Mammography's Business Outlook—Is the Current U.S. Benchmark Sustainable?

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The area of breast imaging, specifically mammography, has come a long way: from the first breast-specific X-ray unit, the Sénographe produced by Compagnie Génerale de Radiologie in 1965, to today's second generation digital mammography systems such as the MAMMOMAT® Inspiration released in the U.S. only last year. Along with the innovations in the actual system gantry, image algorithms and computer processing power have provided us with exceptional image quality. Images produced with the Sénographe back in 1965 showed lesions at approximately 2 cm, long after they were palpable. Today's digital mammography units detect lesions as small as 0.2 cm in size allowing early treatment and overall improving breast cancer survival statistics substantially.

But the question we have to ask ourselves is, have we plateaued in striving for even earlier detection and the associated 98% survival rate for early stage breast cancer? Or should we expect conditions to worsen based on recent changes in healthcare standards? This paper will include information on the impact of such recent discussions, discuss reimbursement and success rates of global screening programs, and trigger thoughts about the validity of standards used in countries outside of the U.S. We will trigger thoughts as to what current conditions mean for U.S. facilities' business objectives and identify areas that allow Women's Health Centers to keep customers and patients not only satisfied but loyal, a critical success factor for outcomes.

In October of 1992, the U.S. introduced the Mammography Quality Standards Act (MQSA) for breast X-ray imaging with the objective to standardize the quality of care. Under this Act, all facilities offering mammography services have to be accredited under ACR/MQSA. In 2002, MQSA accredited 9,184 facilities. By 2010, this number had declined by 6% to 8,646 facilities around the country. In addition, there is a well-known shortage of breast radiologists as well as an aging mammography technologist environment. As of September 1, 2010, approximately 6,000 facilities had at least one full field digital mammography unit installed, resulting in approximately 70% of all facilities around the country being able to offer digital mammography. This suggests that digital mammography has become the standard of care for mammography procedures.

As the U.S. mammography market experiences first signs of saturation (strong volume growth reflected by the substitution of low cost analog systems with higher priced digital units), we should expect a decline in the ratio of global market revenue of traditional mammography markets including Western Europe and the U.S. Meanwhile, non-traditional markets including Latin America, Russia, India, and China are in the process of implementing mammography screening markets that will support this global market shift. In 2008, Western Europe and the U.S. contributed 73% of the total global revenue. This number is expected to decline to 66% by 2013.

In addition to the mammography market saturation in the U.S. as we approach a complete transition to digital mammography, we face additional challenges around national screening rates. As part of the U.S. government's Healthy People 2010 project, the original goal was to achieve 70% compliance for women at least 40 years of age to have undergone a mammogram within the past two years. Back in 2005, the compliance level reached only 67%. In fact, since 2005 that number has continued to decline by 17%.

A study performed in 2009 by Mllanyna Subar, MD, showed that only 50% of women 40–85 years of age had undergone a mammogram in any given year. Only 60% had two or more mammograms over the span of four years. Further evaluation showed that only 47% of women 40–49 years of age had undergone regular mammograms. The number was 54% for women 50–64 years old and only 45% for women older than 65 years. A study published in February of 2011 in the *American Journal of Roentgenology* states that nearly 65,000 more women would lose their lives from breast cancer if the U.S. Preventive Services Task (USPSTF's) controversial 2009 guidelines on screening mammography were adopted on a widespread basis, based on a 65% national screening rate.

Multiple reasons can be listed as to why the U.S. has recently seen such a substantial decline. It seems that the USPSTF breast cancer screening recommendation update in November of 2009 brought overall confusion, especially for those women 40-49 years of age. This confusion may have resulted in inaction. A survey performed by Linda B. Squiers, PhD, of RTI International in Rockville, MD, regarding women's understanding of the new recommendations showed the following results: Only 50% of women correctly understood the reasons for the debate. Only 6% of respondents indicated that the new recommendations helped them understand when to get a mammogram, and 30% said the new recommendations made them confused. Finally, almost 80% of women 40-49 years of age could not correctly identify that the new guidelines were for women ages 40-49.

Other reasons for such a low national screening rate might be related to long waiting rates in certain geographical regions, increased out-of-pocket fees, and unawareness of availability of funds to cover out-of-pocket fees for unemployed and/or uninsured women, and general decrease of educational material for women, especially in times of confusion.

