productivity. The bottom line – there should be a PACS solution that can meet most organizations' needs and pocketbook.

Recently KLAS released a study on the community PACS offerings. The 2007 community PACS report looks specifically at hospitals with 200 beds or less. PACS is a market that KLAS has been monitoring since 2001 and, due to market demands, one where vendor performance in either community hospitals or ambulatory has been gathered and reported separately since 2004. Among the study findings are data on current trends, vendor performance, functional ratings and positive versus negative provider commentary.

Current Trends

The PACS market has grown considerably over the past few years. There has been a significant increase in both the number of providers seeking solutions and in vendors offering solutions in the community hospital market.

One obvious factor affecting market growth is that image volumes have exploded in recent years. There are, however, less obvious reasons as well. Among these is the fact that community hospitals are now ready and able to purchase PACS solutions in a way that they were not before.

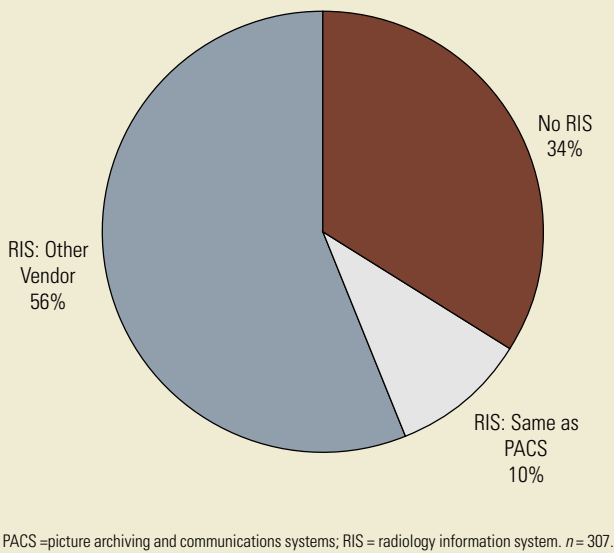
Not only is it becoming difficult for small hospitals to stay competitive without PACS, but ROI on PACS purchases has been clearly established and costs have been reduced or creatively financed, making PACS purchases more feasible for smaller hospitals. Many vendors have started offering more flexible financing, including fee-per-study, floating license concepts, application service provider (ASP) and leasing options, frequently reducing the initial capital outlay or lowering the total cost of ownership and making it more enticing for providers to buy.

Lower pricing and better financing options have been crucial to hospitals looking to purchase a PACS in the cash-strapped

community marketplace. This is underscored by the fact that cost was the number one purchase driver among providers in the most recent KLAS Community PACS study.

Another trend is that many of the PACS vendors that didn't offer a radiology information system (RIS or RIS functionality) now do, either through internal development, a recent purchase or a partnering arrangement. RIS/PACS integration is still one of the key issues being talked about; however, there are not yet enough data to determine whether having an integrated RIS/PACS or at least having both systems from a single vendor is a material advantage. The vendors do have different strategies, and this issue requires individual assessment. Currently, more than half of study participants report using a different RIS vendor than their PACS solution vendor (Figure 1). In addition, 34% of respondents do not currently use an RIS. This will be an interesting issue to watch in the coming months and years, and KLAS will continue to report on developments.

Figure 1. Participants' report of vendor sources for PACS and RIS



Adding to the current trends, PACS is no longer solely a radiology solution. Today's discussions involve enterprise image and information management solutions that can combine the content and workflow of RIS, PACS, speech scheduling along with other image intensive departments. While some talk about areas such as women's care, nuclear medicine, oncology or pathology, many of the community hospitals either don't offer these services or have the necessary digital equipment. To those organizations which are expanding, cardiology is usually the primary area of interest.

Overall Vendor Performance

While many community hospitals are looking at PACS, as mentioned earlier, making decisions on a system can be trying. One helpful step is to review performance scoring in conjunction with the hospital's priorities and goals.

When it comes to individual performance scoring KLAS finds much commonality on the high side of the scores and variability on the low side. In addition, a gross appraisal of the 40 indicators KLAS measures provides (1) additional insight into the market and its ability to deliver and (2) the beginning basis by which to evaluate any vendor:

- Areas where vendors generally score alike and high are quality of interface services, meeting of deadlines, system response times, timeliness of implementation, implementation is within budget/cost, quality of implementation staff, worthiness of the effort, long-term plan, a fair contract, completion of the contract and support costs as expected.
- Areas where they generally score alike and low are quality of releases and updates, quality of documentation and vendor improvements.
- Areas that are differentiators are quality of custom work, proactive service, real problem resolution, quality of training, executives interest, timely enhancement releases and ranking as client's best vendor.

While Community PACS is one of KLAS's highest scoring market segments and individual vendor performance scoring is solid there is room for improvement. Only two vendors score outside of the 80s in a 100-point scale: DR Systems who leads the pack with a high score of 91.1 and Merge who trails the group with a score of 69.6 (Figure 2).

It is interesting to note that the longer someone is "live" with a PACS system, the lower they score it. KLAS found no vendor who scored higher at the 4+ year mark than in previous years (however, DR Systems and Sectra come close) (Figure 3). This fact seems to be related to higher expectations by seasoned users as in today's desire for advanced visualization or extension of PACS into areas such as cardiology.

