

ENSURING A SUCCESSFUL DIGITAL RADIOGRAPHY TRANSITION

New Imaging Reimbursement Rates Driving Digital Radiography Demand

Executive Summary

The recent enactment of the federal Consolidated Appropriations Act of 2016, also known as the Omnibus Bill, will begin reducing Medicare payments for exams performed on analog X-ray systems starting in 2017, and on Computed Radiography (CR) equipment starting in 2018. It is widely expected that private payers will follow with similar reimbursement reductions.

For the small number of providers still using analog X-ray systems and the estimated 8,500 CR equipment users, now is the time to consider upgrading their imaging technology to Digital Radiography (DR). This paper details why, based on a comparison of analog, CR and DR technology, and provides recommendations for providers considering or planning a DR transition.

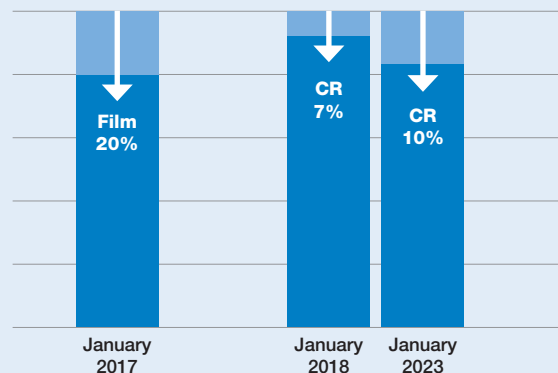
Introduction

U.S. healthcare providers who have taken a “wait and see” approach before adopting Digital Radiography received a strong spur to action through the Consolidated Appropriations Act of 2016, also known as the Omnibus Bill, signed into law in December 2015. Under the Act, Medicare will begin reducing payments for exams performed on analog (film) X-ray systems starting in 2017 and on Computed Radiography (CR) equipment starting in 2018.

Congress approved this Medicare reimbursement change to encourage providers to more readily convert from film and cassette-based radiography systems (CR) to fully digital systems. Providers submitting claims for analog X-rays will see their Medicare payments cut by 20% starting in January 2017. Similarly, Medicare reimbursement for CR imaging will be cut, starting in January 2018, by 7% over the following five years, and by 10% starting in January 2023.

It is widely expected that private payers will reduce claims payments for analog and CR imaging similar to those slated with Medicare. Final details of Medicare’s revised rules regarding imaging reimbursement are expected to be available in late 2016.

Medicare Imaging Reimbursement Reduction



Reimbursement Change Impact

The overall impact of Medicare’s imaging reimbursement changes on U.S. healthcare providers will likely be relatively minor in the analog (film) market, but potentially significant among CR users.

In 2013, market research company IMV estimated that only about 1% of providers still used analog technology for imaging.¹ For 2015, IMV determined that the number of installed analog units was so small nationally that it was not worthwhile asking radiology administrators about their analog use.

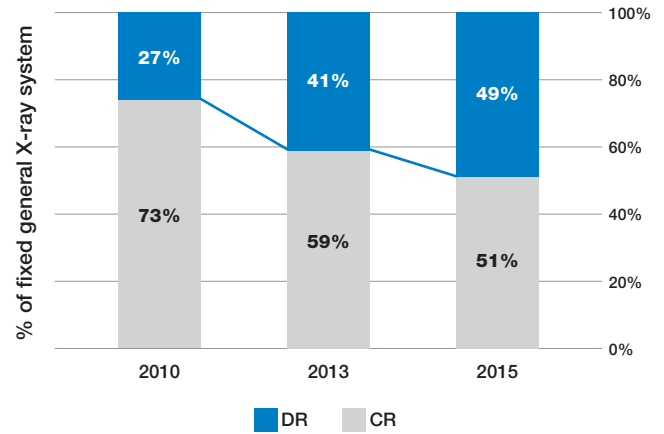
Current CR use rates, however, are far higher. While CR comprised just 6% of new X-ray sales in 2015, multiple past years of strong CR system sales means that CR still commands about half (51%) of X-ray systems installed in U.S. hospitals, according to IMV. Digital radiography (DR) makes up the other approximate half (49%).²

In its 2015 report on the U.S. X-ray market, IMV calculated 16,775 fixed general X-ray units installed at U.S. hospitals, and estimated that 8,545 of these are CR systems.² Thus, it is CR users, at hospitals and outpatient clinics, who will be the ones likely most affected by the planned Medicare reimbursement changes—unless these CR users convert to newer DR systems.

Benefits of Digital Radiography

Providers who are not yet using DR systems may wonder how they work compared with analog or CR technology. Instead of requiring photographic film as with an analog system or a CR imaging cassette, DR uses digital X-ray sensors to produce a digital image that can be enhanced for soft copy diagnosis or further review. A DR system can produce a high-quality X-ray image on-screen within seconds of exposure.