A quick comparison of U.S. national breast screening rates with other countries reveals that higher national screening rates in other countries are achieved by availability of national public or private screening programs. Countries such as Sweden, well known for their breast cancer screening awareness programs, have stated national screening rates as high as 85% in urban areas. Countries such as England and Germany reach screening rates of 70-75%, both covering procedure costs 100% through the government. The question however becomes, is national public screening program such as the ones implemented in Europe possible in the U.S. despite the different cultural understanding? Due to those cultural concerns, alternatives need to be researched with the objective to increase national screening rates. This responsibility is shifted from the government to individual facilities throughout the country. Assistance for this objective from the government and/or insurances can only be offered via reimbursement rates.

Healthcare overall in the U.S. has been experiencing a shift in payment objectives with mammography representing a pilot over the past 10 years. Regulatory checkpoints under the MQSA were introduced in 1992 with the objective to provide controlled standard of care for mammography. Mammography reimbursement shifted from a pay for volume to a pay for outcome whereas only accredited facilities could provide mammography services. Overall, facilities that implemented newer technology such as digital mammography have been rewarded with higher reimbursement rates. In fact, reimbursement rates as established by Medicare for digital screening mammograms have been increasing 8% over the past four years. Diagnostic digital mammography reimbursement rates increased 9% for unilateral and 11% for bilateral procedures while analog procedures remained almost stable.

Despite the quality control tools, today we still struggle with annual false positive work-up costs in the amount of $1.6 billion in the U.S. alone. New annual mammography reading volume requirements for radiologists are currently being discussed by the FDA with the objective to improve diagnostic outcomes along with new imaging technologies that are being introduced with the potential to increase specificity.

Access to mammography service is not expected to be negatively impacted by any healthcare reform. With recent studies focusing on the potential negative impact of the implementation of the USPSTF mammography guidelines, if at all, any healthcare reform impact could be expected to support screening efforts going forward.

Let us take a moment to summarize our findings so far:

Due to recent confusion among women age ages 40-65 as a result of mammography guideline modification discussions, overall mammography screening rates have declined in the U.S. to where only every other eligible woman receives regular mammography screening. In addition, U.S. facilities offering mammography services have declined by 6%. Analog to digital mammography has been implemented by approximately 70% of all facilities and thus becoming the new imaging standard in the U.S. Eliminating the myth of downward trending reimbursement trends for mammography services, digital mammography screening and diagnostic rates have increased between 8 and 11%, rewarding facilities for accepting new, lower dose technology.

At the end of this thought process, however, we need to face the conflict of medical and business priorities. What is healthcare facilities' real objective? To strive for a world without breast cancer by maximizing screening rates, or to support the facility's sustainability by securing downstream revenue for the hospital and/or imaging center? If the latter is, in deed, the overall objective, a decline in patient screening volume creates an unforeseen challenge for healthcare organizations.

Downstream revenue as an outcome of mammography screening is secured through a couple of different ways: first, through follow-up diagnostic work with higher reimbursement rates using breast ultrasound, breast MRI, any other breast imaging modality such as PEM and BSGI, and laboratory testing. Treatments such as surgery, chemotherapy, and/or radiation are further revenue potentials for the facility along with any continued monitoring activities after remission is established. Second, as 80% of women make healthcare decisions in their families, their positive experience as a customer/patient will bring in revenue in other clinical areas such as pediatrics, cardiovascular disease, and/or dialysis as they decide to bring other family members to the same healthcare facility for receiving services.

What can facilities do to maximize their business objectives? Here we can distinguish between two categories:

1) Due to a shortage of breast radiologists, an aging mammography technologist environment, and an overall decline in facilities offering mammography services, healthcare organizations need to find a way to become more efficient by implementing outcome-focused performance improvements such as new technology, for example, in the form of digital mammography and workflow improvements that result in increasing patient volume capabilities.
2) As national screening rates have declined over the past few years, we need to engage in raising awareness of the importance of breast cancer screening again. In order to combat the confusion around guideline recommendations, which has resulted in inactivity by women, an increased level of education is necessary within the community as well as nationally. As the decline in screening rates is slowly reversed, the potential for downstream revenue is increased again. The latter will only occur if customers/patients are retained, meaning they remain loyal to the specific healthcare facility. For that reason, organizations need to engage in perception-focused performance improvements.

