

How MedStar Health Standardized its Subspecialty Coverage System-Wide

Leveraging Workflow Orchestration to Disseminate Subspecialty Expertise across the Enterprise

LOOKING BACK FIVE YEARS AGO

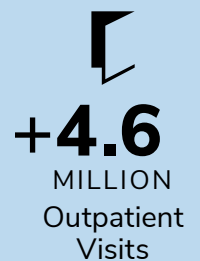
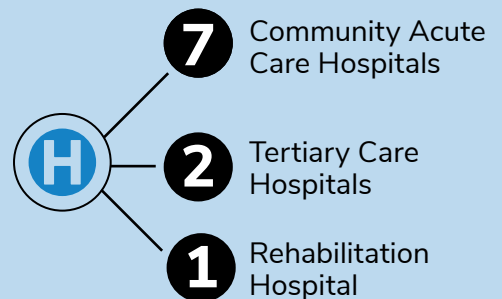
A Legacy of Siloes

If one looked at the radiology operations of MedStar Health just 5 years ago, the picture looked radically different than it does today. “We were very silo’ed, both in technology and professional service,” says Steven H. Brick, MD, FACR, Physician Executive Director for MedStar Medical Group Radiology (MMGR), the radiology arm of MedStar Health, as he reflects on the situation when he joined the organization back in 2013.

At that time, there were 7 distinct radiology practices providing professional radiology services to the 10 acute care hospitals comprising the MedStar network. The radiologist resources were a very hybrid mix of independent contractors, private practices and employed academic physicians. Some radiologists were even employed by competing healthcare systems.

The same fragmented environment prevailed on the information technology (IT) front. The different radiology practices used 9 disparate PACS systems, 5 different RIS systems and 5 different radiology reporting systems, which would hardly communicate with each other.

MEDSTAR HEALTH BY THE NUMBERS



Accordingly, MedStar’s radiologists read almost exclusively for their own facility using the local PACS, with the exception of a few radiologists reading from their local hospitals for at most one additional hospital, when studies would be ‘pushed’ from one hospital to another. “We had a jury-rigged IT system, and had no way to load-balance the workload across the system,” Dr Brick concedes. “The groups wouldn’t necessarily cover for each other. For example, if one hospital was slower at a given time and another one was busy, there was no way for the radiologist at the slower hospital to help out at the busy hospital, especially since they were usually employed by different entities.”

A KEY IMPERATIVE Bridging the Siloes

As the radiology practices consolidated within MedStar, the absence of load-balancing capabilities had revenue implications as well, since not all radiologists would have the opportunity to work at-capacity. This also affected office-based radiologists where volumes might be lower than in the hospitals, or in new offices where volumes take time to ramp-up.

The fragmented IT ecosystem also came in the way of integrated patient care. For instance, if patients moved around the region or showed up at a remote emergency room, their prior imaging records would not be readily accessible, even within MedStar’s coverage area.

Perhaps the greatest prospect was reducing the variability in the level of sub-specialty expertise that MedStar Health would deliver across its network. MedStar felt hard-pressed to be able to provide, throughout the entire system, the same quality of care it was already practicing at its two tertiary care facilities, namely MedStar Washington Hospital Center and MedStar Georgetown University Hospital. This meant being able to offer sub-specialty reads by sub-specialized radiologists across all of MedStar’s community hospitals, where there may be 3 or 4 radiologists on-site at any given time, or at the ancillary offices and urgent care sites (branded “MedStar PromptCare”), where there could be only 1 radiologist on duty at a given time—compared to 15 or 20 general and sub-specialized radiologists at the large hospital sites.

THE TURNING POINT Consolidation and Expansion

The decision was therefore made to consolidate radiology practices under the umbrella of MMGR, with all radiologists at 9 of the 10 MedStar hospitals and most of the outpatient imaging centers employed

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by MedStar Health. As Dr Brick explains, “It would have been difficult otherwise for MedStar to meet their goals and standardize their quality throughout the system when everything had to be negotiated with seven different radiology practices.”

Meanwhile, at the system level, MedStar Health continued to implement its community expansion strategy, establishing throughout the region several new multi-specialty physician offices and ambulatory care centers, with radiology often a core component to them.

