

A Vision for Imaging's Future



A White Paper Presented by:

Brian Baker, President
800-423-4935
www.RegentsHealth.com

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By Brian Baker

You and your wife are awakened at 2 a.m. by your 3-year-old son, who's screaming in his room. Hurrying to comfort him, you realize that he hasn't had a bad dream: He's running a fever and won't let you touch his abdomen.

You rush him to the ER, where he's seen immediately. His blood count is up and his fever is rising. The ER doc must restrain Jack before he can palpate his abdomen. He's rushed into surgery. Now you think you're the one having the nightmare.

While the docs have ordered surgery, they don't know what's causing the pain. It could be anything; Jack was a preemie and had digestive issues early on. This is purely exploratory surgery.

Wait a second. Exploratory surgery? Don't they realize the cost to the patient, in dollars and in risk?

There are no other options, say the doctors. The abdominal X-ray was inconclusive.

Confused? Most of you likely assumed that this was a modern scenario. Rather, it occurred in the early 1970s, before the paradigm changing technologies of CT and MRI.

Unfortunately, our health care culture--and we as health care consumers--have essentially taken for granted the ability of modern medical imaging to improve our lives. We can't afford to be complacent when contemplating the future of this valued segment of medicine.

Before exploring medical imaging's future too deeply, we as an industry must remind ourselves of our product: the radiologist's final report. We habitually call it "medical imaging," but it's really diagnostic imaging. Diagnostics are, fundamentally, troubleshooting for the care provider. We're merely diagnosing whether the patient has an issue. Diagnostic imaging is but a tool for the radiologist to create a definitive report. The same holds true for how we support oncologists.

With this in mind, we can better address two future macro challenges facing the medical imaging industry.

The Small Challenge

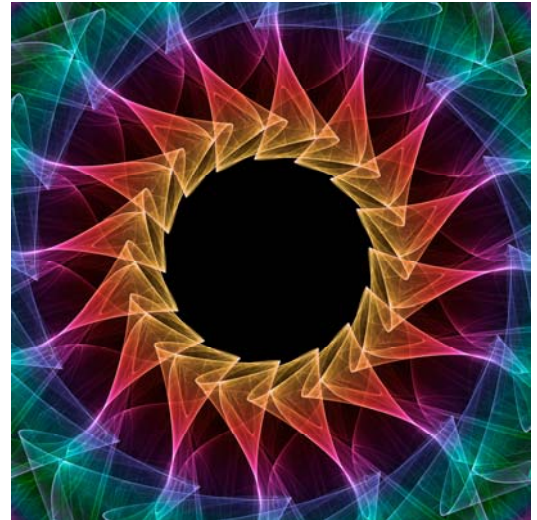
Imaging is a high fixed cost business. The devices are expensive to obtain, install and maintain, and they require costly support systems (IT/PACS/electronic medical records [EMR]) as well as highly trained staff. Many observers view these high costs as a barrier to entry or a hindrance to ongoing operations.

The Big Challenge

Imaging produces a relatively high return on investment (ROI) in two key areas:

- *Clinical productivity*--Disease-diagnosing capabilities continue to advance and growth continues. Between 2000 and 2001, advanced imaging grew 20 percent; between 2006 and 2007, it grew 12 percent.¹ The fastest-growing sector of advanced imaging is physician in-office utilization, with a growth rate four times that of hospitals.¹
- *Financial productivity*--The Deficit Reduction Act of 2005 (DRA), implemented in 2007, reduced Medicare payments by 12.7 percent. Overall utilization rose 3.2 percent.² The ROI for hospitals, physicians and entrepreneurs has been driving reinvestment and growth, and filling a clinical need. For many hospitals, imaging revenue keeps the doors open.

Here's the irony of our success: Because imaging has done a great job clinically and financially, we've become marked as a "rising health care cost." Unless we change and adapt, our future won't be as gratifying as our past.



When planning for imaging's future--and pondering the tools needed to best impact that future--we must consider a best- and a worst-case scenario. Ultimately, we'll end up somewhere in the middle.