Mix of DR vs. CR Fixed General X-ray Systems Installed in U.S. Hospitals, 2010 to 2015²

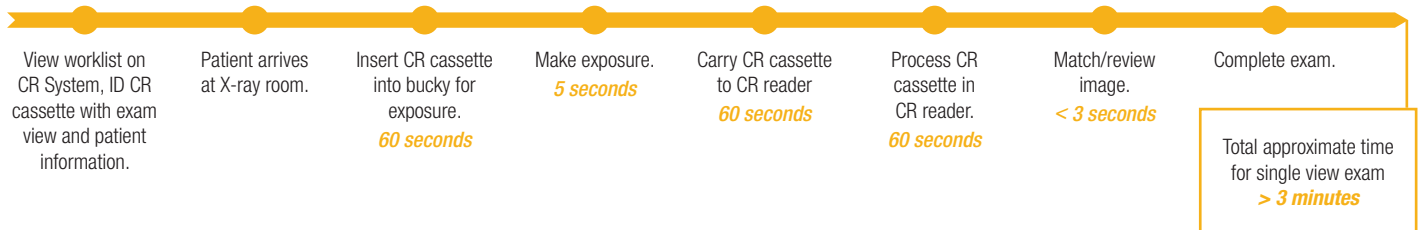


CR (unlike DR) requires the use of a cassette housing an imaging plate, as with an analog X-ray system, to record the image. This adds time and inefficiency to the imaging process. The cassette must be physically moved and placed into a CR reader and processed before it can be converted into a viewable image—a process that can take several minutes.

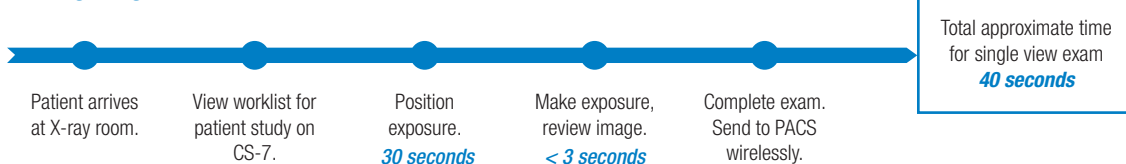
The diagram below shows the significant time and staff productivity advantages inherent in a DR system versus a CR system – literally a matter of a few seconds for DR versus several minutes for CR.

Single View Exam vs. CR³

CR Workflow



DR Workflow



In sum, DR presents several distinct advantages over CR technology:

- 1. Faster imaging and greater time efficiency** – DR does not need to go through chemical processing, as with film-based X-rays, or experience long processing lag time, as with CR image processing.
- 2. Greater clarity and diagnostic speed** – DR offers the ability to immediately digitally transfer and enhance images for greater clarity and diagnostic speed—this improves the patient experience and increases a provider’s ability to see more patients overall.
- 3. Reduced X-ray radiation** – Less X-ray radiation is needed to produce a DR image – up to four times less radiation is needed to produce a DR image of similar contrast to a CR image.⁴ Additionally, it’s estimated that CR image quality can degrade by as much as 15% during the time it takes to process the image (and experience even greater image degradation if there is a delay in processing).
- 4. Improved workflow and efficiency** – Healthcare providers can see more patients, faster, using DR imaging, allowing for higher throughput in imaging centers. DR systems can be preprogrammed to optimize images for patient size, body part etc., eliminating the need to calculate and make adjustments manually. Additionally, with DR, clinical staff no longer need to keep track of hard copy X-ray images.
- 5. Lower cost of ownership** – Because a DR system enables healthcare providers to see more patients faster, it helps reduce a providers’ overall imaging ownership costs.

Clinical staff at all levels prefer DR imaging because it makes their work more efficient with exponentially less equipment and storage requirements than with CR or analog technology. Patients like that DR reduces their radiation exposure, and the time they spend at the doctor’s office getting X-rays.

Because DR images are dynamically enhanced and have a significantly higher image quality than CR images, they allow providers to improve their diagnostic ability and overall quality of care—an important consideration in today’s new pay-for-performance reimbursement era.

Making the Switch to DR

Providers thinking about switching from CR to DR imaging technology would be well-advised to consider doing so sooner rather than later, not only to avoid incurring the CR reimbursement penalty, but to begin realizing the benefits of practice growth.

To see what the return on investment for DR technology can be, it’s important to look at several factors—savings in staff and clinician time for processing and reviewing DR images (versus CR), higher patient throughput and potential practice growth—as well as receiving full reimbursement for X-ray services.