The consolidation effort on the radiology front, coupled with the expansion on the care delivery front, prompted the next logical steps for MMGR. It became obvious MMGR needed to “bring the technology together,” as Dr Brick puts it, so that its 110 radiologists and nuclear medicine physicians could all work like one unified group, off of one unified platform.

Yet despite the strong mandate and the wide support from MedStar’s IT department, MMGR just “couldn’t do it all at once,” Dr Brick admits. A one-off rip-and-replace of all incumbent PACS systems by a new single-vendor PACS platform was simply not feasible, neither operationally nor economically. MMGR therefore opted for a ‘deconstructed’ PACS approach, starting with

a unified workflow orchestration solution and followed by a unified viewing platform, which would allow to gradually and seamlessly phase-out the legacy IT systems in place.

FAST-FORWARD 5 YEARS Reaping the Benefits

This modular and phased IT deployment approach ultimately proved highly effective for the organization. With a harmonized imaging informatics technology stack in place, MMGR became able to seamlessly load-balance, and intelligently distribute the radiology workload across the general and specialty radiologist workforce. In essence, the enterprise finally had the tools it needed to make major achievements and support various quality and growth initiatives:

Subspecialty Reads by Subspecialists throughout the System

Being recognized for its clinical excellence in many areas including cardiology and cardiac surgery, orthopedics, cancer, transplantation, rehabilitation, and emergency and trauma services, MedStar Health has been able to capitalize on this clinical edge across its entire coverage area. As such, the health system is living up to its “commitment to offer access to imaging specialists across the community,” as Dr. Brick emphasizes, illustrating this newfound capability using a concrete example: “Let’s say we need a neuroradiologist from MedStar Georgetown to read neuro cases for MedStar Georgetown in addition to a few offices and other hospitals. There are lots of different filters we can use,

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so that they just work off a combined worklist. It's seamless."

24/7 service Including In-House Night Reads

The load-balancing capability further enabled MMGR to realize its ambition of becoming a 24/7 service provider without having to externalize any workload, including after-hours reads. In fact, MMGR was able to completely in-source the night coverage function, some of which was previously being outsourced to external third-party teleradiology providers. As Dr Brick explains: "We also have implemented our own internal Nighthawk coverage. Originally each hospital took calls by themselves, and some would outsource to outside teleradiology firms. One of our mandates was to bring all of that business in-house internal to MedStar. That was impossible without having our unified platform in place."

Workforce Elasticity and Workload Scalability

As MedStar Health looks to establish more and more ambulatory locations, in which the on-site radiologist(s) can act as true physician consultant(s) to the local physician team, a key benefit of the unified platform is the ease with which MMGR can now get the radiology service line at these locations up-and-running. "The ease of providing subspecialty coverage makes it possible. It has become very easy for us to absorb these sub-specialty reads under the current workflow," Dr Brick explains, adding: "With this platform in place, radiologists can be sitting in an office and be

reading for hospitals just as though they were sitting at that hospital."

These factors have major implications for MMGR's ability to optimize the utilization of its radiology resources. "It enables us to staff more efficiently" Dr. Brick points out, "say if volumes go up in one location, we don't necessarily need to hire one more radiologist, we can spread these cases around among multiple existing radiologists." The same applies to the impact on MMGR of unforeseen staffing situations: "If a new office opens up, if a practice cuts down a full-time employee (FTE) due to retirement or relocation, the practice can often absorb the volume of the missing FTE."

Quality Initiatives Made Easier

Among multiple quality improvement projects that MMGR has been able to achieve by leveraging its unified imaging platform, Dr Brick details two pertaining to emergency services which have been hugely successful: "We decided to improve turnaround times for neuroradiology interpretations during after-hours in the emergency department. We were able to assign one neuroradiologist to a late shift working until 10PM, which led to a reduction of turnaround times of 10 minutes." Along the same lines, given the