The best-case future scenario can be summarized with three elements:

- Maintain reimbursement at current or near-current levels
- Maintain universal access
- Use imaging only when appropriate. appropriately

Dream on! Reimbursement still has a bull's-eye on it, even if you forget health care reform and consider just the March 1 expiration of the Medicare Sustainable Growth Rate (SGR) moratorium.

Universal access? We certainly don't have it today, with radiology benefits management (RBM) steerage, the poor economy and many Americans without insurance. But if we did, trying to accommodate all the new volume would be fun.

And appropriate imaging? That relates to the new Meaningful Use criteria. It's an interesting discussion for later in this article.

With further reimbursement reductions, the worst-case future scenario might look like this:

- Imaging locations close, new equipment isn't purchased and access declines.
- Manufacturers sell less equipment, reducing technology development and funding.
- Aging and stagnating technology, reduced quality and fewer locations cause long waits for poor-quality exams.
- The cost of care for the Centers for Medicare & Medicaid Services (CMS) and commercial payers drops dramatically, as does care itself.

Our future will involve several tweaks, adjustments and wholesale changes to the ways in which we do things today. But ultimately, our future will be largely self-fulfilling.

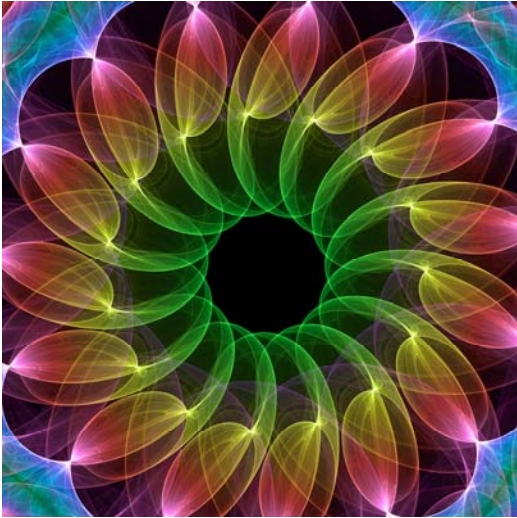
Communicating the Diagnosis

Let's start where our industry started: with technology and a need to communicate a diagnosis. Beyond merely imaging equipment, technology includes hardware, software, data and processes.

In the future, universal image and report access will be, well . . . universal. Software and more efficient hardware will become the rule--not just subject to the rules. For example, the Intermountain Health System has been working on a "longitudinal patient record" and experiencing challenges along the way. *"While we have been collecting and managing our patient and operational data, we have also struggled to mine that data for our patients and their physicians,"* says Deanna Welch, Intermountain's Corporate Director of Imaging Services. *"New technology has turned the data flow from a ripple into a tsunami."* The elements of a successful future, says Welch, include a universal image viewer; vendor-neutral image and data archive/access; clinician access to data; and easily accessed data presented to improve patient outcomes and clinical operations.

Her comments contain pearls of wisdom. Consider a "longitudinal patient record," for example. Almost any bank worldwide can access your "longitudinal financial record." While anyone other than the provider and ordering physician would have trouble accessing your health records unless you brought your own copy. The future will be different. Chasing data to improve care and processes is the proper direction.

Nationally, progress is underway. Late last year, the Obama administration reserved \$1.2 billion in grants to establish 70 technology extension centers to help providers choose and utilize technology in health care. The American Recovery and Reinvestment Act (ARRA) of 2009 earmarked \$19 billion over five years to promote health IT or



EMRs through the Meaningful Use Criteria as specified by the Health Information Technology for Economic and Clinical Health (HITECH) Act. Hardware and software vendors must address these criteria for providers to want their systems. Otherwise, providers risk financial penalties after the five-year implementation schedule. To survive, the vendors must respond. In other words, the Criteria will create the demand. Until now, the Certification Commission for Health Information Technology (CCHIT) hadn't been able to get its standards implemented universally across EMR vendors. But now that the preliminary rules for Meaningful Use have been published, CCHIT is aligning its certification criteria with that of the new Meaningful Use criteria. The tsunami of data is coming.