Functional Strength

Functional strength ratings, which measure the strength of a product's features and functions on a scale of 1 to 5, revealed that the vendors collectively do very well with up-time and reliability, teleradiology, workflow and remote image and report access for referring physicians.

However, the ratings indicate there is work to be done with PACS administrative tools, which lagged noticeably behind with a score of 3.8 out of 5.0, compared to all other functionalities which scored from 4.3 to 4.5.

When asked what functionality was missing from their PACS, half of providers (50%) said “nothing,” but others were

quick to point out necessary improvements. The most frequent suggestions for improvement (all at 14%) were administrative reports, cardiology and nuclear medicine tools.

Lack of 3-D and multiplanar formatting technology followed at 8%. This finding is relevant as PACS solutions move towards adopting and integrating advanced visualization (AV) functionality. While still an early trend, many PACS solutions, either innately or through tight application programming interfaces (APIs), are adding advanced visualization functions that have historically been done by a separate workstation. Although adoption among providers is very low, 3-D volume rendering is the most likely AV technology to be offered by a PACS vendor, followed by true nuclear motion, then positron emission tomography and computed tomography fusion.

Figure 2. Overall vendor scoring

Rank	Vendor	Performance Score (Out of 100)
1 st	DR Systems	91.1
2 nd	Sectra	89.9
3 rd	Dynamic Imaging	89.0
4 th	Infinitt	88.9
5 th	Agfa	86.6
T6 th	McKesson	86.2
T6 th	Philips	86.2
8 th	Nova Rad	85.9
9 th	FUJIFILM	85.0
NA	Community PACS Average	84.6
10 th	GE	82.9
T11 th	AMICAS	82.7
T11 th	Aspyra	82.7
13 th	BRIT Systems	82.2
NA	KLAS HIT Average	80.4
14 th	Merge	69.6

Provider Commentary

The comments providers make about their PACS solutions are also telling. Overall, Community PACS vendors received an average of 63% positive comments, which is one percent higher than the average for all HIT vendors that KLAS studies.

However, while the overall average is in line with normal IT scoring, when KLAS drills down into a vendor-by-vendor comparison, it is interesting to note that only six of the 14 vendors scored above average for positive commentary.

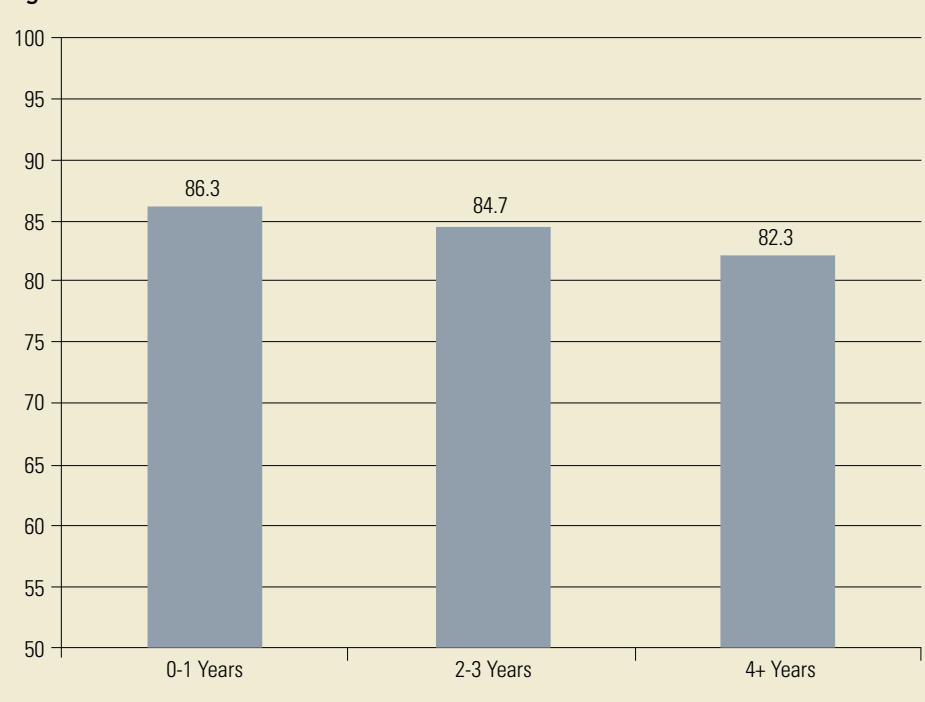
The most common complaint about vendors was concerning the sales and contracting process. More than 70% of providers reported negative experiences with sales and contracting.