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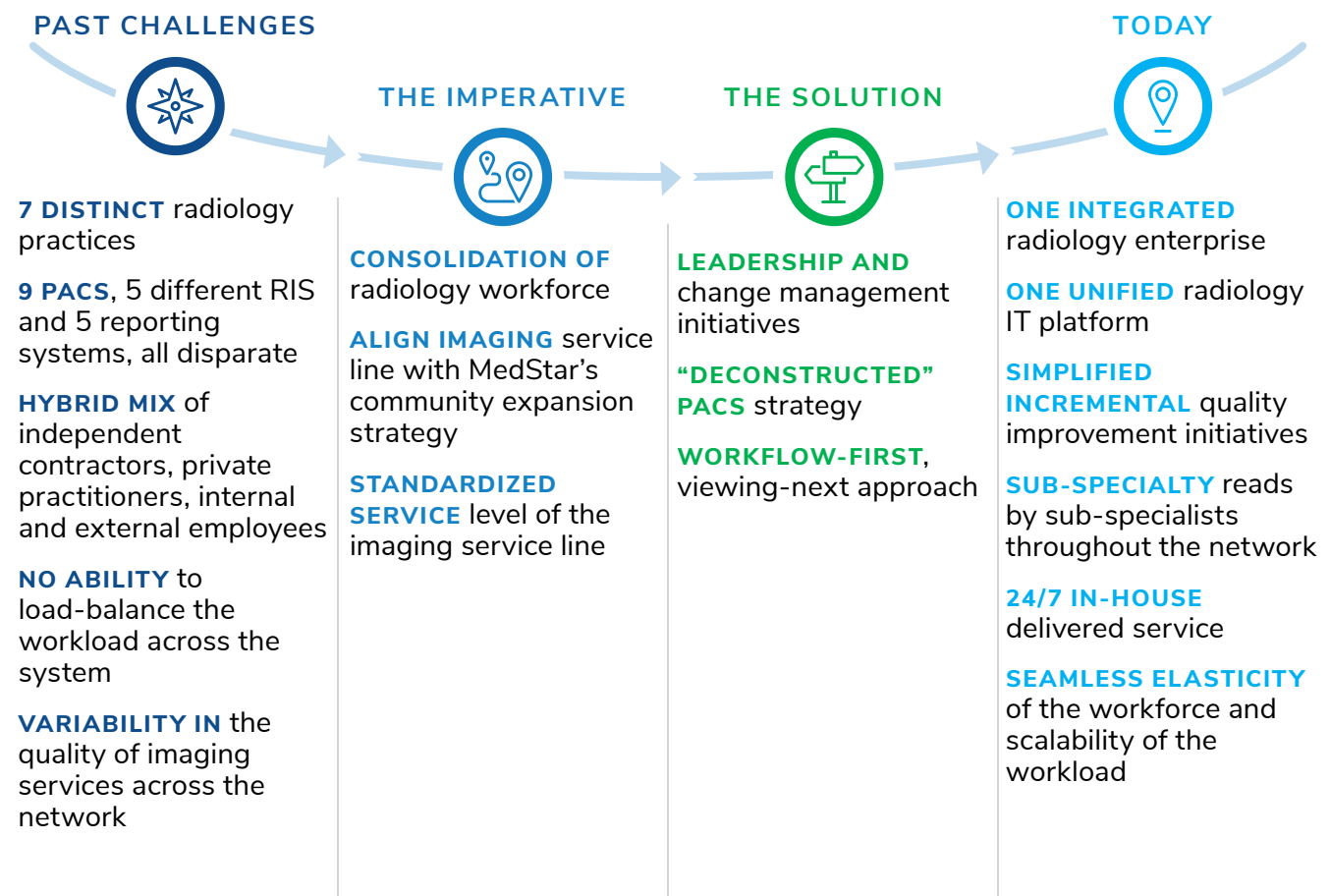
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fact that patient images became accessible anywhere in the MedStar network, MMGR could design new processes for improved critical results management. Using an add-on service line from its workflow vendor, MMGR can now ensure that critical imaging findings are managed in-time by the first available radiologist.

AN IMAGING SERVICE LINE FIT FOR THE FUTURE

MedStar Health is quite a big ship to steer. With ten hospitals serving more than half a million patients each year, over 4.6 million outpatient visits across its large community care network, and close to \$6 billion in net

operating revenue, it is the largest healthcare provider in the Maryland and Washington, D.C. areas and one of the largest in the Mid-Atlantic region. With the right leadership and technology in place, the not-for-profit organization realized major accomplishments on the radiology front. MMGR now pilots an imaging service line that is completely aligned with MedStar Health's direction and ambition. "It's been a journey" Dr Brick concludes, as he reflects on the last five years' efforts, while contemplating the many more initiatives that lay ahead.



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