Providers who are waiting for DR technology to decline in cost will likely not see much of a price drop. While DR equipment pricing has remained stable compared with increases in other medical device technologies, these prices will likely not decline, according to industry experts. However, two ways of conserving initial capital costs that providers might consider include installing a retrofit DR kit onto an existing CR system (instead of purchasing an all-new DR system) or leasing a DR system, as opposed to purchasing.

- A DR retrofit onto an existing CR system uses separate controls for the X-ray machine and for processing the digital image, whereas a new, integrated DR system uses one control for the X-ray and image processing, giving greater control over the overall image.
- The cost of a digital retrofit may be up to 40% less than purchasing an all-new integrated DR system. However, a retrofitted CR system may experience greater system wear and tear (since it wasn’t originally built for DR speed), significantly increasing downtime and maintenance costs.
- DR leasing, instead of buying, allows you to immediately gain all of the benefits of DR but at a likely lower initial and ongoing price point than with an outright purchase. With leasing, providers still retain all of the same service benefits that come with a purchase, with the opportunity to more immediately upgrade imaging equipment in a few years, when newer and even more efficient technology becomes available.

Besides the government penalties and incentives noted earlier, how can providers know if the time is right now to upgrade their imaging to a DR system? The general rule of thumb is to upgrade with DR any relatively modern system that has enough capacity to keep up with current and future facility needs. If a provider’s CR equipment is more than 10 years old and/or is not supporting practice growth, the provider should consider replacing the entire CR system.

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DR Boosts Clinical Efficiency and Revenue

When the owners of Orthopedic Associates of Central Jersey wanted to upgrade from their analog X-ray imaging system, they considered both Computed Radiography (CR) and Digital Radiography (DR) technology. They chose DR over CR, and have been thrilled with their choice ever since. “Everyone is happy, including our patients,” said Liz Jankowski, practice manager. “They’ve seen the change in efficiency and the improved flow of the office and are much happier because of it.”

Successfully Switching to DR

As profoundly beneficial as moving to DR can be for clinical staff and patients, it is not a simple plug-and-play switch. Providers should consider adopting not only the best DR technology to meet their needs, but also ensuring that their staff and patients are up-to-speed on this change.

For starters, consider how DR might improve your clinical workflow, including allowing greater throughput of patients. How will this new DR system be optimally integrated into your clinical practices? What will clinical staff members now do with the additional time they're saving by no longer needing to attend to CR (or film) cassettes and processing?

A provider's DR vendor should be able to provide expertise and insight into suggested clinical workflow and process/practice improvements, based on the vendor's experience with other clinicians. Providers should ask if the DR vendor offers training for staff members on both the DR system and integration with existing clinical practices.

Once the new DR system is in place and being used properly, the provider may wish to consider marketing its availability to patients as a point of competitive differentiation. For example, an orthopedist or chiropractor may wish to advertise the availability of the new DR system, and highlight the patient time savings and reduced radiation exposure inherent with using a DR system.

In Summary

DR offers significant benefits to providers in terms of lowering the cost per imaging procedure and increasing potential imaging throughput. DR helps clinical staff by improving workflow and productivity. And DR enhances the lives of patients by reducing their imaging time and X-ray exposure, and helping improve diagnoses, potentially leading to superior clinical outcomes.

The simple answer about DR among those who have been waiting to act: the time to move to DR is now.

What to Ask a Potential DR Vendor



While there are many DR vendors available to providers, the optimal choice for one provider may not be the same as for another. Besides focusing on overall DR system costs, it also pays to compare the qualities and attributes of DR vendors. Start by asking the following:

1. What is your company's DR history and experience?
2. How does your DR system compare/contrast to those provided by other vendors?
3. What warranties and service agreements do you offer?
4. What is your service history, and do you provide your own company-branded service, or outsource this work to a third-party vendor?
5. What would you consider to be the best DR system for our current and future needs, and how did you arrive at these conclusions?
6. What is the typical interoperability experience among those using your DR system?
7. What leasing and/or financing terms are you able to offer?
8. What trade-in or buyback offers, if any, are you able to make?
9. What training, if any, do you offer our staff members?
10. What client references can you provide?

References

1. "IMV 2013 X-ray/DR/CR Market Outlook Report," IMV, 2013
2. "IMV 2015 X-ray/DR/CR Market Outlook Report," IMV, 2015
3. Digital radiography: "The bottom line comparison of CR and DR technology" by J. Anthony Seibert, PhD, *Applied Radiology*, May 19, 2009
4. "Dose Reduction in Patients Undergoing Chest Imaging: Digital Amorphous Silicon Flat-Panel Detector Radiography Versus Conventional Film-Screen Radiography and Phosphor-Based Computed Radiography," *American Journal of Roentgenology*, October 2003, Volume 181, Number 4



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