Advanced Practice Professionals and an Outpatient Clinic: Improving Longitudinal Care in an Interventional Radiology Practice

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Abstract

The field of interventional radiology (IR) has made tremendous advances in both scope and practice since its inception in the early 1960s. With these advances, it has solidified itself as a valuable subspecialty to the medical community and, most importantly, to the patients who receive IR care. Expanding clinical services to improve care in both the pre- and postprocedural setting is a logical step in IR maturation. The use of advanced practice professionals, in the form of physician assistants and nurse practitioners, can add value in both quality of the patient experience and exposure to other subspecialties. Furthermore, a dedicated outpatient clinic provides a centralized site to evaluate patients and communicate with referring services. These additions can be a challenging value proposition, particularly when working in a combined diagnostic radiology and IR practice, but given the benefits, these are well worth the time and monetary investments.

Keywords

- interventional radiology
- advanced practice professionals
- outpatient clinic
- interventional radiology/diagnostic radiology
- physician assistants
- nurse practitioners

Interventional radiology (IR) has evolved from a field of diagnosis to a field of treatment. This evolution has led to an increasing need to care for the pre- and postprocedural needs of the patient. Beginning 20 years ago, it was appreciated that there was an important and growing clinical component to the field of IR, requiring direct participation in patient care and treatment by the radiologist.[1,2] It is with this in mind that many IR practices across the country have added dedicated support staff and outpatient clinics. The purpose of this article is to describe our private practice IR model evolution to improve patient care throughout the procedure process with the addition of advanced practice professionals (APPs) and an outpatient clinic. The maturation of our IR practice to comprehensively embrace longitudinal clinical care has positively impacted the patient experience and continues to anchor our practice in the medical communities we serve.

Background

In 2002, our IR section had seven full-time (>75% full-time IR shifts) and four part-time IR physicians who performed comprehensive IR procedures, including peripheral and neurovascular interventions, and zero APPs. As our numbers and complexity of cases were growing, the IR section was required to provide comprehensive longitudinal care to patients. This increased level of service was in part demanded by the referring clinicians. In our IR/DR (diagnostic radiology) group, there was hesitation in regard to the time and resources that would be required to grow the IR section footprint. Using an expanded team approach to providing clinical services was a logical progression and the midlevel provider was a perfect fit for an IR team.[3]

At this time, other subspecialty services were hiring APPs to assist with patient care and the IR section wanted to capitalize on the experience of some of the available APP pool. The decision was made to hire a nurse practitioner (NP) who had previously worked in the IR department as an registered nurse (RN). Shortly after this initial hire, and after the physicians saw the value of this role to them and the patients, two physician assistants (PAs) were added. Although NPs and PAs arise from nursing and medical backgrounds, respectively, and their utilization varies somewhat from region to region, in our practice they both filled similar clinical roles. The responsibilities of APPs were vast and as the demands of the outpatients began to increase, it was

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determined that a fully functioning outpatient clinic was essential to continue the vision of providing care to the IR patient across the continuum. The service has grown exponentially since that point in time and is expansive in both providers and the roles that they fill. At the time of this writing, we are one of the largest combined IR/DR private practices in the United States with 15 full-time IRs and over 147 full-time equivalent (FTE) total radiologists serving multiple hospital contracts in the Midwest.[4] The practice is serviced by 18 APPs, 4 RNs, 1 medical assistant (MA), and 1 administrative assistant. Additionally, a former APP currently serves the role of midlevel manager who oversees the inpatient and outpatient services provided by these clinicians and is crucial in serving as an intermediary between our practice and the hospital administrators.

Inpatient Advanced Practice Professionals

The inpatient APPs responsibilities include evaluating initial consultations and rounding on existing patients. More providers may translate into improved patient access and, if unencumbered by competing DR work responsibilities, APPs may actually be able to deliver more-personalized care in a less rushed manner than radiologists.[5] During consultations, APPs examine the patient, review their medical record, and discuss the case with the interventionalist with concurrent image review. It is at this time that any potential contraindications and barriers to the procedure are discussed. Also addressed are sedation requirements, sedation expectations of the patient, and the potential need for general anesthesia. When rounding on existing patients, APPs address any concerns or need for additional procedures with the attending. Finally, postprocedure evaluations are vital to ensure the patients have had a positive experience and screen for potential complications. With a dedicated admitting and rounding service, interventional radiologists can provide more prompt targeted patient care and help avert and mitigate complications, an added benefit of increasing trust and regard from referring physicians.[6]

Communication is vital between colleagues, IR physicians, and consulting services. A considerable percentage of the APPs time is spent discussing cases with patient stakeholders. Because of the need to communicate private patient information, staff relies on the use of third-party security software which encrypts and protects information shared through mobile devices. These mobile devices also house our billing software and are used to share information at shift changes. As IR is constantly innovating, educating clinical services and patients of IR's evolving role is an important function of APPs. This allows the attending physician to spend his or her time with the patient concentrating on focused issues, which may be particularly advantageous in community practices that do not have residents and fellows.[1] Furthermore, the dedicated staff will be able to relate to the hospital nursing staff, instruct them, and report to the interventional radiologist when needed.[6] This ensures that while the patients are admitted, care related to the IR procedure is being undertaken appropriately.