Fred Lee describes in his book "If Disney Ran Your Hospital—9 ½ Things You Would Do Differently" that both outcome-focused as well as perception-focused performance improvements will result in positive revenue flows for the healthcare facility. As more efficient processes are introduced, productivity overall is improved and over the long run cost is reduced. As a specific example in our case, healthcare facilities can increase patient throughput using faster digital mammography technology. According to Lee, as customers/patients have a positive procedure experience, they will spread the word among their circle of relatives and friends resulting in new patients/customers and ultimately market share for the respective facility.

As much has been written about the first category, I would like to focus on the perception-focused performance improvements opening this section with the statement that healthcare facilities do not want to strive for patient satisfaction or service excellence BUT patient loyalty. In order to achieve the outcome of patient loyalty, healthcare facilities should not focus on service BUT providing the customer/patient with an experience.

Lee elaborates in his book his belief that healthcare facilities should view their organization as a theater, not a service provider. This concept introduces a different perspective to the healthcare industry in which repeat business is a term that is not often used. However, screening procedures do differ in the sense that organizations do want women to return for their annual procedures along with the downstream revenue potential as previously discussed. In order to create a complete customer experience, organizations should consider all senses when creating a welcoming environment. Terms such as clean, safe, and soothing should be at the forefront. Don't forget senses such as sounds and smell that contribute powerfully to the overall experience. Ensuring a positive and supportive staff is also critical. First impressions as we all know are the strongest. Empowering staff to make decisions related to service excellence will add to the staff's credibility. Battlefield Imaging in Ringgold, GA, for example, empowers its staff to provide small-amount gift cards to customers/patients facing long waiting times. This experience is something unexpected by customers/patients and creates what is often referred to as a wow effect. It is those wow effects that will ultimately result in patient loyalty. Other wow effects might be calling a customer/patient by name before she signs in. Asking about a family matter that she brought up last time during her annual check-up might be another. In the electronic age, a customer database as a reminder is often used as a tool.

Using all customer/patient touch points prior, during, and after the appointment are all critical to establishing patient loyalty. Reminder calls prior to the visit will aid in reducing the no-show rate, a solid 12% national average often resulting in unproductive time and lost customers. Many facilities have initiated a patient coordinator to hand-hold customers during their visit. Accompanying women from registering to the dressing room, to the exam room and back to the exit ensures touch-points and communication during the entire visit. Capturing data is critical to organizations striving to improve the customer experience. Consider a follow-up phone call to survey this experience and obtain opt-in permission for future communication, including other healthcare service areas. This communication throughout the year until the next screening appointment should include messaging and branding of the facility as well as educational information relevant to the respective customer based on the information captured during the phone call survey. Annual reminder notices are common standard already. However, following up with a phone call if the customer has not scheduled an appointment within a certain time frame is often neglected. Finally, with social media becoming more accepted, consider links to online scheduling tools and allow patients to fill out administrative paperwork prior to their visit over a secure file exchange.

Visibility in the community is critical for creating a loyal customer base. Branding a healthcare organization as a "do good" organization will further establish credibility. Zwanger-Perosi Radiology in Long Island, NY, for example, offers "Give Back Sunday" programs. As Dr. Mendelsohn pointed out, the equipment sits idle on Sundays and his employees support the initiative by volunteering their time for the program. Give Back Sundays offers uninsured and unemployed women screening mammograms as long as they have a physician referral slip and are local residents. All follow-up work is also offered at no charge, which is important to remember as in those targeted customer groups the cancer incident rate is often higher due to the lack of regular screening mammograms in the past. Dr. Mendelsohn stated: "Those women will one day have employment and insurance. By then they will be loyal customers already."

In conclusion, as screening rates plateau in the foreseeable future, it will be critical for healthcare facilities to rethink their approach to a sustainable customer base. Service excellence should always have the objective of customer loyalty. As overall screening facilities decline and breast radiology and mammographer shortages prevail, loyalty will more and more rely on creating efficiencies within the department and offering a complete customer experience. As we all strive for this goal, the medical priority of improving national breast cancer screening rates will naturally follow suit.

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