Imaging Hardware

Progress continues with imaging hardware. Computing power now doubles about every three years. That progress will drive the heretofore-impossible integration of imaging capabilities. Similar to what has happened with PDAs and smartphones, the lines between the capabilities of imaging modalities and treatment planning capability will blur. We're moving from detection and intervention via anatomical imaging to the day when functional imaging provides a means for prevention. In other words, we're moving from "detect and intervene" to "monitor and prevent." Expect teleradiology to benefit from this paradigm shift as progress drives ubiquitous advanced telerad capabilities, while primary care and insurers demand higher quality and subspecialization pooled with clinical decision support and analytics.

Technologists and Radiologists

Let's briefly consider professional services--and not just radiologists. Like radiologists, technologists face a future different from today. To survive financial hurdles, providers will attempt to lower their internal cost per procedure (CPP). This bid for efficiency will take the form of elegant new building designs, graceful workflow processes and additional responsibility for technologists. The technologist will require multifunctional training and certification that will enable expert work in multiple modalities at different locations. This scenario couldn't be more different from the radiologist's future.

A group of 30 radiologists with 12 outpatient imaging centers, Radiology Associates of Tampa/Tower Radiology Centers is the area's most dominant outpatient provider in addition to being the group of choice for a half-century at Tampa General--a level one trauma center. Tower CEO Larry Smith is feeling a shift in his market and with his group. *"To protect their financial viability, my docs realize they need to implement systems that allow scalability, access [for referring MDs] and efficiency,"* says Smith. *"While the referring MDs want subspecialization, not all the payers see the value. Our challenge for the next five years is . to invest in technology, making our rads more efficient as demand increases and working with our clinical teams to make them more efficient so we hold the line on costs."* He envisions an integrated clinical team. "Scalability" for the radiologists means subspecialization with general capability--at any location. How to hold the line on costs? Efficiency, training and communication as an integrated clinical team. Doing more with less. One way to accomplish that: Ensure that the same staff has more diverse training to better support the radiologists.

Reimbursement, Outpatient Imaging

Consolidation in imaging has become a major topic. With continued reimbursement pressure and limited access to capital hindering investment in imaging technology--amid rising consumer and professional demand--the future of the outpatient imaging center looks much different than today. In a statement last February, Llyse Shuman, managing director for the Medical Imaging and Technology Alliance (MITA), commented: *"We must ensure that patients have access to the right scan at the right time. The RBM model is the wrong approach."* The reason RBMs became involved in the first place relates back to our industry's "Big Problem." According to Peter Orszag, director of the Office of Management and Budget (OMB), *"The principal driver of our long-term deficit is rising health care costs."* Yes, imaging reimbursement has been going down, not up--but utilization has been on the rise, and this growth is causing imaging to be viewed broadly as "rising health care costs."

Moving forward, imaging utilization will be managed via clinical decision support tools and appropriateness criteria. For some providers, this means declining exam volume. With reimbursement already pinching the bottom line for smaller locations, their future viability is at risk. Expect fewer imaging locations, with those that survive providing a more comprehensive range of services. "Comprehensive range of services" sounds like a hospital, doesn't it? As more hospitals realize the value of a strong outpatient imaging program, they're evaluating their markets for change --including joint ventures with physician groups, entrepreneurs and outright acquisitions. The future will offer fewer locations for imaging with more diverse capability, customer-focused flexibility and operational efficiency.

Our imaging industry craves a stable, positive future--and many of the tools we need to create that future are more available than ever. But because of our "Big Problem," our industry has been hesitant to adopt these tools and adapt the business. Some would ask, "Why mess with success?" I would submit that this success has created our mess.

Diversified skill sets, meaningful, easy access and clinically relevant data--along with visionary business leadership and integrated, sub specialized professional services--are tools we can all use today to both define our future in imaging and keep young Jack out of the operating room.

References

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As a strategist and serial entrepreneur, Brian has enjoyed over twenty-seven years in the Medical Imaging and Technology sectors of healthcare. Today, as President for Regents Health Resources Inc., he uses his unique vision for customer service and growth opportunities to focus on business strategy and development for Regents clients. Brian regularly writes and speaks on healthcare related topics for clients and industry publications.

**Regents Health Resources, Inc
810 Crescent Centre Dr., Suite 100
Franklin, TN 37067
800-423-4935 | 615-550-2578 (f)
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