Of paramount importance is time spent with our patients and their families. APPs are expected to "spend time discussing the details of a procedure, addressing many of the issues involved in obtaining informed consent, and answering questions regarding a procedure."[1,7] Included in this discussion is that of the risks, benefits, and alternatives to the procedures. Due to regulations at some of the hospitals we contract with, the actual consent is not obtained until the patients have had an opportunity to speak with the attending in the IR department. A primary goal of the consent process is to create a level of comprehension that allows patients to make, to the best of their abilities, informed judgments about their own clinical care.[8] Discussing the procedure with the patient prior to arriving to the IR department provides them a chance to process the information and ask more informed questions when face to face with the physician. Finally, the APPs discuss the usual course of the patient's diagnosis and what type of outpatient follow-up they can expect from our service.

Billing for inpatient visits requires an understanding of the different inpatient billing codes and support documentation. APPs have worked closely with our billing department, which have provided training on an ongoing basis, to review records quarterly ensuring satisfactory documentation. Even when postprocedural rounding within the global billing period of a procedure is performed and not separately billed, this clinical activity increases the visibility of the IR service.[9] IR physicians who provide higher levels of E&M services have correspondingly higher total charges for procedural services, perform a large unit number of procedural services, and obtain higher charges per unit of procedural work performed.[3,10]

With the introduction of bundled payment for procedures, the billing of consults in particular has been affected. However, we feel that the benefit to the patients in regard to understanding of their procedure is more valuable and helps build a strong patient and physician practice relationship. In regard to the other evaluation and management services, "although reimbursement for these types of codes is modest, the numbers of clinical encounters performed by an active interventional radiology service are many, clinical work is clearly reimbursable regardless of the specialty that is providing the service."[3] By billing for these services, interventional radiologists and the APPs who work for them are continuing to define themselves as a clinical specialty and getting reimbursed appropriately for the work that they are doing. This also provides useful metrics and reporting functionality to ensure the highest levels of efficiency and accountability.

Procedural Advanced Practice Professionals

In an IR practice, the role of a APP extends not only to evaluating and managing the clinical aspects of the patient, but also performing minor IR procedures and assisting the physician in major interventions.[11] We have several APPs who provide both evaluation and management of patients as well as perform IR procedures including paracenteses, thoracenteses, pleural drain placement, lumbar punctures, myelograms, and central venous catheter placement. Although APPs perform a relatively small portion of commonly performed nonvascular invasive procedures generally by radiologists, paid Medicare claims for those services have

increased dramatically over nearly two decades, and at a faster pace than that for all providers as a whole.[4] Our IR model continues to allow APPs to perform a greater volume of minor procedures to allow the IR physicians the time needed to perform and grow the more complex and higher reimbursable procedures in the IR suites. The throughput in the IR department has increased and allowed APPs to expand skill sets and achieve higher professional satisfaction.

APPs also provide fluoroscopic services at our larger contracted hospitals. These midlevel providers are being used in a variety of ways to increase the efficiency of the radiologist and provide diagnostic and therapeutic radiologic procedures to patients.[12] The procedures performed include arthrograms and joint aspirations, multiple gastroenterology and genitourinary studies, and nuclear medicine injections. These individuals have extensive on-the-job training prior to performing any studies themselves and also work closely with the diagnostic radiologists. They are experienced in performing procedures on both adult and pediatric patients. Many of them also have certification in DEXA reading and do the majority of initial reads on these studies as well. After hours call is also provided by this service and they are a valuable asset to our practice.

Demonstrating Value of APPs and Outpatient Clinics to Dubious Stakeholders

Demonstrating value with the addition of APPs and an outpatient clinic proved to be a difficult initial value proposition to a majority DR/IR group. From a financial perspective, employing APPs would initially generate negative revenue for the organization that was already successful with current practice models. However, given the growing clinical needs of the practice, and to maintain equal footing with other clinical subspecialties, the business proposition put forth to our private practice board was driven by our need to maintain clinical and perceived equivalency to competing subspecialties. How could we be expected to be continually referred highly reimbursed procedures if our involvement with our patients ended as the patients left our IR suite? To conserve our fiscally successful service lines or compete with our other colleagues—who were also initially losing revenue with APPs—we would need to match their investment in midlevel expertise. The proposal was to begin with a small cohort of APPs over the course of a defined time frame for evaluation of efficacy. If this proof-of-concept was successful, then our team would expand accordingly. Finally, by further integrating into our hospital systems via APPs (literally on the floor, rounding in similar corporate scrubs for easy identification to clinicians and hospital personnel), we expanded our IR, and by proxy DR/IR, footprint and perceived value that could be leveraged during contract negotiations.