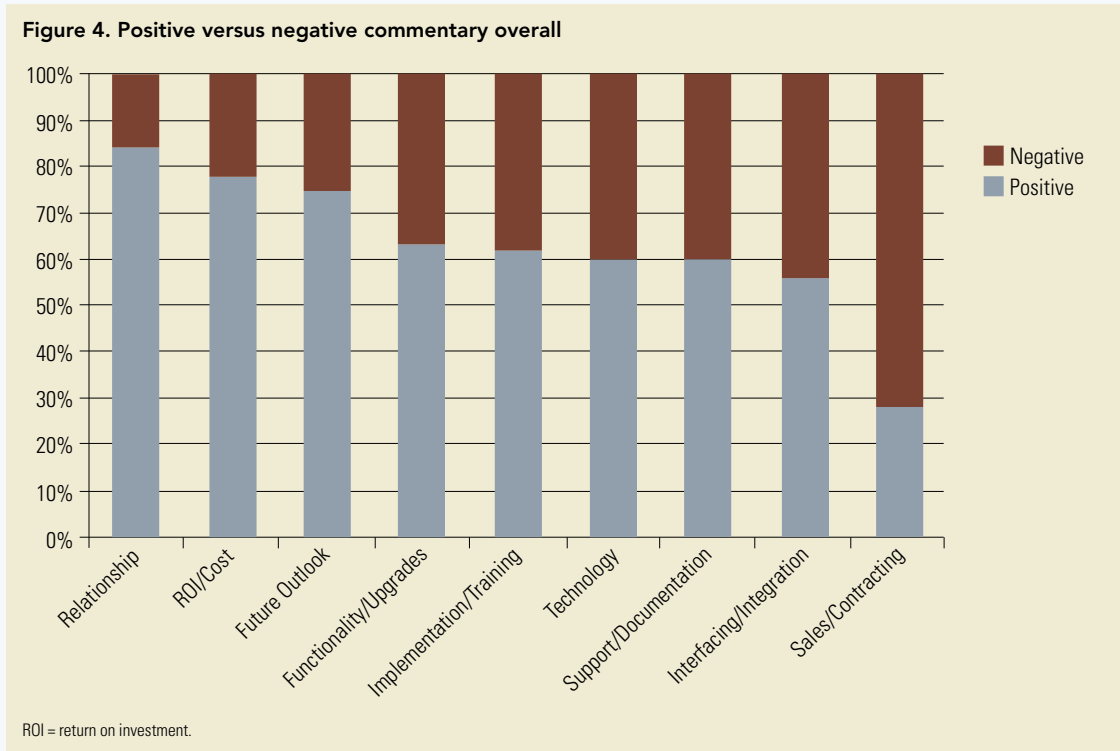
Among the other trouble spots were interfacing/integration, support/documentation, implementation/training and functionality/upgrades (Figure 4).

The good news is that over 80% of providers reported positive relationships with their vendors once the contracting process is over, and 78% reported positive results concerning ROI/cost.

In summary, while choosing a PACS vendor for the community hospital setting is challenging, there usually is a vendor that is right for your goals and pocket-book. With careful attention to market trends, vendor performance and functionality, you’ll be better poised to make the decision that’s right for your organization.

Figure 3. Years live versus overall score





About the Author

Stacilee Whiting is the manager of corporate publishing for KLAS, Orem, Utah.

Ben Brown is Director of PACS Research for KLAS.

About KLAS

KLAS, founded in 1996, is the only research and consulting firm specializing in monitoring and reporting the performance of healthcare’s information technology (HIT) vendors and products. Our senior management staff and advisory board average 25 years of healthcare information technology experience.

How We Serve the Healthcare Industry: KLAS, in concert with thousands of healthcare executives, CIOs, directors, managers and clinicians, has created a dynamic database of information about the performance of HIT vendors. The KLAS database represents the opinions of healthcare executives, managers and clinicians from over 4,500 hospitals and 2,500 clinics on more than 750 different products. The information is continually refreshed with new performance evaluations and interviews daily.

The KLAS database is dynamically and effectively used by:

- Healthcare organizations, to align expectations with a vendor’s actual performance, to assist in strategic planning and contract negotiations and to validate decision processes

- Vendors, to monitor their performance in comparison with competitors
- Consultants, for current performance information on a specific company or product
- Healthcare investment firms, to evaluate publicly traded HIT company performance and trends or the competition for a new entrant.

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The Health Information Bank: Revisiting Bill Dodd's Idea of 10 Years Ago

Denis Protti

Ten years ago a Scottish general practitioner, Dr. Bill Dodd wrote a paper in the *British Journal of Health Computing* titled "An Independent 'Health Information Bank' Could Solve Data Security Issues." It was a groundbreaking piece of thinking and has since been picked up by others over the years. Though some of the terminology used (e.g., Electronic Patient Record) has since been dropped from the English vocabulary, the essence of the paper still resonates with many readers.

Everything I Know About Informatics, I Didn't Learn in Nursing School

Lynn M. Nagle

In the past decade, nursing informatics leaders have developed a profile of informatics competencies for nurses, novice to expert. Findings from recent studies (Nagle and Clarke 2004; Infoway 2007) suggest that a minority of Canadian schools of nursing have tackled the challenge of integrating informatics throughout their nursing curricula. When asked to respond to a recent survey (Infoway 2007), some schools decided not to participate because there were no faculty members with appropriate expertise in the area, while other schools did not regard informatics as relevant content for their program. Nevertheless, over the years, several schools of nursing have had the foresight to create a single informatics course – usually an elective – at the undergraduate or graduate level.

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