

Brief report

No Window for Intervention? Views of Interventional Radiology as a Changing Specialty

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Interventional Radiology (IR) has emerged as one of the fastest-growing medical specialties in the United States. Despite its rapid expansion and distinction as a specialty separate from Diagnostic Radiology (DR), IR continues to struggle with issues of public recognition and professional identity. These challenges include turf battles with other specialties, a lack of awareness among the public and other medical professionals, and limited referrals from non-radiology disciplines. Addressing these challenges requires concerted efforts to market the full breadth of IR's capabilities to both the public and other medical professionals. Increasing awareness and collaboration with other specialties, such as gynecology, orthopedics, and vascular surgery, is essential for enhancing referrals and ensuring the continued growth of IR. Ultimately, the future success and autonomy of IR depend on reshaping its public image, fostering inter-specialty collaboration, and delivering high-quality care to broaden its impact and recognition within the medical community.

INTRODUCTION

Interventional Radiology (IR) is one of the fastest-growing specialties in the United States, expanding significantly since the pioneering of the Seldinger technique in 1953 to complex procedures like transjugular intrahepatic portosystemic shunts (TIPS) and hepatocellular carcinoma treatments (HCC) today.¹ Many polls highlight this growth, ranking IR among the top specialties in claims volume in recent years.² Despite its growing breadth and versatility, and the establishment of IR as a distinct specialty from Diagnostic Radiology (DR) with its integrated residency program - IR continues to grapple with an 'image problem.' Turf battles with other specialties, a lack of public recognition, and limited referrals and support from other medical disciplines persist as ongoing issues.

METHODS

IR physicians have historically pioneered numerous medical procedures, yet these innovations are often adopted and credited to other specialties, creating a significant recognition gap. Many procedures have even become mainstays in specialties that initially condemned them.³ This culture of procedure innovation followed by adoption by other specialties is rampant, often leaving IR physicians as the unsung heroes behind these advancements. For example, due to higher consultation rates at these hospitals, peripheral artery disease is almost exclusively treated by

vascular surgery.⁴ It remains critical for interventional radiologists to have and keep a strong referral base to identify patients needing interventions and maintain the ability to intervene in various procedures. Why do most interventional radiologists not perform these procedures? One reason is that cardiologists receive many referrals and have their own outpatient clinics.⁵ This reflects a lost 'turf battle' over peripheral arterial disease cases.

Additionally, there is a perception problem with interventional radiology. In many local hospitals, IR physicians are often perceived as those who solely perform biopsies, drainages, thoracentesis, paracentesis, and line placements, contributing to a distorted view of their capabilities. While the field of IR can include procedures such as biopsies and drains, it also entails more advanced interventions such as Transjugular Intrahepatic Portosystemic Shunts (TIPS), Uterine Artery Embolizations (UAE), and Y90 radioembolization.⁶ As procedures including UAE offer significantly less recovery time than a hysterectomy for multiple conditions and help preserve future fertility, the intervention remains a critically important option to patients.⁷ In addition, IR training is not only about being a proceduralist, but following the establishment of the integrated IR residency and standardization of the training pathway, IR proceduralists are increasingly provided training to follow up with patients in clinic after an inpatient or outpatient procedure. Combating this requires marketing to the public and other physicians to showcase the full breadth of IR procedures.

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A significant portion of the challenges encountered by IR stems from the novelty of the specialty and widespread misunderstanding of what an IR physician truly encompasses. This novelty often results in administrators, accustomed to traditional medical practices of decades past, displaying a general lack of knowledge regarding the capabilities and role of IR physicians in modern medicine. While colleagues are increasingly recognizing the significant value of IR, there remains a notable disparity between reported perceptions and the actual reality of the field.⁸

Another consequence of the specialty's novelty and lack of practitioners is the widespread lack of awareness among the general population about what IR entails, despite increasing referrals. This lack of awareness stems from several factors. First, the general public is often unfamiliar with the term "interventional radiology," as it is a relatively new and specialized field within medicine. Unlike more well-known specialties such as cardiology or orthopedics, IR does not have a long-standing presence in the public consciousness. Additionally, many IR physicians often identify themselves to the general public by other means to more easily explain what they do. They might use titles such as "minimally invasive surgeons" or similar terms to avoid confusion.⁹ While these alternative titles help to convey the nature of their work, they inadvertently contribute to the general public's unfamiliarity with the field of interventional radiology.

Importantly, the lack of familiarity with image-guided interventions also extends to physicians and midlevel providers, resulting in fewer referrals, which are complicated by the ever-growing breadth of procedures performed by interventional radiologists. However, diagnostic radiologists can serve as a valuable resource for referrals. Notably, among Medicare beneficiaries, the rise in utilization was more pronounced for medical imaging compared to any other physician-provided services.¹⁰ However, their diagnostic colleagues cannot be the sole referral base for IR physicians. Referrals from gynecologists for uterine artery embolizations, orthopedic surgeons for geniculate artery embolization, and vascular surgeons for peripheral artery disease, among others, are crucial for the continued growth of IR. Increasing awareness and referrals from various specialties will significantly enhance the quality of patient care and broaden the impact and familiarity with IR. Early IR involvement could significantly alter a patient's clinical trajectory and long term outcomes.

CONCLUSION

In conclusion, the perception and autonomy sought by IR physicians hinge on public perception and the delivery of high-quality care. Rather than debating the separation of IR from DR, efforts should be directed toward reshaping the narrative around IR, enhancing public visibility, and fostering collaboration with other medical services to improve referrals and garner support. Significant resources need to be invested to change public perception regarding the question, "What is IR". This could include educational materials

for clinics, emergency rooms, etc. distributed physically or digitally.

This increase in visibility can be achieved through increased outreach and education. Targeted outreach campaigns directed at physicians and medical students need to be done to increase awareness for the specialty. Partnering with hospital marketing teams to highlight IR success stories and increasing social media presence could improve visibility. Creating interdepartmental education, grand rounds, or joint tumor or vascular board meetings could encourage cross-specialty collaboration, enhance mutual understanding, and better illustrate IR's role in patient care. Creating standardized referral forms or EMR templates for common IR procedures also has the benefit of lowering barriers for other providers to involve IR in their patient care. Specifically, engaging medical students can help generate the next generation of interventional radiologists and also generate a generation of physicians that is aware and cognizant of the specialty. This is important as multiple studies have seen that medical students by graduation are still largely unaware of the specialty.^{11,12} For instance, working with medical school curriculum committees to embed IR modules in pre-existing specialty rotations such as surgical, emergency, or internal medicine courses, could provide invaluable exposure. Other avenues include encouraging IR- focused electives, increasing research opportunities for medical students to be involved, and establishing mentorship programs. This integration of IR curriculum into medical school would be extremely beneficial, especially paired with simulation training and hands-on workshops using various IR wires and detachable devices, as this would increase students' knowledge and interest in the specialty. Such skills sessions could be embedded within existing training days. In addition, increasing participation and/or sponsoring community health events would help garner support for the specialty and recognition from the general populace and foster further public trust. As IR physicians, we are responsible for taking proactive steps to address these challenges and ensure that IR continues to thrive and evolve, opening new opportunities for innovation and advancement in patient care.

In addition, as the specialty continues to grow the need for randomized trials will continue in order to determine the efficacy of newly developed procedures so it can remain on the forefront of medical care. Moreover, additional studies are needed to evaluate the perception of the specialty and its procedural offerings among other physicians, healthcare providers, and the general public as well as lawmakers and officials.

AUTHOR CONTRIBUTIONS

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