Because of the successful launch of the APP service, the addition of the outpatient clinic was the next logical step. The amount of time spent in outpatient phone calls to both referring physician offices and patients was becoming significant. Furthermore, given the increased complexity of the procedures, preprocedural evaluation was necessary in an office setting from a patient and physician perspective. The approval of the clinic by our group was based on similar arguments for approval of APPs in regard to augmenting our value for both patients and referring clinicians. The initial clinic investment was relatively modest to again prove "proof of concept"—two exam rooms, small office for physician to review exams on PACS, and small reception area. Having a centralized place to see patients, house records and handle phone calls quickly became invaluable. The clinic provided improved communication not only among ourselves but more importantly between the patients and referring physicians. Currently, we employ four RN FTEs, one medical assistant, and one administrative assistant for four exam rooms and a physician office large enough to accommodate families to review their exams on PACS. Currently, only minor procedures are being performed within our clinic with an eye for expansion in the future. Varying fiscal models and range of outpatient procedures with outpatient clinics employed in the United States are beyond the scope of this article.

Quality

Patient experience is one of the key metrics used to evaluate health care quality and outcomes in the current medical climate, accounting for approximately 30% of the calculated measurements during a patient visit to the hospital.[13–15] As mentioned in the article titled "Perceptions of Quality in Interventional Oncology," clinical care after the procedure, care coordination, and follow-up were the most commonly perceived aspects of quality among both patients and providers.[16] Having a continual presence on the floors allows us to strengthen our clinical role and the relationships with our patients. With advances in technology, there will be an eventual limit on the amount of work that can be effectively done by a radiologist without compromising quality.[17] By taking active steps to interact with our patients through every stage of their procedure, we feel that the APPs are improving patient experience and quality of care. This is especially important in an arena of reimbursement based on the overall patient experience as reflected in patient satisfaction surveys.

Outpatient Clinic

Practices that use outpatient clinics and admitting services have seen associated growth in patient referrals and procedure volumes.[18–20] A dedicated office clinic shows the surrounding medical community that we are invested in our patients and will partner with them to provide ongoing management. Pre- and postprocedure visits allow patients to build trust in the physician who is performing their procedure. Surgical specialties focused on procedures have been seeing outpatients for decades and this begs the question, why should an IR practice be any different? Patient and family understanding improves dramatically if you show images while you are teaching patients and their families about health and how radiologists fit into the medical workflow.[21] An outpatient office provides this opportunity prior to being face to face with them in the holding room. When patients are seen in our office, letters are dictated to the referring physicians to make them aware of the

decisions made during the visit. If we are moving forward with a procedure or further imaging is needed, preauthorization is obtained by a dedicated member of our team. All of these responsibilities create a large amount of work that must be managed by a competent support staff devoted to the outpatient office. Staff skilled in arranging laboratory work, ordering diagnostic tests, arranging admissions to an inpatient or observation service, and scheduling interventional procedures is often not found in typical radiology practices but must be a part of an outpatient office supporting the work of a clinical interventional radiologist.[22]

A significant portion of the outpatient clinic is triaging phone calls. Telephone communication is a unique opportunity to improve health care access, optimize patient coordination, and enhance the patient's experience outside the hospital setting.[12,23,24] During the day, our office RNs handle these calls and are continually coordinating patient care at all of the different sites we serve. After hours calls are handled by the physicians, APPs, and RNs who follow up with the office staff and communicate any issues that may have arisen overnight and need to be addressed. Additionally, having the patients call first maximizes the efficiency of patient care and limits annoyances to the referring physicians.[25]

Summary

As IR continues to transform itself into a clinical subspecialty, the opportunity to positively impact the patient experience is significant. We have described two ways in which we have improved this experience; by the addition of APPs and a dedicated outpatient clinic. The development of these services initially proved challenging and required significant planning and investment from the IR physicians, particularly at their inception. The impact to our patients, other providers, and our medical communities has been overwhelmingly positive. Beyond performing procedures, building referral patterns and maintaining them with a strong clinical practice is a key component to success.[25] As we look to the future, our goal is to continue to provide patient-centered longitudinal care that advances the field of clinical IR.

Conflict of Interest
None.

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